

# Prevalence and Quality of Life in Qashqai Migrating Nomads with Irritable Bowel Syndrome in Southern Iran

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## Abstract

**Background:** Irritable Bowel Syndrome (IBS) is an important public health problem, owing both to its high prevalence and its impact on the quality of life. The purpose of this study was to investigate the prevalence and risk factors of IBS and its relationship to life style in Qashqai migrating nomads with a different lifestyle in Fars province, southern Iran.

**Methods:** In summer 2006, 748 Qashqai migrating nomads aged 25 years or more were enrolled, using a multi-stage stratified cluster random sampling method. A questionnaire consisting of demographic data and IBS symptoms was completed for each subject. For about 50% of them, SF 36 questionnaire was also completed.

**Results:** The prevalence rate of IBS was 11.8% and there was a close relationship between IBS and the life quality.

**Conclusion:** The prevalence of IBS in Qashqai migrating nomads was higher than the urban population in the area with a close relationship to the life quality.

**Keywords:** Irritable bowel syndrome; SF 36 questionnaire; Quality of life; Rome II criteria; Migrating nomads; Southern Iran

## Introduction

Irritable bowel syndrome (IBS) is a chronic disorder of unknown etiology, clinically consisting of altered bowel habits, abdominal pain and the absence of any organic pathologic process.<sup>1</sup> IBS is a common health problem affecting a substantial proportion of the population. Prevalence estimates usually a range from 12 to 30%,<sup>2</sup> varying significantly between countries and depending on the used diagnostic criteria. The range was

reported from 3.5% in Iran to 30% in Nigeria.<sup>3</sup>

Although IBS is not a life-threatening illness, it is remarkably important for its high prevalence rate in the general population, its overlap with many other functional disorders and its financial impact, due to direct medical costs, decreased work productivity and increased work absenteeism.<sup>4-6</sup>

IBS causes reduced quality of life, and has been reported as resulting in the same degree of impairment as congestive heart failure.<sup>3</sup> Patients with IBS experience significant limitation in various aspects of their personal lives.<sup>7</sup> The condition generates a substantial workload in both primary and secondary care.<sup>3-8</sup>

As there was no data available in relation to the prevalence and quality of life in migrating nomads

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with IBS in Iran, due to their differences in culture and life style from urban population, this cross-sectional study was carried out in southern Iran.

## Material and Methods

This cross-sectional study was carried out on Qashqai migrating nomads from May to October 2006. They lived in summer quarters at the time of study. Qashqai migrating nomads of Fars province in southern Iran migrate between winter quarters near the Persian Gulf and summer quarters in the plateaus of Zagros Mountains in the north of Fars province. Life style of Qashqai migrating nomads differs greatly from the urban life style. They live with their animals in tents and migrate more than 500 Kilometers in search of pasture for their domestic animals and do not bear the same stresses of urban population and do not consume the same food.

The multiple-stage stratified cluster random sampling method was used to select 748 subjects aged 25 years or more and of both genders. The project was approved by Ethics Committee of Shiraz University of Medical Sciences and a written consent was provided from each participant. A team of interviewers who had received training completed the questionnaire, consisting of three sections: 1. demographic details; 2. the SF-36 (36-item short-form health survey),<sup>9</sup> a validated generic quality of life measure; and 3. a questionnaire version of the Rome II diagnostic criteria for IBS.<sup>10</sup>

IBS was defined as abdominal pain that kept recurring over a period of more than three months in the previous year in combination with its symptoms described by Tally *et al.*<sup>11</sup> Socio-demographic variables were age, gender, marital status, biological characteristics such as BMI (weight in kg in the fasting state divided by height squared in meters) resulting in four categories of thin (18 kg/m<sup>2</sup>), normal (less than 18-24.9 kg/m<sup>2</sup>), overweight (25-29.9 kg/m<sup>2</sup>), and obese (more than 30 kg/m<sup>2</sup>).

About half of the participants completed the SF-36, a 36 item questionnaire that provided scores for eight domains of patients' functioning: physical functioning, role physical, bodily pain, general health, vitality, social functioning, and role emotional and mental health.<sup>9</sup> Each subscale was scored from zero to 100, with higher scores indicating better health status. This questionnaire was validated for the Iranian population by Montazeri *et al.*<sup>12</sup>

Information was entered directly into a computer database under the supervision of a professional biostatistician. In each step, the statistical analysis was performed on the maximum available data, using the Chi-Square and t tests with SPSS software (Version 11.5 Chicago, IL, USA). A *p* value of 0.05 or less was considered to be statistically significant.

## Results

Among 748 Qashqai migrating nomads participated in the study, the IBS questionnaire was completed for 717 subjects (response rate, 95.8%) while SF-36 questionnaire was completed for 397 subjects (response rate, 53.1%). Among the subjects, 284 (38.0%) were male and 433 (57.9.4%) were female.

The prevalence rate of IBS was 11.8%. Table 1 shows the prevalence rates of IBS in relation to demographic data. The differences were not significant in relation to gender, age, marital status and BMI. Table 2 demonstrates the frequency of IBS symptoms in relation to lifestyle. The gap in scores between the patients and the normal group was very high in physical and emotional domains.

