

Bowel function and its associated variables in Saudi adults

A population based study

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ABSTRACT

الأهداف: دراسة أنماط الإخراج (الوظيفة، والعادات) والمتغيرات المرتبطة بها عند عدد من البالغين السعوديين.

الطريقة: تقوم هذه الدراسة المقطعية على ملئ استبيان مكون من 21 بند وتساءل عن عادات وعدد مرات الإخراج لدى السعوديين. وُزعت أوراق الاستبيان على 10,000 شخص من طلاب المدارس الثانوية من جميع مناطق مدينة الرياض الخمسة، المملكة العربية السعودية وذلك بناءً على الاختيار العشوائي للمدارس والطلاب واثنين من أفراد الأسرة الذين يعيش معهم الطالب. وقد قمنا بدراسة الخصائص الاجتماعية، والديموغرافية، وعادات تناول الطعام، والأمراض المزمنة، والأدوية المستخدمة.

النتائج: بلغت نسبة من هم فوق سن 16 عاماً 61% (N=4918)، 51.5% من الذكور، و88.1% من السعوديين. وقد لوحظ أن 18.1% من المستطلعين يعتقد أن حركات أمعائهم غير منتظمة وغير طبيعية. ولم يكن هناك علاقة بين جنس المستطلع وعدم انتظام حركة الأمعاء (OR: 0.89; p=0.13). وعانى الأفراد الذين تزيد أعمارهم عن 60 عاماً من صعوبات وتغيرات في نمط حركة الأمعاء (OR=1.8, p=0.01). لقد كان هناك تأثير واضح وبشكل إحصائي كبير لكل من الحالة التعليمية (الثانوي)، والمهنة (موظف أم عاطل عن العمل)، والعادات الغذائية، والأمراض المزمنة على حركة الأمعاء اليومية عند الأفراد الخاضعين للدراسة. وأوضحت الدراسة أن المستهلكين للخضروات والفواكه واللحوم ومنتجات الألبان والأرز يتمتعون بحركة أمعاء طبيعية. كما وجدنا أن الإناث يعانون من تبرز أقل كثيراً بالمقارنة مع الذكور (p<0.0001) وأخيراً نتج أن حوالي 40% من الأفراد من كلا الجنسين تتحرك أمعائهم على الأقل مرة واحدة يومياً.

خاتمة: وصفت دراستنا أنماط الإخراج عند عدد كبير من سكان الحاضرة السعودية التي قد تكون بمثابة خط الأساس لاستراتيجيات التدخل المناسبة، وأيضا لدراسات مستقبلية لإثبات، أو نفي، أو إضافة المزيد من الملاحظات والاستنتاجات.

Objectives: To study bowel patterns (function/habits) and its associated variables in an adult Saudi population.

Methods: In a cross sectional study, a 21-item questionnaire on bowel function (habits and frequency) was distributed to 10,000 high school students from all 5 regions of Riyadh City, Saudi Arabia, between February and April 2011. The randomly selected students, and 2 of their household or family members completed the questionnaire. Socio-demographic characteristics, eating habits, chronic diseases, and medications used were studied.

Result: Sixty-one percent (N=4918) were above the age of 16 years, of which 51.5% were males, and 88.1% were Saudis. It was observed that 18.1% of respondents perceived their bowel movements as being irregular and abnormal. There was no association between gender and abnormal/irregular bowel movement (OR: 0.89; p=0.13). Individuals over 60 years suffered from bowel pattern abnormalities (OR=1.8; p=0.01). Educational status (secondary), occupation (teacher and unemployed), diet habits, and chronic diseases of study subjects were also statistically significantly associated with their bowel movements. Respondents consuming more vegetables, fruits, meats, dairy products, and rice had significantly more normal bowel movements. Females tended to defecate less frequently as compared with males (p<0.0001). Approximately 40% of both genders have bowel movements at least once a day.

Conclusion: Our results may serve as a baseline for appropriate intervention strategies, and also for future studies to substantiate, negate, or add more observations/conclusions.

