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Original Research Article

Correlating the altered bowel habits among young medical doctors when exposed to rural posting in the course of their training in India

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ABSTRACT

Background: Altered bowel habits, is a commonly encountered presentation, especially among training professionals. During training, young doctors move to rural areas, experience the stress factors in food and environment causing the altered bowel habits. Hence correlating altered bowel habits among young medical doctors when exposed to relative culture barriers was the main aim of the study.
Methods: It was a cross sectional study among interns and postgraduates from all over the country for a duration of 2 months from January 2023 to March 2023 for 150 participants. A self-administered questionnaire with socio-demographic variables and a standard PAC-SYM was used for the scoring of altered bowel habits. Data entered into Excel and analysed using SPSS software. Descriptive statistics were taken and Kruskal Wallis test was done for statistical significance.
Results: 60% of the students belong to 20-24 age group. 55% of participants were female. 48.7% of mothers were homemakers and 46.6% were professionals. 90% of students were exposed to rural areas and 32% of them stayed there for more than 2 months. Gender, duration of stay, frequency of food consumption and bathroom comfort were statistically significant with the symptoms of altered bowel habits.
Conclusions: From the above study, we have tried to prove poor water supply, poor hygiene, and multiple people sharing the toilet are significant stressor factors for the medical trainee during their stay in rural health centres across the country.

Keywords: Altered bowel habits, Doctors, Rural, Training, Young

INTRODUCTION

Altered bowel habits, is a commonly encountered presentation, especially among training professionals, where it includes 3 broad symptoms including, constipation, irritable bowel syndrome and diarrhoea which are then further classified into various categories based on environmental and cultural factors.[1]

Functional gastro-intestinal disorders composed of IBS and Functional dyspepsia mainly, effect approximately 40% of entire population of the world and have made a significant impact in quality of life of those who suffer from this set of conditions, former being diagnosed by using the ROME IV criteria. The prevalence of IBS according to the Rome IV criteria is 3.8% among which the diarrhoea predominant subtype of IBS has shown more occurrence compared to the IBS-mixed type (which was declared to be the commonest type of IBS based on ROME III criteria).[2]

Functional constipation has a prevalence of 15.3% with a higher incidence rate among women compared to males, indicating a relative gender association in the

predisposition for presenting with such a symptomatology.[3]

Stress levels among medical students who eventually become young doctors is found to be moderately high above the baseline stress that a college student is exposed to, with the decline in their emotional health being more evident than that of their physical health noted right from the start of the very first year.[4]

Poor work environment and presence of a dysregulated workplace act as certain factors that potentiate burnout among physicians, such conditions can be expected to be encountered in medical facilities present in the rural pockets of a developing country, such as India.[5]

Lack of infrastructure, poor facilities like transportation and inability of such a setting, like that of a primary health centre or rural health training centre, to cater to basic needs of a young doctor especially during the year of basic training as an intern can pose as a substantial obstruction in their journey as future medical professionals henceforth can be believed, in part, to act as a potential stressor for their emotional well-being.[6]

The evidence for the presence of gut-brain interaction forms a cornerstone in relating psychological stress to altered bowel habits, it is due to this reason we find individuals with severe depression having a higher predilection towards developing chronic diarrhoea.[7]

Food avoidance and absenteeism from lectures and also duties were found to be risk factors for IBS among medical college students, the later increasing the chances of developing IBS by 1.8 times, both of these potential risk factors could also be encountered when people are exposed to culturally variable outsets or away from their comfort zone, and can possibly be explained by the 'cultural shock theory' which basically dwells upon transcultural maladaptations among individuals, who experience features of psychological stress, when exposed to unfamiliar environment compared to their own places of comfort, due to factors like language communication barriers, feeling of helplessness and confusion.[8-10]

Correlating altered bowel habits among young medical doctors when exposed to relative culture barriers was the main aim of the study. By understanding the cross-cultural adaptations that young doctors might have to deal with while their training occurs in rural areas, we also aimed to look for strategies and ideas that may help alleviate this superadded stressor that the budding doctors face.

METHODS

It was a cross-sectional study conducted among the interns and postgraduates of medical colleges from all over India.

Study duration

The study took place for a period of 2 months. The study commenced from January 2023 to March 2023.

Sample size

Sample size was 150. According to study by Ghanaei et al, with a prevelance of 12.6% and precision of 5% and 95% confidence interval the sample size was 137, and considering a buffer of 10%, it came to 150.[10]

Inclusion criteria

Interns and postgraduates who were willing to participate.

Exclusion criteria

Medical students who were not willing to participate in the study.

Method of collection of data

This cross-sectional study was conducted among 150 medical students of various medical colleges across the country for a period of two months from January 2023 to March 2023. A sample size of 150 were taken into consideration to assess the socio-demographic details like age, gender, father occupation, mothers' occupation, their play of stay; their posting and toilet preferences, their food consumption pattern. Data was collected using a semi-structured questionnaire for the cultural and socio-demographic details, while a standard PAC-SYM questionnaire was used to assess their bowel habits with appropriate scoring. After all the questions are answered, the results were interpreted in the form of pie charts or bar graph and assessment was done regarding any association between the various cultural factors, their toilet preferences and their altered bowel habits.

