

Prevalence of constipation among central region population, Riyadh and Qassim provinces, Saudi Arabia, 2018-2019

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ABSTRACT

Background: Due to the lack of data and studies concerning the prevalence of constipation in Saudi Arabia, this study aimed at determining the level of prevalence among central region population in Saudi Arabia, specifically in Riyadh and Qassim provinces. **Aims:** To determine the prevalence of constipation, to estimate the overall prevalence of constipation among the society, and to identify risk factors of constipation. **Materials and Methods:** In this cross-sectional study, 543 individuals were covered, both males and females in the targeted areas. A standardized questionnaire was used to cover eight different aspects concerning constipation. SPSS package was used to analyze the data collected from the sample. **Results:** The results of the scoring system showed that the prevalence of constipation among the sampled individuals is only 4.4%, whereas those whose result indicates no suffering from constipation represented 95.6%. Constipation is more prevalent among females (79.2%) rather than males (20.8%). Moreover, constipation is more severe among those who are between 20- and 35-year old, while it reaches 0% among old people (over 51 years). Riyadh residents are more likely to suffer from constipation rather than Qassim residents. In Riyadh, 83.3% suffered from constipation, whereas the percentage in Qassim was 16.7%. The results show also that constipation is more prevalent among those who eat fiber-rich food once in a week, who are getting stressed all the time, nonsmokers, and who get dehydrated and do not carry a bottle of water. There is a significant relationship between suffering from constipation and only two variables, which are regularity of being stressed and regularity of getting dehydrated. The test value for these two variables were (0.0) in the two cases. **Conclusion:** The prevalence of constipation is relatively very low among population of central region in Saudi Arabia.

Keywords: Central region, constipation, emergency, family medicine, Qassim, Riyadh

Introduction

Constipation does not have a consensus definition, neither ideal disease markers. Therefore, history and physical examination become the major determinant of the diagnosis. Although physicians and patients may interpret it differently, a widely used definition of constipation by medical personnel is to define constipation as less than three bowel movements

per week or according to Rome III criteria. While patients often equate constipation with stool consistency, feelings of incomplete emptying, straining, and urge for defecation.^[1,2]

A healthy person is often assumed to have one bowel action each day, and there have been suggestions that a daily habit is not only natural but also necessary. According to BMJ, a range of normality lays between one bowel action every few weeks or months to 24 bowel actions a day.^[3]

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Although constipation is usually preventable, it presents as a perpetual problem in healthcare with painful and debilitating consequences. A prerequisite to prevention is assessment of risk of a condition occurring so that interventions can be individualized in an attempt to prevent it.^[4]

A wide variation of prevalence was reported.^[5] The direct impact of constipation on health-related quality of life (HRQOL) has been highlighted in several studies.^[6,7] Various validated instruments have been used to demonstrate that patients with constipation have lower HRQOL when compared with the general population.^[6]

For example, A multinational survey conducted in seven countries (France, Germany, Italy, England, South Korea, Brazil, and the United States) that enrolled 2,870 participants revealed that constipation resulted in similarly impaired HRQOL scores in each of the countries surveyed.^[7]

Moreover, In the United States, the prevalence of constipation is around 15%. Similar studies from western countries like Canada reported that chronic constipation affected nearly 2%–27% of the Canadian population, whereas studies from China, India, and Japan reported a prevalence of 8%, 17%, and 28%, respectively.^[8-10]

Unfortunately, studies concerning the prevalence of constipation in Saudi Arabia are scarce. One of the studies that was performed in Saudi Arabia to determine the irregularities of bowel function among Saudi adults showed that 18% of the respondents experienced abnormal bowel habits. Due to the absence of uniform diagnostic criteria, there is a discrepancy in the reported rates.^[5] While another study compared between three types of questionnaires, Mansoura Numerolphabetic Constipation Score (MNCS), Wexner and KESS scores suggest that MNCS was the most accurate between the three ways. Moreover, it can be used as an indicator of surgery (stages C and D indicating surgical intervention).^[11] However, Wexner is one of the most commonly used subjective scores out there,^[12] so we will use it as well to compare between those two scores.

This study attempts to use a standardized questionnaire to define the level of prevalence among population of the central region in Saudi Arabia. The targeted sample was located in two provinces, which are Riyadh and Qassim. This report, first, represents the methodology used in analyzing the collected data, and then it represents the results explicitly. Finally, it compares the results based on the questionnaire with other similar studies.

Materials and Methods

The study is a cross-sectional study using an online questionnaire to collect data from sample, which was calculated to be 384. But, we managed to get 543 individuals. Targeted area was central region of Saudi Arabia as the questionnaire covered two provinces, namely, Riyadh and Qassim and covered both males and females.

The questionnaire covered eight aspects concerning constipation, including, frequency of bowel movements, difficulty: painful evacuation effort, completeness: feeling incomplete evacuation, pain: abdominal pain, time: minutes in lavatory per attempt, assistance: type of assistance, failure: unsuccessful attempts for evacuation per 24 h, and history: duration of constipation (year).

Statistical Package for Social Sciences (SPSS) software was used to analyze the data collected form the questionnaire.

Results

In total, 543 individuals responded to the questionnaire, of which 64.3% were females and 35.7 were males. The dominant age was (20–35 years) as it represented 63.9% of the sample, followed by 18.6% of the sample are <20 years, 15.5% between 36 and 50 years and only 2% over 50. The residents of Riyadh dominated the sample as they represented 82.1% of the sample, whereas only 17.9% were in Qassim.

