

ASIAN JOURNAL OF PHARMACEUTICAL  
AND BIOLOGICAL RESEARCH

# AJPBR



Indexed by:



Universal  
Impact Factor



IMPACT FACTOR  
SEARCH

**Editorial board**

**Dr. Madhu Bala** Scientist 'F' and Joint Director, Institute of Nuclear Medicine and Allied Sciences (INMAS), India

**Dr. Sandip Narayan Chakraborty**  
Research Asst, Translational Molecular Pathology, Ut Md Anderson Cancer Center, Life Sciences Plaza, Houston, TX 77030

**Dr. Tushar Treembak Shelke**  
Head of Department of Pharmacology and Research Scholar, In Jspms Charak College of Pharmacy & Research, Pune, India

**Dr. Subas Chandra Dinda**  
Professor-cum-Director: School of Pharmaceutical Education & Research (SPER), Berhampur University, Berhampur, Orissa, India.

**Dr. Jagdale Swati Changdeo**  
Professor and Head, Department of Pharmaceutics, MAEER's Maharashtra Institute of Pharmacy, S.No.124, MIT Campus, Kothrud, Pune-411038

**Dr. Biplab Kumar Dey**  
Principal, Department of Pharmacy, Assam downtown University, Sankar Madhab Path, Panikhaiti 781026, Guwahati, Assam, India

**Dr. Yogesh Pandurang Talekar**  
Research Associate, National Toxicology Centre

**Dr. Indranil Chanda**  
Assistant Professor, Girijananda Chowdhury Institute of Pharmaceutical Science, Hathkhowapara, Azara Guwahati-17, Assam, India.

**Dr. Sudip Kumar Mandal** Department of Pharmaceutical Chemistry, Dr. B. C. Roy College of Pharmacy & AHS, Bidhannagar, Durgapur-713206, India.

**Sodikova Dilrabokhon** Andijan state medical institute

**Dr.,** associate professor **Kuryazova Sharofat** Tashkent Pediatric medical institute

**Dr.,** Abdurakhmanova Nigora Nazimovna Tashkent Pediatric Medical Institute

**Abdullaeva Umida** Bukhara state medical institute

**Dr. Neeraj Upmanyu**

Prof., Peoples Institute of Pharmacy & Research Center, Bhopal, MP, India.

**Dr. Mirrakhimova Maktuba Khabibullaevna** Tashkent medical academy Uzbekistan

**Dr. Nishanova Aziza Abdurashidovna**, Tashkent State Dental Institute

**Dr. Sadikova Minurakhon Adkhamovna** Andijan State Medical Institute

**Kurbanova Sanobar Yuldashevna** Tashkent State Dental Institute

**Zokirova Nargiza Bahodirovna** Tashkent Pediatric medical institute

**Khabilov Behzod Nigmon ugli** Tashkent State Dental Institute

**Dr. Domenico De Berardis** Department of Mental Health, Azienda Sanitaria Locale Teramo, 64100 Teramo, Italy

**Dr. Azizova Rano Baxodirovna** associate professor of the Department of neurology of the Tashkent Medical Academy

**Dr. Ishankhodjaeva Gulchekhra** Tashkent Medical Academy

Institute of Nuclear Medicine and Allied Sciences (INMAS), India  
Brig SK Mazumdar Marg, Timarpur, New Delhi, Delhi 110054 India

## **ASSESSMENT OF CHANGES IN THE QUALITY OF LIFE IN PATIENTS WITH IRRITABLE BOWEL SYNDROME**

**Makhmudova Lola Izzatiloevna**

Bukhara State Medical Institute, Republic of Uzbekistan, Bukhara

**Abstract.** Irritable bowel syndrome significantly worsens the quality of life of patients, as the incidence manifests IBSelf in 19-40 years. A total of 82 patients and 20 healthy patients were examined. The patients were divided into two groups: the first group of patients with IBS, which is divided into 2 small groups: IBS (diarrhea) - 49 patients (26 men and 23 women) and IBS (constipation) - 33 patients (15 men and 18 women). GSRs and MOS SF-36 questionnaires were used to assess the quality of life. The mental and physical components of the health of patients with irritable bowel syndrome are statistically significantly reduced compared to healthy people, the emotional and physical condition of patients limIBS their daily work and physical activity.