**Table 1:** IBS in relation to demographic data

		With IBS	Without IBS
		(n= 82)	(n= 665)
		No (%)	No (%)
Age groups ( <i>p</i> =0.181)	<35	20 (8.3)	222 (91.7)
	35-44	22 (12.6)	153 (87.4)
	45-54	16 (11.3)	126 (88.7)
	55-64	15 (17.6)	70 (82.4)
	≥65	10 (14.1)	61 (85.9)
Gender ( <i>p</i> =0.087)	Male	27 (9.3)	263 (90.7)
	Female	60 (13.5)	385 (86.5)
Marital status ( <i>p</i> =0.319)	Married	78 (17.3)	558 (87.7)
	Single	6 (7.7)	72 (93.3)
BMI ( <i>p</i> =0.199)	<18.5	14 (19.2)	59 (80.8)
	18.5-24.9	45 (11.1)	362 (88.9)
	25-29.9	23 (13.1)	152 (86.9)
	≥30	5 (8.6)	53 (91.4)

## Discussion

There is a wide range of reported prevalence rates for IBS in the general population worldwide. The overall prevalence of IBS across Europe was 11.5%, with 9.6% of them having current symptoms.<sup>3</sup> In another study, a prevalence rate of 7% was reported.<sup>13</sup>

**Table 2:** Effects of irritable bowel syndrome (IBS) on quality of life (The domains of the SF-36)

	With IBS (n=40)	Without IBS (n=350)	P value
	Mean (SD)	Mean (SD)	
Physical Functioning	70.50 (22.52)	81.05 (26.35)	<0.001
Role physical	26.25 (43.46)	70.35 (43.09)	<0.001
Bodily pain	56.80 (2.06)	73.90 (18.21)	<0.001
General health	40.42 (21.20)	60.28 (19.30)	<0.001
Social functioning	64.06 (20.64)	78.00 (20.77)	<0.001
Role emotional	28.33 (44.36)	71.90 (42.38)	<0.001
Vitality	47.87 (24.38)	64.31 (17.84)	<0.001
Mental health	48.70 (22.91)	63.89 (19.09)	<0.001
Physical component summary (PCS)	48.49 (21.58)	71.39 (21.88)	<0.001
Mental component summary (MCS)	47.24 (22.22)	69.52 (19.79)	<0.001

In the present study, an IBS prevalence of 11.8% was found. A Canadian sample reported a prevalence of 13.5%, using Rome I and 12.1%, using Rome II criteria.<sup>14</sup> In the US householder survey, 11% of those surveyed reported symptoms consistent with IBS.<sup>15</sup> In another study in nomads by Massarrat *et al.*, prevalence rate of IBS was 3.1%.<sup>16</sup> The increased rate of IBS may be due to: a) inclusion of female nomads in this study; because the IBS is more in female, b) using Rome criteria, c) lasting more than 10 years and more civilization and changing the lifestyles of the nomads, because some of these population are not migrating now.

Halder *et al.* in UK reported a prevalence of 10.5%.<sup>17</sup> In Denmark, the estimated prevalence of IBS in general population ranged from 5 to 65%.<sup>18</sup> Using Rome II criteria, researchers found that IBS prevalence was 14% in Pakistan<sup>19</sup> and 16.8% in South Korea.<sup>20</sup> The wide range prevalence rates reported across the world are the consequence of significant cultural differences<sup>21</sup> as well as different study methodologies including sample selection,<sup>20</sup> size and life style. Previous studies have reported that the prevalence of IBS varied depending on the demographic criteria like age, gender, marital status and BMI,<sup>22-27</sup> but in the present study IBS was not found to be associated with such factors.

Recent studies have demonstrated the large negative impact that symptoms of IBS have on patients' lives.<sup>28-33</sup> These studies used various disease-specific instruments, as well as the more general SF-36 that was used in the present study. The results of the present study confirmed the large negative impact of IBS symptoms on the participants' lives in every domain. Many published data indicate that IBS is associated with an impaired quality of life. For example, a postal survey of irritable bowel syndrome patient supports

groups in the US and UK revealed that poor quality of life across all eight domains was universal amongst respondents.<sup>34</sup> Gralnek *et al.* reported that the health-related quality of life was significantly impaired in irritable bowel syndrome patients on most domains compared with that in the other chronic disease groups, and impaired across all eight domains compared with the US healthy population.<sup>28</sup> In a study, Halder *et al.* showed that health related quality of life was impaired in subjects with IBS.<sup>35</sup> A meta-analysis of the irritable bowel syndrome and quality of life literature identified 13 studies that compared irritable bowel syndrome patients with healthy controls, of which 11 showed a significant reduction in health-related quality of life in patients with irritable bowel syndrome.<sup>30</sup>

As IBS is an episodic condition with symptoms that may change over time, sampling individuals at a single point in time is a potential limitation of this study.

The prevalence rate of IBS in migrating nomads was higher compared with that reported in a population based study on urban citizens in Fars. From our results, we found that there is a significant reduction in health related quality of life in patients with IBS. With regards to the results of this study, it is suggested that psychotherapy and pharmacotherapy should be considered in the overall evaluation and management of patients with IBS.

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**Conflict of interest:** None declared.

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