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Of all human bodily functions defecation is perhaps the least understood and least studied. It is thought that only a minority of people in the general population have a regular bowel habit cycle.¹ Many people do not know what constitutes a “normal” bowel movement. The fact is there is no one all-encompassing definition of a normal bowel movement. An optimum understanding of bowel function in the general population is essential in order to optimally evaluate patients with gastrointestinal complaints. In scientific terms, there have been several studies on bowel function that have concentrated on particular defecatory problems such as constipation,²⁻⁵ and inflammatory bowel syndrome (IBS),⁶ or with other associated conditions such as menstruation,⁷ hemorrhoids,⁸ as well as studies in association with gender, age or race,⁹ stress,¹ and physical activity,¹ but none have addressed the occurrence of normal versus abnormal bowel function in a general population.

Questionnaires are the most commonly used tools to measure bowel habits. With questionnaires, individuals have to summarize changing patterns of bowel defecation over an extended time period. Several studies showed a defecation frequency of once/day to as much as 7 times/week.^{1,10-12} It is been agreed on that some degree of urgency, straining, and incomplete evacuation as part of the normal bowel pattern as suggested by Walter et al.¹² In children, bowel movement may be more frequent during the first 2 years of life, but significantly decreases to 3/day to 3/week upon reaching 12 years old.^{12,13} To date, there are limited studies on this subject matter in the Middle East, let alone in Saudi Arabia. Most studies on bowel patterns (function/habits) have been conducted in western and European countries. This issue is not easy to talk about or discuss, particularly in this region of the world. Although most gastrointestinal and general surgery clinics in the Kingdom have significantly increased in the number of patients with bowel habit issues, there has been no concrete statistical study of defecation patterns in the Saudi population. Furthermore, any useful information associating bowel function and the incidence of colorectal diseases, as these disease states have increased rapidly in Saudi Arabia over the last 10 years, remains scarce. Due to

this, we deemed it necessary to conduct this study to identify and characterize the bowel movement patterns in an adult Saudi population.

Methods. Participant's selection. A population based cross-sectional study was carried out in Riyadh, Saudi Arabia. The study subjects were school children and their parents. From each of the 5 geographical regions (North, South, East, West, and Central region) of Riyadh city, schools (considered as clusters) were identified from the records of the Ministry of Education. One school each exclusively for boys and girls from each of the 5 regions was randomly selected through a computer-generated randomization process. From each randomly selected school, only 2 classes were again randomly picked to participate in the survey. The questionnaire sealed in an envelope, was distributed to students in the participating classes of the selected schools from all regions. For each selected male and female student, 2 additional envelopes containing the same questionnaire were provided for completion by their parents, or any other adult household member. Completed questionnaires were collected from the schools during a specific timeframe.

Questionnaire. An anonymous questionnaire listing 21 questions was designed based on observations related to bowel habits and associated factors relevant to defecation. The questionnaire was designed to collect socio-demographic characteristics (gender, age, height, weight, occupation level, nationality, and ethnic background), co-morbid illnesses, medications list, and specific questions pertaining to bowel habits including fluid intake, usual diet, fecal matter consistency, frequency of defecation, and straining. The Rome criteria¹⁴ were considered at the time of questionnaire construction. Other items included in the questionnaire were on the use of laxatives, previous surgeries, and lifestyle. This questionnaire was translated into English and both versions (Arabic and English) were sent to 5 experts in the field of gastroenterology treatment to assess questionnaire reproducibility and reliability. Once the questionnaire was finalized, a pilot study was conducted among 20 randomly selected hospital personnel to test the appropriateness of the questionnaire in the local setting. The selected participants were surveyed twice in 2 month's time. In both instances, participants were asked to comment on any vague part of the questionnaire. Correlation between test and re-test responses of the 20 subjects was statistically significant. Reliability (internal consistency) of the questionnaire was assessed by calculating Cronbach's alpha coefficient (0.77). As data from the pilot study were preliminary,

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they were not included in the subsequent discussion of results and findings in this study.