**Keywords:** irritable bowel syndrome, quality of life, GSRs, MOS SF-36.

Irritable bowel syndrome (IBS) significantly worsens the quality of life of patients, since the incidence is 19-40 years old.

IBS affects the emotional and mental state of patients, their social activity, professional activity and family relationships [1].

Monnikes H. [2] Decreased quality of life in IBS is lower than in ulcerative colitis, Crohn's disease, and even gastroesophageal reflux disease, diabetes, kidney disease, but higher in depression [3]. When qualitative studies evaluate IBS through the "eyes of the patient", IBS has shown that they disrupt many aspects of life and, accordingly, lead to a low level of quality of life. Many patients feel a sense of incomprehension of their condition and bewilderment at symptoms when organic causes are not identified [4]. However, it has been shown that patients with diarrhea-predominant IBS have a lower quality of life than those with constipation-predominant IBS [5]. It should be noted that not only the symptoms of IBS affect the quality of life, but also non-gastroenterological accompanying symptoms, including the presence of mood swings and restlessness [6]. However, psychological factors have a greater impact on quality of life than bowel symptoms [7]. Patients who believe that the disease affects their lifestyle are more prone to mental disorders, and all this leads to a decrease in the quality of life [8].

IBS causes economic damage due to the direct costs and indirect indicators of medical examination, including temporary disability.

Thus, direct medical costs, including medical examinations and treatment, are estimated at \$1.6–10.5 billion per year in the United States (US). Indirect costs

(temporary disability compensation) - more than 20 billion dollars per year. The total estimated cost of IBS in the United States is estimated at 20-25 billion dollars per year [9]. These costs are greater than the estimated cost of a chronic disease such as bronchial asthma, which is estimated at \$16 billion per year [10-17].

**The purpose of the study.** Evaluation of changes in indicators of quality of life of patients in IBS.

**Research materials and methods.** The study was conducted in the gastroenterology department of Bukhara Regional Multidisciplinary Medical Center and all patients treated with IBS in inpatient conditions during 2017-2019 were selected. The diagnosis of IBS was made based on the Rome IV criteria (2016), and the Bristol scale of stool patterns was used to determine the clinical form of IBS.

From 2017 to 2019, 82 patients with IBS who were examined and treated at the gastroenterology department of the Bukhara Regional Multidisciplinary Medical Center were included in the study. The average age of patients is  $33.2 \pm 0.8$  years.

Patients with IBS were divided into two groups: non-refractory (IBSn – 35 patients) and refractory (IBSr – 47 patients) of IBS. Depending on the expression of clinical symptoms, patients with IBSn-d (diarrhea) - 21 (25.6%), IBSn-c (constipation) - 14 (17%), IBSr-d - 28 (34.2%) and IBSr- c – divided into 19 people (13.2%).

All patients underwent esophagogastroduodenoscopy (FUGINON. FUGI FILM EPX-2500, 2014, Japan; FUGI FILM-EG-530PF, 2014, Japan), colonoscopy (FUGI FILM-EG-530FL, 2014, Japan), stool examination for dysbacteriosis, ultrasound examination of internal organs (Vivid S-60, 2014, Norway), checking the status of trace elements (mass spectrometry method, perkinelmer Inc., Shelton, CT 06484, USA) and GSRs to determine quality of life and MOS SF-36 questionnaires was conducted.

**Results and discussion.** MOS SF-36 the physical component of health covers the following indicators:

- Physical functioning (RF)
- Role physical (RP)
- Pain (P)
- General health (GH)

The mental component of health includes the following indicators:

- Vitality (VT)
- Social functioning (SF)
- Role emotion (RE)
- Mental Health (MH)

The results of the analysis of indicators of mental and physical components of health in groups of patients with IBS and healthy people are presented in Table 1.