Data analysis

The data obtained was coded and entered into a Microsoft excel worksheet and later imported and analysed using SPSS software version 25 (licensed to JSS AHER).

The mean and standard deviation as well as descriptive statistics like frequencies and percentages were determined and Kruskal Wallis test was done for statistical significance.

RESULTS

From Table 1, we can see that, in age 60% of the students belong to 20-24 age group and 36% belong to 25-29; 44% were male and 55% were female; 51% of participants were from Delhi and 27% were from Bangalore; 69% were undergraduates; 48.7% of mothers were homemakers and 46.6% were professionals, 70% of fathers were professionals; 90% of students were exposed

to rural areas and 32% of them stayed there for more than 2 months; 88.7% of the students consumed outside food with 56.7% of them consuming precooked, self-cooked as well as outside food; 40.7% of the participants consumed food in rural areas for the entire duration of stay; 32.7% used predominantly Indian type of toilet as well as others. 68.7% of the participants felt that the bathroom was not comfortable.

Gender, duration of stay, frequency of food consumption and bathroom comfort were statistically significant with the symptoms of altered bowel habits.

Table 1: Socio demographic characteristics.

Variables	N (%)	P value
Age (years)		
20-24	90 (60.0)	0.966
25-29	54 (36.0)	
30-34	5 (3.3)	
35-39	1 (0.7)	
Total	150 (100)	
Gender		
Male	66 (44.0)	0.012
Female	83(55.3)	
Others	1 (0.7)	
Total	150 (100)	
Locality		
Mysuru	41 (27.3)	0.104
Delhi	77 (51.3)	
Bangalore	11 (7.3)	
Others	21 (14.0)	
Total	150 (100)	
Education		
Undergraduate	104 (69.3)	0.167
Postgraduate	46 (30.7)	
Total	150 (100)	
Mother's occupation		
Homemaker	73 (48.7)	0.416
Clerical/desk jobs	3 (2.0)	
Buisness/farmer	4 (2.7)	
Professionals (doctor, engineer, teacher, lawyer)	70 (46.6)	
Total	150 (100)	
Father's occupation		
Retired/no work	7 (4.7)	0.336
Clerical/desk	1 (0.7)	
Buisness/farmer	36 (24.0)	
Professional (doctor, engineer, teacher, pharmacist, lawyer etc)	106 (70.0)	
Total	150 (100)	
Rural exposure		
Yes	135 (90.0)	0.067
No	15 (10.0)	
Total	150 (100)	
How long		
1 week	12 (8.0)	0.002
2-3 week	28 (18.7)	
>1 month	47 (31.3)	
>2 month	48 (32.0)	
Consumption of local food		
Yes	133 (88.7)	0.013
No	17 (11.3)	

Continued.

Variables	N (%)	P value
Total	150 (100)	
Mode of food consumption		
Self-cooked	7 (4.7)	0.488
Canteen(outside)	55 (36.7	
Pre-cooked/processed	3 (2.0)	
Combination of above	85 (56.7)	
Total	150 (100)	
Frequency of food consumption		
Entire	61 (40.7)	0.033
Half	55 (36.7)	
Few days (<20%)	34 (22.7)	
Total	150 (100)	
Type of toilet		
Indian	34 (22.7)	0.65
Western	45 (30.0)	
Both (Indian)	49 (32.7)	
Both(west)	22 (14.7)	
Total	150 (100)	
Was the bathroom comfortable		
Yes	47 (31.3)	0.006
No	103 (68.7)	

*Kruskal Wallis test was done to check statistical significance (non-parametric data).
**the mean total score of the altered bowel habits was 12.39±10.27 (out of a possible 48, with more symptoms signifying more altered bowel habits).

DISCUSSION

According to a study done among medical students in Oregon, US, 54.2% of the participants were females and 45.8% of them males which is in line with our study where 55.3% of the participants were females and the rest were males.[4]

Our study showed a significant association of gender with altered bowel habits with females having more episodes of altered bowel habits, this is in line with a study done by Kim et al which tells that women do have a higher tendency for altered bowel habits during their late teens and early 30s due to many factors.[11]

Goyal et al showed how junk food was an associated risk factor for development of altered bowel habits among collegiate students, this has been further divaricated in our study to find out that not only the consumption of junk/local food, which was something quite commonly consumed by medical trainees during the course of their post in rural areas, but also the variability in the frequency of it is consumption had an effect ion altering the bowel habits of these individuals.[12]

Our study has shown that the duration of stay has a statistical significance, where most of the students have stayed for more than 2 months, this is in line with a study Mutsch et al which shows that when people are travelling outside their residences, altering their food habits will lead to altered bowel habits.[13]

Hartigan et al showed how people usually avoid restrooms that lack the basic cornerstones of comfort like safety, accessibility and sanitation, which is in accordance with our result showing significant alteration in bowel habits depending upon the comfortability factor of bathrooms.[14]

Our study is the first of its kind which showcases an added stress over young medical trainees where there was initially thought to be none. Any reform that can help circumvent this stressor factor would reduce this trivial factor contribution to the long list of stressful scenarios a young medical trainee is subjected to in our country.