Ethics. The Institutional Review Board of the College of Medicine Research Center, Vice Deanship for Scientific Affairs, College of Medicine, King Saud University approved the study. Written consent was obtained from all participants after they had been given a complete explanation of the aims of the study, and the nature of the questionnaire.

Sample size calculation and statistical analysis. The required sample size of 9792 was calculated by assuming a 15% prevalence of abnormal bowel function, with a level of accuracy (precision) of $\pm 1\%$, at the 5% level of significance, and a design effect of 2 by considering the cluster design. A high precision was considered due to lack of information on risk factors difference between the normal and abnormal bowel function subjects. Data were entered and analyzed using the Statistical Package for Social Sciences version 16 (SPSS Inc., Chicago, IL, USA). Descriptive statistics (mean, standard deviation, and percentages) were used to describe the quantitative and categorical variables. Pearson chi-square test, and odds ratios (OR) were used to observe and quantify an association between categorical study and outcome variables. Stepwise logistic regression was used to identify the independent variables associated with the binary outcome variable. A p-value of <0.05 and 95% confidence intervals (CI) were used to report the statistical significance and precision of the results.

Results. Out of 10,000 distributed questionnaires 8,065 (80.6%) study subjects responded. As the study subjects included both children and adults, the analysis was carried out for adult subjects only because of different physiological nature between these 2 groups. Approximately 4918 (61%) of the responders were above the age of 16. There were 2,534 (51.5%) males and 2,384 (48.5%) females, and 88.1% were Saudis. The mean age was 39.2 ± 13.5 years. Nearly half of the respondents were from Central and Southern Riyadh (45.5%). Most of the respondents lived in a villa ($n=2,023$, 41.1%), and 56.1% had at least a secondary level of education, while 25% had a university degree (Table 1).

Univariate analysis. When asked of self-observed bowel movements, out of 4918 study subjects, 890 (18.1%, 95% CI: 17.02-19.18) respondents perceived their bowel movements to be irregular and abnormal. Abnormal bowel movements were perceived significantly by older individuals (40-59 years: OR=1.21; >60 years: OR=1.8) when compared with their younger (17-39 years) counterparts. Education status of study subjects

was statistically significantly associated with abnormal bowel movements, where the odds (0.71) were lower for secondary school status subjects when compared with study subjects of university level education. Occupation (teacher, unemployed, and others) of subjects was statistically significantly associated with abnormal bowel movements when compared with students. Other variables gender, nationality, body mass index, and exercise were not statistically significantly associated with abnormal bowel movements (Table 2).

Abnormal bowel movement function was reported to be less prevalent in respondents who consumed more fruits and vegetables, meat, dairy products, and rice and carbohydrates in their diet, with statistically significant odds ratios indicating a protective effect for abnormal bowel movement function when compared

Table 1 - Socio-demographic characteristics of adult study subjects (N=4918).

Variable	n	(%)
Gender		
Males	2534	(51.5)
Females	2384	(48.5)
Nationality		
Saudi	4333	(88.1)
Non Saudi	585	(11.9)
Location in Riyadh		
Central	1160	(23.6)
Southern	1079	(21.9)
Western	876	(17.8)
Eastern	827	(16.8)
Northern	701	(14.3)
Not applicable	275	(5.6)
Occupation		
Student	2321	(47.2)
Teacher	471	(9.6)
Military	264	(5.4)
Manager	373	(7.6)
Unemployed	719	(14.6)
Other	684	(13.9)
Not applicable	86	(1.7)
Education level		
Illiterate	111	(2.3)
Read and write	115	(2.3)
Primary	180	(3.7)
Intermediate	365	(7.4)
Secondary	2757	(56.1)
University/postgraduate	1228	(25.0)
Not applicable	162	(3.3)
Type of housing		
Flat	1589	(32.3)
Traditional House	1119	(22.8)
Villa	2023	(41.1)
Other	74	(1.5)
No response	113	(2.3)

Table 2 - Association between socio-demographic characteristics and bowel movement habit among adult study subjects (univariate analysis).