**Table 1.** Mental and physical components of quality of life in patients with irritable bowel syndrome, (M±m)

	Control group, n=20	IBSn n=35	IBSr, n=47	p
The mental component of health (MH)	51.6±0.4	37.9±0.2**	38.7±0.8**	< 0.005
Physical component of health (PH)	54.1±0.3	44.3±0.7**	36.4±0.5**	< 0.005
<b>The physical component of health</b>				
Pain	92.9±0.3	64.3±0.3**	59.0±0.6**	< 0.005
General health	76.6±0.4	53.2±0.3**	50.0±0.4**	< 0.005
Role physical	66.4±0.6	53.7±0.2**	50.1±0.2**	< 0.005
Physical functioning	81.4±0.5	83.2±0.3**	79.8±0.7	>0.05
<b>The mental component of health</b>				
Vitality	68.8±0.4	44.5±0.3**	40.7±0.9**	< 0.005
Mental health	69.2±0.3	48.2±0.2**	40.4±0.3**	< 0.005
Social functioning	84.2±0.3	61.3±0.2**	58.3±0.5**	< 0.005
Role emotion	81.7±0.5	53.3±0.2**	49.3±0.4**	< 0.005

Note: \*\*-Difference between IBS and healthy individuals ( $r < 0.005$ ).

As shown in Table 1, mental and physical components of health of patients with IBS are statistically significantly reduced compared to healthy people, emotional and physical condition of patients limIBS their daily work and physical activity.

In the group of patients with IBSc, the pain index decreased statistically significantly ( $p < 0.005$ ), which affects the implementation of daily activities, including work at home and outside the home. In the group of patients with IBSc, the general health indicators are significantly lower ( $p < 0.005$ ), which reflects the low assessment of the patient's health status, as well as treatment prospects. In the group of refractory IBS, participation activity is significantly lower than in healthy people. Only the physical activity index did not show significant changes in both groups of patients and controls ( $p = > 0.05$ ).

From the data of Table 19, the analysis of the scales that make up the mental component of health shows that in patients with IBSc, compared to healthy people, the indicator of emotional activity is significantly reduced ( $p < 0.005$ ), it is limitation in communication, difficulty in performing work or other types of activities,

disturbed mental state. causes a decrease in the volume or quality of the work performed.

The social activity index was found to be statically significantly lower in patients with refractory IBS compared to healthy patients, indicating that the physical or mental condition of IBS patients social activity (communication).

The vital activity (vitality) and mental health indicators in patients with IBSr are significantly lower than in the healthy group ( $p < 0.005$ ), which indicates that patients with IBS underestimate the vital activity, they often feel tired and exhausted, anxiety, compared to healthy people. and are more likely to have symptoms of depression, feelings of mental exhaustion, and an overwhelming sense of negative emotions.

An analysis of the mental and physical components of health among the types of irritable bowel syndrome is presented in Table 2.

	IBSn-d, n=21	IBSn-c, n=14	IBSr-d, n=28	IBSr-c, n=19	p
The mental component of health (MH)	37.9±0.3* *	38.0±0.3**	34.9±0.4	44.3±0.5	** <0.005
Physical component of health (PH)	46.6±0.6* *	40.8±0.7 *	35.5±0.6	37.8±0.8	* <0.05

Note: IBSn-d is a type of non-refractory IBS with diarrhea; IBSn-c - non-refractory IBS with constipation; IBSr-d - a type of refractory IBS with diarrhea; IBSr-c - refractory type of IBS with constipation; \* -  $p < 0.05$ ; \*\* -  $p < 0.005$ .

A comparative analysis of the components of health in different clinical types of IBS (Table 2) showed that mental ( $34.9 \pm 0.4$ ,  $p < 0.005$ ) and physical ( $35.5 \pm 0.6$ ,  $p < 0.05$ ) of health in IBSr-d component was found to be significantly lower compared to other subgroups.

The GSRS (Gastrointestinal Symptom Rating Scale) questionnaire reflects the main syndromes of patients with gastrointestinal diseases (1 point indicates the absence of symptoms at all, 7 points indicates the upper limit of symptoms). Table 3 presents a comparative analysis of GSRS quality of life between IBS and healthy respondents.

**Table 3.** Assessment of quality of life in patients with irritable bowel syndrome according to GSRS, (M±m)

	Control group, n=20	IBSn n=35	IBSr, n=47	p
Abdominal pain	1.18±0.05	4.17±0.12**	4.27±0.11**	< 0.005
Reflux syndrome	1.22±0.06	2.09±0.07**	2.29±0.08**	< 0.005
Diarrhea	1.00±0.0	3.32±0.33**	3.27±0.29**	< 0.005
Dyspepsia	1.28±0.07	3.36±0.11**	3.37±0.11**	< 0.005
Constipation	1.0±0.0	2.43±0.3**	2.5±0.27**	< 0.005
Total score	18.3±0.19	46.6±0.86**	47.5±0.9**	< 0.005

Note: \*\*- difference between IBSn and IBSr indicators and control group indicators ( $p < 0.005$ ).