This study has some limitations. This questionnaire-based study could have been conducted in person than over social media for a more robust response since follow up questions couldn't be asked to the participants. Repeated reiterations and requesting fellow medical students to fill the form could lead to potential disinterest while filling the questionnaire. Small sample size makes this study relatively non-generalizable. Stratification of the type of local/junk food consumed during the stay would have helped us delve deeper into newer aspects that could be altering bowel habits of these young doctors.

However, despite the aforementioned limitations this study stands out in portraying how transcultural exposure of young and urban trainee doctors to rural setting can act as a stressor factor thereby altering their bowel habits.

CONCLUSION

From the above study, we have tried to prove the presence of difficulty in transcultural adaptations playing a significant role in altering bowel habits of the young trainees of the medical fraternity. Poor water supply, poor hygiene, and multiple people sharing the toilet are significant stressor factors for the medical trainee during their stay in rural health centers across the country. The aforementioned stressor factors acted in synergy with the variability in frequency of local food consumption by the young physicians, thus exaggerating the alteration in their bowel habits.

Recommendations

From the above results we aimed to recommend a call for raising awareness for the need of significant upgradation in the infrastructure of the rural healthcare system especially taking into consideration, the residential needs of the young doctors who are hardly acclimatized to the rural inhabitations.

On the collegiate level, alleviation of basic stressors like transportation to and from the PHCs and rural centres, and ensuring proper bathroom facilities at the place of stay at the rural dwelling could reduce the superadded stress which seems rather trivial when compared to the daily struggles of a young physician in a developing country like India.

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REFERENCES

1. Sperber AD, Bangdiwala SI, Drossman DA, Ghoshal UC, Simren M, Tack J, et al. Worldwide prevalence and burden of functional gastrointestinal disorders, results of Rome Foundation Global Study. Gastroenterology. 2021;160(1):99-114.
2. Oka P, Parr H, Barberio B, Black CJ, Savarino EV, Ford AC. Global prevalence of irritable bowel syndrome according to Rome III or IV criteria: a systematic review and meta-analysis. Lancet Gastroenterol Hepatol. 2020;5(10):908-17.
3. Barberio B, Judge C, Savarino EV, Ford AC. Global prevalence of functional constipation according to the Rome criteria: a systematic review and meta-analysis. Lancet Gastroenterol Hepatol. 2021;6(8):638-48.
4. McKerrow I, Carney PA, Caretta-Weyer H, Furnari M, Miller Juve A. Trends in medical students' stress, physical, and emotional health throughout training. Med Educ Online. 2020;25(1):1709278.
5. Zhou AY, Panagioti M, Esmail A, Agius R, Van Tongeren M, Bower P. Factors associated with burnout and stress in trainee physicians. JAMA Network Open. 2020;3(8).
6. Lakshminarayanan S, Bhardwaj P, Srivastava JP. Internship training in community medicine- need for reorientation and strengthening. Indian J Community Health. 2014;26(04).
7. Kim JY, Lim MH. Psychological factors to predict chronic diarrhea and constipation in Korean high school students. Medicine. 2021;100(27).
8. Chen HH, Hung CH, Kao AW, Hsieh HF. Exploring quality of life, stress, and risk factors associated with irritable bowel syndrome for female university students in Taiwan. Int J Environ Res Public Health. 2021;18(8):3888.
9. He F, Liang Y, Gong X, Wang A, Zhang W. Transcultural adaptation of Tibetan nursing trainees: A case study of "9+3" vocational technical students in Sichuan Province, China. Med Sci Monit. 2021;27.
10. Mansour-Ghanaei F, Fallah MS, Heidarzadeh A, Jafarshad R, Joukar F, Ghasemipour R, et al. Prevalence and characteristics of irritable bowel syndrome (IBS) amongst medical students of Gilan Northern Province of Iran. Middle East J Digest Dis. 2009;1(2):100-5.
11. Goyal O, Nohria S, Dhaliwal AS, Goyal P, Soni RK, Chhina RS, et al. Prevalence, overlap, and risk factors for Rome IV functional gastrointestinal disorders among college students in Northern India. Indian J Gastroenterol. 2020;40(2):144-53.
12. Mutsch M, Pitzurra R, Hatz C, Steffen R. Post-infectious sequelae of travelers' diarrhea: irritable bowel syndrome. J Travel Med. 2014;21(2):141-3.
13. Kim YS, Kim N. Sex-gender differences in irritable bowel syndrome. J Neurogastroenterol Motil. 2018;24(4):544.
14. Hartigan SM, Bonnet K, Chisholm L, Kowalik C, Dmochowski RR, Schlundt D, et al. Why do women not use the bathroom? women's attitudes and beliefs on using public restrooms. Int J Environ Res Public Health. 2020;17(6):2053.

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