Study variables	Bowel movement		Odds ratio	95% Confidence interval	P-value
	Abnormal N=890 n (%)	Normal N=4028 n (%)			
<i>Gender</i>					
Male	438 (17.3)	2096 (82.7)	0.89	0.77 - 1.03	0.127
Female	452 (19.0)	1932 (81.0)	1.0		-
<i>Age (years)</i>					
17-39	591 (17.1)	2865 (82.9)	1.0	1.02-1.42 1.13-2.84 0.69-1.1	-
40-59	270 (19.9)	1085 (80.1)	1.21		0.024
>60	29 (27.1)	78 (72.9)	1.8		0.01
<i>Nationality</i>					
Saudi	772 (17.8)	3561 (82.2)	0.86	0.69-1.1	0.165
Non-Saudi	118 (20.2)	467 (79.8)	1.0		-
<i>Educational status</i>					
Illiterate	29 (26.1)	82 (73.9)	1.38	0.86-2.2 0.59-1.60 0.77-1.69 0.80-1.44 0.60-0.85 1.0	0.197
Literate	23 (20.0)	92 (80.0)	0.97		0.993
Primary	41 (22.8)	139 (77.2)	1.15		0.532
Middle	79 (21.6)	286 (78.4)	1.1		0.671
Secondary	428 (15.5)	2329 (84.5)	0.71		0.001
University	251 (20.4)	977 (79.6)	1.0		-
<i>Occupation</i>					
Student	350 (15.1)	1971 (84.9)	1.0	1.32-2.18 0.69-1.45 0.95-1.71 1.24-1.92 1.15-1.79	-
Teacher	109 (23.1)	362 (76.9)	1.69		<0.0001
Military	40 (15.2)	224 (84.8)	1.0		0.952
Manager	69 (18.5)	304 (81.5)	1.27		0.106
Unemployed	155 (21.6)	564 (78.4)	1.54		<0.0001
Others	139 (20.3)	545 (79.7)	1.44		0.001
<i>Body mass index</i>					
Underweight	80 (15.7)	429 (84.3)	0.82	0.61-1.1 0.75-1.11	0.189
Normal	219 (18.5)	964 (81.5)	1.0		-
Overweight	317 (19.5)	1527 (80.5)	0.91		0.379
<i>Exercise</i>					
Daily	145 (15.5)	788 (84.5)	1.0	(0.76,1.36) (0.87,1.34) (0.78,2.29)	-
3-4 times/week	93 (15.7)	498 (84.3)	1.01		0.976
Weekly	315 (16.6)	1585 (83.4)	1.1		0.516
Monthly	21 (19.8)	85 (80.2)	1.34		0.319

with subjects who did not consume these products. Whereas the odds of abnormal bowel movement function were higher in subjects who consumed spices and whole wheat when compared with subjects who did not consume these in their diet. The odds of abnormal bowel movement function were statistically significantly higher in study subjects who were suffering with chronic diseases (inflammatory bowel disease, hypertension, diabetes, thyroid disease, and liver) when compared with subjects without these chronic diseases. Also, the OR for abnormal bowel movement were statistically significantly higher in subjects who were on medications such as iron, laxatives, calcium tablets, thyroid regulators, insulin and glucose regulators when compared with those who were not on these medications (Table 3).

Multivariate analysis. Adjusted OR obtained by using a stepwise multivariate logistic regression model indicates the variables: occupation (teacher, unemployment, and others), chronic disease (inflammatory bowel disease), use of medications (iron, laxatives, calcium tablets, thyroid regulators, insulin and hypoglycemic agents) and diet consumption (fruits, meat, spices, and rice) were statistically significantly independently associated with abnormal bowel movement (Table 4).