Pain syndrome was present in all examined patients and was  $4.22 \pm 0.14$  points out of 7 (according to GSRS questionnaire), which corresponds to pain syndrome of severe and moderate intensity. In addition, symptoms of reflux syndrome, diarrhea, dyspeptic syndrome, and constipation were found to be higher ( $p < 0.005$ ) in patients with IBS compared to the control group. This, in turn, indicates a decrease in quality of life indicators.

Analysis of quality of life according to the GSRS questionnaire in subgroups of irritable bowel syndrome is presented in Table 4.

**Table 4.** Analysis of the quality of life of patients with various types of irritable bowel syndrome according to the GSRS, (M±m)

	control group, n=20	IBSn-d, n=21	IBSn-c, n=14	IBSr-d, n=28	IBSr-c, n=19	p
Abdominal pain	1.18±0.0 5	4.2±0.17* *	4.1±0.18 **	4.4±0.14* *	4.1±0.2* *	< 0.005
Reflux syndrome	1.22±0.0 6	1.9±0.06* *	2.3±0.15 **	2.3±0.1**	2.3±0.1* *	< 0.005
Diarrhea	1.00±0.0	4.9±0.13* *	1.0±0	4.8±0.12* *	1.0±0	
Dyspepsia	1.28±0.0 7	3.4±0.16* *	3.3±0.16 **	3.3±0.15* *	3.5±0.1* *	< 0.005
Constipation	1.0±0.0	1.0±0	4.6±0.13 **	1.0±0	4.7±0.1* *	< 0.005
Total score	18.3±0.1 9	46.7±1.02 **	46.5±1.6 **	47.6±1.26 **	47.3±1.3 **	< 0.005

Explanation: IBSn-d - non-refractory IBS type with diarrhea; IBSn-c - non-refractory IBS type with constipation; IBSr-d - refractory IBS type with diarrhea; IBSr-c - refractory type of IBS with constipation; \*\* - p<0.005.

Subgroup analysis of quality of life indicators showed similar results.

Analysis of quality of life by disease severity is presented in Table 5.

The results of the analysis of the quality of life according to the severity of the disease in subgroups of IBS showed that the quality of life worsens as the severity of the disease progresses. In the refractory type of IBS, it was reliably proven that the quality of life indicators of patients worsened in accordance with the severity of the disease (p<0.005).



**Table 5.** Analysis of quality of life by severity of irritable bowel syndrome, (M±m)

Types of IBS	Passing weight	Abdominal pain	Reflux syndrome	Diarrhea	Dyspepsia	Constipation	Total score
IBSn-d, n=21	light n=12	3.7 ± 0.1	1.9 ± 0.1	4.4 ± 0.1	3.0±0.17	1.0±0	43.7±1.1
	medium n=9	5.0±0.1	2.0±0.1	5.5±0.1	3.9±0.2	1.0±0	50.7±0.8
	heavy n=0	0	0	0	0	0	0
IBSn-c, n=14	light n=8	3.6±0.11	1.8±0.1	1.0±0	2.9±0.06	4.2±0.1	41.9±0.8
	medium n=6	4.8±0.11	2.9±0.1	1.0±0	3.95±0.1	5.1±0.1	52.6±0.5
	heavy n=0	0	0	0	0	0	0
IBSr-d, n=28	light n=16	3.9±0.1	1.9±0.1	4.4±0.1	2.8±0.1	1.0±0	43.2±1.1
	medium n=10	5.0±0.2	2.7±0.1	5.4±0.1	4.03±0.1	1.0±0	53.5±1.1
	heavy n=2	5.8±0.3**	2.9±0.2**	6.0±0.*	4.5±0.5*	1.0±0**	59.0±3.0**
IBSr-c, n=19	light n=11	3.6±0.1	1.9±0.1	1.0±0	3.0±0.1	4.4±0.1	42.9±0.5
	medium n=7	4.8±0.2	3.0±0.1	1.0±0	4.1±0.1	5.2±0.1	53.1±0.8
	heavy n=1	6.0±0**	3.7±0**	1.0±0.*	5.0±0**	6.0±0**	58.0±0.*

Explanation: IBSn-d - non-refractory IBS type with diarrhea; IBSn-c - non-refractory IBS type with constipation; IBSr-d - refractory IBS type with diarrhea; IBSr-c - refractory type of IBS with constipation; \*\* - p<0.005.

