

Prevalence of constipation among elderly in a rural area of Bangalore

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ABSTRACT

Background: The magnitude of constipation may be high in the elderly Indian population. Defining constipation poses a problem as perception of doctor and patient is likely to differ. Rome Consensus criteria may not be applicable in India for obvious reasons.

Aim: To estimate the prevalence of constipation and to identify its associations with selected baseline variables among elderly Indians.

Methods: A cross sectional community based study in rural south India was conducted with the help of a pre-designed, pre-tested interview schedule comprising of constipation screening tool. All individual willing and consenting to participate in this study were included.

Results: Prevalence of constipation was found to be 1.08 % while that of functional constipation was found to be 8.69%. There was no statistical association between constipation or functional constipation and any of the baseline variables.

Conclusion: Constipation is likely to be more prevalent among elderly Indians. There is a need felt to develop constipation screening tools suitable for our countrymen.

Key words: functional constipation, old-age, passage of stools, prevalence of constipation

INTRODUCTION

The 'Elderly' are defined as individuals over the age of 60 years. It is further classified into young old (60 – 69 years), old old (70 – 79 years) and oldest old (> 80 years).¹ Globally, 605 million people are over the age of 60 years representing approximately 10 % of the world population.² It is estimated that the elderly constitute 8.5% of the total Indian population³, a majority of whom (74.97%) reside in rural areas⁴.

One of the medical ailments frequently encountered among the elderly is constipation. Medically, constipation is defined as a stool frequency of less than three times a week.⁵ However, this definition significantly underestimates the prevalence of this complaint among geriatric patients. A better definition is that of functional constipation which is considered to be present if the patient has any two of the following complaints: straining to defecate, passing hard stools, the sensation of incomplete evacuation, and defecating fewer than three times per week, or in the absence of symptoms defecating fewer than two times per week.⁶

Nevertheless, there are only few studies conducted in rural Indian settings on this issue. Therefore, an approach is utilized to undertake this study with the aim of assessing the prevalence of constipation among the elderly residents in a rural Indian setting and to identify associations between constipation and selected baseline variables in order to design suitable interventions.

MATERIAL AND METHODS

A cross-sectional study was carried out in Mugalur village of Bangalore in which all permanent residents over the age of 60 years were interviewed using a pre-designed, pre-tested schedule which comprised of the Constipation Screening Tool.⁷ It consists eight questions, each with a sliding scale response. A score was assigned to every individual based on the presence or absence of symptoms. According to this tool, constipation was said to be present if the score exceeded 15. The tool was assessed for face validity by circulating it among the experts in Community Medicine and Geriatrics. The interview schedule was translated and administered in local language. Ethical approval for the study was obtained from the Institutional Ethical Review Board of St. John's Medical College.

Data collection was carried out by doing a household survey, identifying eligible elderly and administering the schedule. Those persons that could not be contacted despite making three visits; those who were acutely ill and those who were not willing to consent were excluded from the study.

RESULTS

Elderly constitutes 6.99% of this population; Ninety two elderly were interviewed, comprising 60.86% females and 39.13% males. Most of the study population falls in the category of young old (52.17%) Table.1. Majority (69.56%) had not received any formal education and were fully dependent (55.43%). The most common illnesses reported by the elderly were locomotor disorders (48.9%), visual impairment (41.3%) and dental problems (36.9%).

Table 1: Distribution of the study population by age and gender

| Age Groups | Males (%) | Females (%) | Total (%) |
|------------|------------|-------------|------------|
| 60 - 69 | 14 (38.9) | 34 (60.71) | 48 (52.17) |
| 70 - 79 | 10 (27.77) | 14 (25) | 24 (26.08) |
| >80 | 12 (33.33) | 8 (14.28) | 20 (21.73) |
| Total | 36 (39.13) | 56 (60.86) | 92 (100) |

According to the scoring pattern of the screening tool used, the prevalence of constipation was found to be 1.08% (1 out of 92 elderly tested positive for the constipation screening tool). By applying the definition of functional constipation to the same set of questions, the prevalence of functional constipation was found to be 8.69% [Table 2]. An equal proportion of males and females were found to have functional constipation. Additionally, eight elderly (9.7%) complained of taking more than 20 minutes for defecation, while three elderly (3.26%) complained of taking laxatives regularly to assist the passage of stools. There was no statistical association between constipation and any of the baseline variables. There was also no statistical association between functional constipation and any of the baseline variables.