Prevalence of associated conditions. Among the study subjects with abnormal bowel movement, 21.7% had defecation difficulty (straining), 33.7% of them had difficulty with spices in their food consumption, 39% had abdominal pain and uneasiness, and 21.9% had gas control issues.

When study subjects were asked about average defecation frequency, female respondents tended to

Table 3 - Association between chronic diseases, medication and type of diet, and bowel movement habit among adult study subjects (univariate analysis).

Study variables	Bowel movement		Odds ratio	95% confidence interval	P-value
	Abnormal (N=890) n (%)	Normal (N=4028) n (%)			
<i>Diet</i>					
Fruits and vegetables (yes)	405 (16.1)	2105 (83.9)	0.76	0.66 - 0.88	<0.001
Meat and dairy products (yes)	496 (16.7)	2468 (83.3)	0.79	0.68 - 0.92	0.002
Spices (yes)	245 (20.3)	960 (79.7)	1.21	1.03 - 1.43	0.02
Rice and carbohydrates (yes)	595 (17.2)	2870 (82.8)	0.81	0.69 - 0.95	0.009
Whole wheat (yes)	187 (20.5)	723 (79.5)	1.21	1.01 - 1.46	0.033
Bran (yes)	43 (22.5)	148 (77.5)	1.33	0.92 - 1.90	0.106
<i>Chronic diseases</i>					
Inflammatory bowel disease (yes)	119 (44.4)	149 (55.6)	4.0	3.1 - 5.2	<0.0001
Hypertension (yes)	89 (22.5)	306 (77.5)	1.35	1.04 - 1.74	0.017
Diabetes (yes)	84 (22.8)	284 (77.2)	1.37	1.05 - 1.79	0.014
Thyroid disease (yes)	38 (32.2)	80 (67.8)	2.2	1.46 - 3.31	<0.0001
Liver (yes)	29 (34.5)	55 (65.5)	25.9	15.2 - 44.0	<0.0001
<i>Medications</i>					
Iron	96 (27.4)	254 (72.6)	1.79	1.4 - 2.3	<0.0001
Laxatives	109 (66.5)	55 (33.5)	10.1	7.11 - 14.26	<0.0001
Calcium tablets	60 (26.8)	164 (73.2)	1.70	1.24 - 2.33	0.001
Thyroid regulators	38 (34.5)	72 (65.5)	2.45	1.61 - 3.72	<0.0001
Insulin/oral/both	166 (22.7)	566 (77.3)	1.40	1.15 - 1.70	<0.0001

Table 4 - Risk factors for abnormal bowel movements among adult study subjects (multivariate analysis).

Risk factors	Adjusted odds ratio	95% Confidence interval
<i>Occupation</i>		
Teacher	1.50	1.23 - 1.76
Unemployed	1.31	1.1 - 1.54
Others	1.30	1.1 - 1.54
<i>Chronic disease</i>		
Inflammatory bowel disease (present)	2.89	2.2 - 3.85
<i>Medications</i>		
Use of iron tablets (yes)	1.38	1.05 - 1.81
Use of laxatives (yes)	7.51	5.25 - 10.75
Use of thyroid (yes)	2.01	1.29 - 3.14
Use of insulin, hypoglycemic agents and both (yes)	1.24	1.0 - 1.53
<i>Diet consumption</i>		
Fruits (yes)	0.69	0.58 - 0.82
Meat (yes)	0.77	0.65 - 0.90
Spices (yes)	1.28	1.1 - 1.53
Rice (yes)	0.80	0.68 - 0.95

have significantly fewer bowel movements compared with males ($p < 0.0001$). Male respondents defecate more than once a day compared to females, whereas females tended to defecate at least once a day to once a week (Figure 1). Approximately 40% of the respondents reported bowel movements at least once a day for both genders. There was a significant association between the number of bowel movements with younger age and gender ($p < 0.0001$). Most of the subjects (~70%) had no regular defecation time (Figure 2).