Based on statistical analysis, eight variables were selected for the scoring system. These items include frequency of bowel movements, painful evacuation, incomplete evacuation, abdominal pain, length of time per attempt, assistance for defecation, unsuccessful attempts for evacuation per 24 h, and duration of constipation [Table 1]. A scoring range of 0–4 (with the exception of “assistance for defecation,” which is 0–2) was derived. The global score was obtained by adding each individual score. A score of >15 was the definition of the symptom “constipation” in this study.

The results of the scoring system showed that the prevalence of constipation among the sampled individuals is only 4.4%, while those whose result indicates no suffering from constipation represented 95.6% [Figure 1].

The result [Table 1] shows that constipation is more prevalent among females (79.2%) rather than males (20.8%). Moreover, constipation is more severe among those who are between

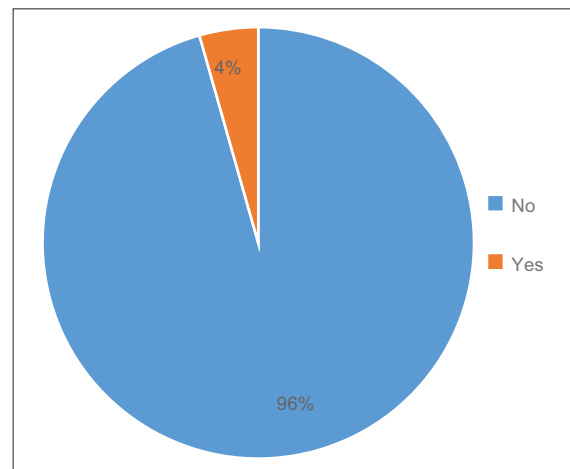


Figure 1: Percentage of sample who suffer from constipation

Table 1: Relation between suffering from constipation and other variables

Variables		Does not suffer from constipation (%)	Suffering from constipation (%)	Total
Gender	Male	36.40	20.80	194
	Female	63.60	79.20	349
Age	<20	19.10	8.30	101
	20-35	63.40	75.00	347
	36-50	15.40	16.70	84
	≥51	2.10	0.00	11
Residence place	Riyadh	82.10	83.30	446
	Qassim	17.90	16.70	97
Regularity of eating fiber-rich food	Daily	27.00	16.70	144
	Twice a week	29.70	20.80	159
	Once a week	24.90	29.20	136
	One a month	15.40	25.00	86
	Rarely/never	3.10	8.30	18
Regularity of being stressed*	Yes, all the time	21.00	62.50	124
	Sometimes	53.90	29.20	287
	Rarely	15.60	4.20	82
	Never	9.40	4.20	50
Regularity of smoking	Yes, heavy smoker	7.70	0.00	40
	Yes, occasionally	10.20	4.20	54
	No	82.10	95.80	449
Regularity of getting dehydrated*	Yes, I always carry a water bottle	32.60	20.80	174
	Yes, but I do not carry a water bottle	51.10	37.50	274
	Sometimes I feel thirsty and do not drink	14.30	25.00	80
	I am always dehydrated	2.10	16.70	15

20- and 35-year old, whereas it reaches 0% among old people (over 51 years).

Riyadh residents are more likely to suffer from constipation rather than Qassim residents. In Riyadh, 83.3% suffered from constipation, whereas the percentage in Qassim was 16.7%.

The results show also that constipation is more prevalent among those who eat fiber-rich food once a week, who are getting stressed all the time, nonsmokers, and who get dehydrated and do not carry a bottle of water. The percentages of suffering from constipation among the previously mentioned categories were 29.1%, 62.5%, 95.8%, and 37.5%, respectively.

Chi-square test was used to determine the correlation between suffering from constipation and the variables in Table 1. The results of the test showed that there is a significant relationship between suffering from constipation and only two variables, which are regularity of being stressed and regularity of getting dehydrated. The test value for these two variables were (0.0) in the two cases.

On the other hand, none of the remaining variables had significant relationship with suffering from constipation.

Discussion

There are number of studies discussed the prevalence of constipation among different types of populations. In this study, suffering from constipation was not severe as only 4.4%

of the sample suffered from constipation. In a study in a city in Brazil, the prevalence of constipation reached 25.2%, the severity of constipation was higher among females (37.2%) rather than males (10.2%), which is consistent with the results of our study.^[13]

Similarly, different studies show that females are more likely to suffer from constipation rather than males. As the results of the studies of Jun *et al.* (2006) in South Korea,^[14] Mendoza-Sassi *et al.* (2006) in Brazil,^[15] and Adibi *et al.* (2007) in Iran^[16] have proven this conclusion. In these three studies, the prevalence on constipation among targeted population ranged from 9.6% to 22.1%.

Constipation in women seems to be more common for reasons, such as pregnancy and childbirth, Women's hormonal changes as well as behavioral factors, history of physical and emotional abuse, and may be related to the digestive system disorders.^[13] Although the prevalence of constipation in the sample is small relatively, we might consider doing and encouraging other medical staff and raise the issue to the ministry of health in Saudi Arabia to conduct awareness campaigns and regulations about sedentary life style, increase fibers in the diet, get hydrated, and try to avoid the risk factors of constipation.

Conclusion

The aim of this study was to determine the prevalence of constipation among central region population. The results show that the prevalence is relatively low, as it equals only 4.4% of

the sample. Moreover, stress and dehydration are key factors concerning suffering from constipation.

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Conflicts of interest

There are no conflicts of interest.

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