Table 2: Prevalence of Functional Constipation(FC) by age

| Age Group | FC Absent (%) | FC Present (%) |
|-----------|---------------|----------------|
| 60-69 | 45(93.75) | 3(6.25) |
| 70-79 | 21(87.5) | 3(12.5) |
| >80 | 18(90) | 2(10) |
| Total | 84 (91.3) | 8 (8.69) |

DISCUSSION

This study was based in a rural area close to the city of Bangalore. The proportion of population over 60 years of age in rural India is estimated at being 8.9%³, which is slightly higher than the proportion found in this study (6.99%).

According to the scoring pattern of the screening tool used, the prevalence of constipation was found to be 1.08%. Applying the definition of functional constipation and analyzing the same questions, the prevalence of functional constipation was found to be 8.69%. Functional constipation is a better estimate of the real burden of the condition in the community. Taking long time to pass stools (9.7%) or taking laxatives regularly to assist in the passage of stools (3.26%) also is an indicator of the problem of constipation among this segment of the population. Community based western studies done among elderly persons report the prevalence of constipation to be 22% and that of functional constipation to be 24.4%⁶ which is much higher than prevalence in our study (1.08% and 8.69% respectively).

This low prevalence in our rural elderly may be just an aberration since there is no screening tool to detect constipation among Indian population and also because the sample size was small. The tool that we used was originally designed in the west and hence it may have missed out on some of the cases. Hence, we need to develop better screening tools to detect constipation at the community level.

However, it is still possible that the prevalence of constipation is really less in rural Indian elderly population compared to the west due to kind of diet they consume. Diet plays a very important role

in consistency of the stools and the rural elderly still consume the more traditional food stuffs which have higher fibre content.

CONCLUSIONS

Constipation is likely to be more prevalent among elderly Indians. Bowel movement in Indians is different from western population. There is a need to develop constipation screening tools suitable for our countrymen.

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REFERENCES

1. Health and Elderly. World Health Organization: Technical Report Series No. 779. [Cited 2012 May 19] Available from: URL: http://whqlibdoc.who.int/trs/WHO_TRS_779.pdf.
2. World Health Organization. The world is fast ageing – have we noticed? [Cited 2010 Jul 29] Available from: URL: <http://www.who.int/ageing/en/>
3. International Institute for Population Sciences (IIPS) and Macro International. National Family Health Survey (NHFS-3) 2005-06. Mumbai 2007 Sep: Vol. 1. p. 21.
4. Census of India 2011. Registrar General and Census Commissioner, India. [Cited 2012 May 30] Available from URL: http://www.censusindia.gov.in/2011-provresults/paper2/data_files/india/paper2_at_a_glance.pdf.
5. Talley NJ, Fleming KC, Evans JM, O'Keefe EA, Weaver AL, Zinsmeister AR, Melton LJ 3rd. Constipation in an elderly community: a study of prevalence and potential risk factors. *Am J Gastroenterol*. 1996 Jan;91(1):19-25.
6. Longstreth GF, Thompson WG, Chey WD, Houghton LA, Mearin F, Spiller RC. Functional bowel disorders. *Gastroenterology*. 2006 Apr;130(5):1480-91. Review. Erratum in: *Gastroenterology*. 2006 Aug;131(2):688.
7. Agachan F, Chen T, Pfeifer J, Reissman P, Wexner SD. A constipation scoring system to simplify evaluation and management of constipated patients. *Dis Colon Rectum*. 1996 Jun;39(6):681-5.