Discussion. Despite the multitude of biases that surround studies on bowel movement patterns in a distinct population such as misreporting^{15,16} wherein symptomatic individuals may finish the survey process more often than asymptomatic patients, and asymptomatic respondents may not be as engaged and less reflective in their answers, we believe that we obtained a representative sample of a Saudi urban population to characterize bowel movement frequencies. Positive factors of the representative sample include the fact that we obtained a geographically distributed sample of the population, (participants were recruited from different parts of Riyadh), and we randomly distributed the survey and allowed the respondents to freely answer questions in a relaxed atmosphere. With a 79.4% response rate, we were satisfied with the results, given the nature of the data being sought.

In this study, we want to emphasize the findings we can confidently point to as being the norm in a large urban population. Some of our results substantiate, and some negate results from earlier studies carried out in other parts of the world. First, it is evident that our subjects' perception of "abnormal" bowel movements does not coincide with the actual bowel frequency. It was found that 21.7% of respondents perceived their bowel movements as "irregular" or "abnormal," while they report that they defecate at least once a day (data not shown). This could be brought about by misconceptions on what a "normal" bowel movement entails.

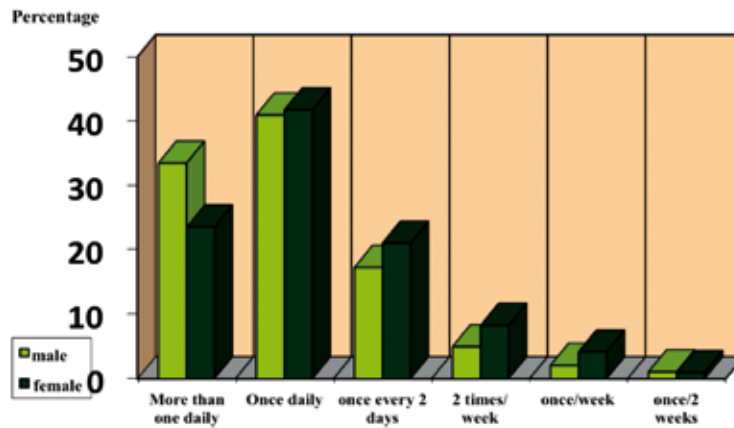


Figure 1 - Defecation frequency across gender of study subjects.

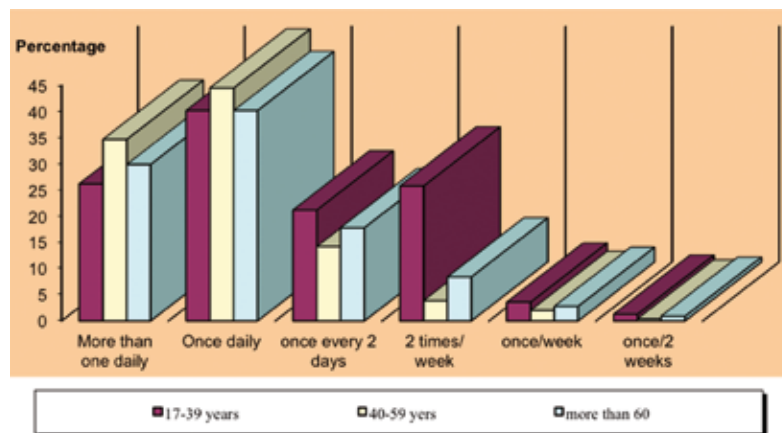


Figure 2 - Defecation frequency across the age groups of study subjects.