### Summary

1. According to the MOS SF-36 questionnaire, it was found that the mental and physical components of the health of patients with IBS were statistically significantly

reduced compared to healthy people.

2. Pain syndrome according to the GSRS questionnaire was observed in all examined patients. In addition, symptoms of reflux syndrome, diarrhea, dyspeptic syndrome, and constipation were found to be higher in patients with IBS compared to the control group. This, in turn, indicates a decrease in quality of life indicators.

### References

1. Mikhailova T.L. Kachestvo jizni bolnyx s sindromem razdrajennogo kishechnika // Rossiyskiy zurnal gastroenterologii, hepatologii i coloproctologii. 2017. - No. 6 - S. 70-75.

2. Monnikes H. Quality of life in patients with irritable bowel syndrome // J Clin Gastroenterol. 2011. - Vol. 45 Suppl. - P. S98-101.

3. Rabin R. EQ-5D: a measure of health status from the Euro Qol // Ann Med. 2016. - Vol. 33(5). - P. 337-43.

4. Farndale R., Roberts R. Long-term impact of irritable bowel syndrome: a qualitative study // Prim Health Care Res Dev. 2011. - Vol. 12(1). - P. 52-67.

5. Si JM Irritable bowel syndrome consultants in Zhejiang province: the symptoms pattern, predominant bowel habit subgroups and quality of life // World J Gastroenterol. 2014. - Vol. 10. - P. 1059-1064.

6. Liang AM Tien Yu. Quality of Life in Irritable Bowel Syndrome. - P. A Narrative Overview // Journal of Archives in Military Medicine. 2016. - Vol. 4(1). - P. e36624.

7. Naliboff BD Gastrointestinal and psychological mediators of health-related quality of life in IBS and IBD. - P. a structural equation modeling analysis // Am J Gastroenterol. 2012. - Vol. 107(3). - P. 451-9.

8. Rutter CL, Rutter DR Illness representation, coping and outcome in irritable bowel syndrome // Br J Health Psychol. 2015. - Vol. 7(Part 4). - P. 377-91.

9. Chey WD Safety and patient outcomes with lubiprostone for up to 52 weeks in patients with irritable bowel syndrome with constipation // Aliment Pharmacol Ther. 2012. - Vol. 35(5). - P. 587-599.

10. Abdullayev R. B., Makhmudova L.I. Features of Chemical Elements in Various Forms of Irritable Bowel Syndrome // Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 2, 2021, Pages. 2993 – 3000.

11. Abdullayev R.B., Makhmudova L.I. Micro elemental imbalance in irritable bowel syndrome and IBS correction. *Academicia*. Vol. 11, Issue 5, May 2021:655-662.

12. Abdullayev R.B., Makhmudova L.I., (2021). Assessment Of Clinical And Psychological Status And Quality Of Life Of Patients In Different Forms Of Irritable Bowel Syndrome. *The American Journal of Medical Sciences and Pharmaceutical Research*, 3(02), 127-134.

13. Makhmudova L.I, Akhmedova N.Sh. Irritable bowel syndrome: a new look at the problem // *Academica*. 10.5958/2249-7137.2020.00983.0. 433-38.

14. Makhmudova L.I., Akhmedova N.Sh., Ergashov B.B. Clinical manifestation of irritable bowel syndrome. *Art of medicine. International medical scientific journal*. Vol. 1, Issue 2. 2021:24-33.

15. Makhmudova L.I., Ismatova M.N., Mukhamedjanova M.H., Sulaymonova G.A. Evaluation of microelement status and IBS correction with irritable bowel syndrome. *New day in medicine*. 2(34) 2021:325-331.

16. Makhmudova L.I., Shazhanova N.S., Akhmedova N.Sh., (2021). Clinical Features Of Irritable Intestinal Syndrome. *The American Journal of Medical Sciences and Pharmaceutical Research*, 3(04), 154-159.

17. Makhmudova L.I., Sharipov J.N. State of intestinal microflora in irritable bowel syndrome. *Tematics journal microbiology*. Vol.6, Issue 1. 2022:104-109.