The main findings of this study were that: 1) approximately 65% of normal subjects had one bowel movement per day to twice weekly; 2) 30% of individuals had more than one stool every day and, 3) less 10% of them had less than one bowel movement per week. Our findings on bowel frequency were in accordance with population studies conducted in 2001 among Chinese adults showing a defecation frequency of once/day to as much as 7 times/week.¹⁰ In March 2010, Walter et al¹² reported 3 times/day to 3 times/week defecation frequency in 98% of their adult subjects aged between 18-70 years. They carefully selected their subjects through exclusion of all factors leading to possible aberrant/distorted results, such as the presence of organic disease, use of medications, or even IBS, which could affect the epidemiological picture of their study. They stated that some degree of urgency, straining, and incomplete evacuation should be considered normal. Unfortunately, we cannot conclude the same from this

study. The nationality of the participants had no impact on bowel pattern. Indeed, at a similar educational level, sociocultural habits do not differ between the Saudis and the non-Saudis, who are Arabs in origin. Our data agreed with the previously known and published results¹⁷ that less well educated subjects presented significantly more self-reported constipation and difficulty in stool evacuation compared to those with a post-baccalaureate education.

Secondly, our study showed that male subjects perceived and actually defecate more than females. This is in contrast to studies conducted in Bristol in 1992,¹⁸ reporting that most of the respondents had at least 3 defecations a day without significant gender differences. Thirdly, we could not find a positive association between "normal" defecation and lifestyle. In contrast to what is expected, those who engaged in an active lifestyle had better bowel movements than those who were more sedentary. Fourthly, there was also a positive association

between consumption of fruits, vegetables, meat, dairy products, rice and carbohydrates with "normal" bowel function. Individuals who consume more spices and whole wheat are more prone to suffer an abnormal bowel motion. Among those who suffer from abnormal bowel movements, 39% experienced abdominal pain and unease during defecation. A hard stool had the highest prevalence among this cohort.

The limitation of this study is that it focuses on symptoms of a self-reporting questionnaire, which may unfortunately imply individual's subjectivity. For example, individuals questioned about abnormal bowel movement may be more concerned about incomplete or difficult evacuation than decreased stool frequency. There is no objective confirmation (radiological or pathological, for example) of the condition. As the unease in the bowel motion can easily be treated by over-the-counter medication, the symptoms and defecation frequency can be somewhat modified by constipated subjects who treat themselves. Defecation problems are often minimized by patients who use incorrect terms or report them incorrectly. In this study, 21.7% of the individuals who declared that they had abnormal motion reported neither difficulty in stool evacuation nor infrequent defecation. However, it is unlikely that the validity of our results had been severely affected by these potential biases, since overall they were consistent with those previously reported in comparable populations.

On the other hand, the present study has several strengths. The study sample was chosen based on a stratified systematic random well representative population sample; thereby, reducing selection bias. Many epidemiologic studies identify their sample based on volunteers recruited from populations, occupational groups, commercial databases, and student populations.¹⁹ The information was obtained by a validated questionnaire, and the questions on bowel function were mixed with other questions related to general health, therefore reporting individuals had no particular reason to under-report or to over-report their bowel symptoms.

In conclusion, our study represents a prospective on the bowel patterns in a large urban population. The data obtained in this study might serve as a baseline for future extensive studies on bowel function/habits, to substantiate our reported observations.

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Appendix 1 - Questionnaire.

Nationality: الجنسية

Saudi سعودي

Which part of Riyadh do you live: في أي جهة من الرياض تنتمي

North الشمال South الجنوب East الشرق West الغرب Centre الوسط

Non-Saudi: غير سعودي

Specify:..... حدد

Cell phone (optional):..... رقم الهاتف (اختياري)

E-mail (optional):..... البريد الالكتروني (اختياري)

Gender: الجنس

Man ذكر Women أنثى

Age: العمر

16-20 26-30 36-40 46-50 56-60
 21-25 31-35 41-45 51-55 >60

Weight: الوزن Height: الطول

Occupation: الوظيفة

Teacher مدارس Student طالب Unemployed غير موظف Military عسكري Clerical مكتبي ميداني حدد

Education level:

Intermediate متوسط Primary ابتدائي Illiterate أمي University/Postgraduate ماجستير ودكتوراه
 Read & write يقرأ ويكتب University جامعي

1. هل تعاني من أمراض مزمنة؟

Liver Disease أمراض الكبد والمرارة Thyroid disease الغدة الدرقية Diabetes السكري Hypertension ضغط الدم
 Inflammatory bowel disease التهابات الجهاز الهضمي

2. هل تستخدم هذه الأدوية؟

Insulin/diabetes regulatory الانسولين / منظم السكر Thyroid medications منظم الغدة الدرقية Calcium الكالسيوم
 Laxative ملينات / مسهلات Iron tablets الحديد Others أخرى

3. Do you think you had normal bowel movement? هل تعتقد أن عملية الإخراج لديك طبيعية؟

No نعم Yes لا

الأسئلة الرئيسية

Note: The questions between 7 to 11 afford more than one answer

4. The amount of daily liquids: مقدار السوائل التي تناولها في اليوم

- One cup كوب واحد 2-4 cups من 2 إلى 4 أكواب 4-6 cups من 4 إلى 6 أكواب
 6-8 cups من 6 إلى 8 أكواب >8 cups أكثر من 8 أكواب

5. How many times defecate? كم عدد مرات التبرز

- >Once/day أكثر من مره يومياً Once/week مره في الأسبوع >Once /week أكثر من مره في الأسبوع 3-7 times /week 3-7 مررات في الأسبوع

6. At any time during the day is excreted? في إي وقت خلال اليوم تبرز؟

- After getting out of bed بعد النهوض من النوم After breakfast بعد تناول الإفطار After lunch في الغداء
 At night في الليل There is no specific time ليس هنالك وقت محدد

7. Adopted in the diet? اعتمد في غذائي على

- Products fruits and vegetables الخضار والفواكه Meat and dairy products اللحوم ومنتجات الالبان Pepper and spices الفلفل والبهارات
 Rice and pasta الأرز والمعجنات Wheat and bran حبوب القمح والتخالة

8. I suffer from difficulties during defecation. أعاني من صعوبات أثناء التبرز.

- No لا Hurt أتالم Strain احزق / اتزحر I notice there is blood الألاحظ وجود دم I feel lumps during defecation أحس بزوائد تخرج أثناء التبرز

9. I have problems after eating certain foods. أعاني من مشاكل بعد تناول أدوية معينة.

- No لا Pepper and spices الفلفل والبهارات Meat اللحوم
 Dairy products منتجات الالبان Rice and pasta الأرز والمعجنات

10. These problems are: هذه المشاكل عبارة عن:

- Nothing ولاشيء Gas غازات Abdominal pain and discomfort. ألم في البطن وعدم ارتياح
 Hard Stool صلوية وقساوة في البراز Diarrhea إسهال Soft stool براز لين

11. I have a control problem لدي مشكلة في التحكم

- No لا Gas بالغاز Soft stool بالبراز اللين Normal stool البراز العادي Urine بالبول

أشياء أخرى

12. I use laxative استخدام المليينات

- No لا Natural طبيعية Chemical كيميائية

13. I notice my clothes get dirty as a result of inability to control my stool

- No لا Daily يومياً Weekly أسبوعياً Monthly شهرياً

14. I had previously undergone surgery in intestine

- No لا Small Intestine الأمعاء الدقيقة Colon القولون Rectum المستقيم

15. I have undergone a surgical procedure on the anal area

- No Congenital anomaly عيوب ولادية وخلقية Hemorrhoid البواسير Anal Fistula الناسور No لا

أسلوب الحياة

16. I practice physical activity / sports (Can choose more than one answer)

أمارس النشاطات البدنية / الرياضية (يمكن اختيار أكثر من إجابة)

- No لا أمشي / اركض أسبح ارفع الأثقال أشياء أخرى

17. I practice these activities أمارس هذه النشاطات بشكل

- Daily يومي 3-4 days/week من 3 إلى 4 أيام في الأسبوع weekly أسبوعي
 Monthly شهري No specific time ليس هناك وقت محدد

18. I live in أقيم في

- Small Apartment شقة Large flat دور سكني Small house بيت شعبي Villa فيلا Others غير ذلك