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Assessment of the Role of Social Factors Affecting the Parameters of the Quality of Life of Patients with Bronchial Asthma

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Abstract: To study the role of social factors influencing the parameters of the quality of life of patients with bronchial asthma (BA). **Material and methods:** In the study, a screening survey was carried out in the pulmonary department. 314 patients with bronchial asthma at the age from 17 to 79 years old were questioned, of whom there were 141 men ($45 \pm 4.2\%$), 173 women ($54.9 \pm 3.8\%$). The average age of BA patients was 46.3 ± 0.61 years (the average age of men - 45.6 ± 0.99 years, women - 46.9 ± 0.87 years). Quality of life was determined using the Seattle questionnaire, which included 29 questions assessing physical condition, emotional state, professional fitness and satisfaction with treatment.

The results of the study showed that the QOL parameters of the physical and emotional state in BA patients are determined by many factors and decrease depending on age, on gender, on the length of the illness, on the presence of concomitant diseases living in cities and villages, on social status, the number of family members, from living conditions, from the quality of medical care.

Key words: bronchial asthma, social factors, quality of life.

Introduction

In modern medicine, a significant place is occupied by the study of the parameters of the quality of life (QOL) of a person [3, 6, 11, 12]. Clinical and socio-medical research the study of the parameters of quality of life (QOL) has become one of the priority areas of modern medicine [5, 13, 15, 18]. Given the social burden of the disease and its high prevalence, the study of QOL in this pathology seems to be very relevant [2, 3, 16, 17].

QOL also correlates with medical and social factors. So, the older the patient or the longer the length of the illness, the lower his viability and social activity; the size of the family increases the vitality, but at the same time worsens mental health, but material wealth has a favorable effect on the state of the patient's psychoemotional sphere [5,12].

Assessment of various social factors in the formation of QOL in BA showed that women in case of illness are less affected by the disease than men; persons with a high educational level have more adaptive abilities, including the ability to learn; in family patients, psychological support in the family has a beneficial effect on the psychoemotional sphere; among workers - professional employment has a positive effect on the functional and psychosocial status, increases the quality of life and is more pronounced in persons with mental labor [5].

O.N.Bardakova with co-author., (2004) studied the influence of social status on the QOL of BA patients and found that residents of rural areas have the lowest QOL indicators on all scales of the questionnaire. The higher the level of education, the more significant the role of emotional problems in limiting life becomes. The general perception of health, vitality and mental health is most influenced by material security (especially the total family income) and the availability of state assistance (preferential provision of medicines, pensions).

It was found that the QOL of women is somewhat lower than that of men [8]. This was noted in relation to all indicators of the general QOL questionnaire, characterizing the physical

and mental status of respondents. The authors argue that physical activity, the role of physical problems in limiting life activity, the level of subjective pain sensations, the assessment of general health and vitality were better in respondents with higher education than in those with secondary special and secondary education, as well as working patients rated their own QOL than not working. Patients engaged in mental activities reported higher QOL in terms of the volume of physical activity performed, the degree of restriction in performing daily activities, and the assessment of general health.

It has been established that there are relatively significant relationships between QOL and age, neuropsychiatric and socioeconomic status and capacity [10]. Thus, the results of this study indicate that smoking patients compared to nonsmokers are less prone to neurotic and depressive reactions, are better adapted to their disease and experience a decrease in QOL caused by the disease to a much lesser extent [7, 9]. Disability, loss of working days, and a decline in the quality of life cause significant economic damage to society [7].

Thus, BA is not only a medical problem, but also a socioeconomic and general humanitarian problem. Given the social burden of the disease and its high prevalence, the study of QOL in this pathology seems to be very relevant [14].

Literature data on the assessment of the influence of social factors in the formation of the parameters of the quality of life in BA patients still remain few and little studied.

Objectives. Considering the above, study the role of social factors affecting the parameters of the quality of life of patients with bronchial asthma.

Material and methods

In the study, a screening survey was carried out in the pulmonary department. 314 patients with bronchial asthma at the age from 17 to 79 years old were questioned, of whom there were 141 men ($45 \pm 4.2\%$), 173 women ($54.9 \pm 3.8\%$). The average age of BA patients was 46.3 ± 0.61 years (the average age of men - 45.6 ± 0.99 years, women - 46.9 ± 0.87 years). The duration of the disease in BA patients at the time of inclusion in the study was 7.5 ± 0.47 years. The duration of BA disease up to 5 years was noted in 46.8% of patients, respectively, from 5 to 14 years 34.2%; from 15 to 24 years -14.2%; over 24 years - 14.2%.

The study of the parameters of the quality of life in all patients with COPD was carried out using the "Seattle questionnaire of the quality of life of patients with COPD" and was assessed using a point system. Seattle questionnaire, which includes 29 questions, assessing the patient's physical condition, emotional state, the state of professional adaptation and satisfaction with treatment.

Results and Discussion

Analysis of QOL parameters in BA patients depending on age (Fig. 1) showed a significant decrease with age in the parameters of physical condition from 3.1 ± 0.21 to 2.4 ± 0.10 points and the level of professional fitness from 4.2 ± 0.27 to 3.3 ± 0.16 . Indicators of physical condition with age decreased by 22.6% in patients over 65 years of age compared with BA patients at the age of 24 years.

It was found that a low level of assessment of the emotional state in BA patients was noted in the age groups 35-44 years old (2.9 ± 0.09), 45-54 years old (3.0 ± 0.13), accounting for 41.4% of the required and reduced by 17.1% compared with the group of patients under 24 years old and over 65 years old.

The dependence of the decrease in the parameter of satisfaction with treatment in BA patients on age was not observed in all age groups and amounted to 52.0-56.0% of the required.

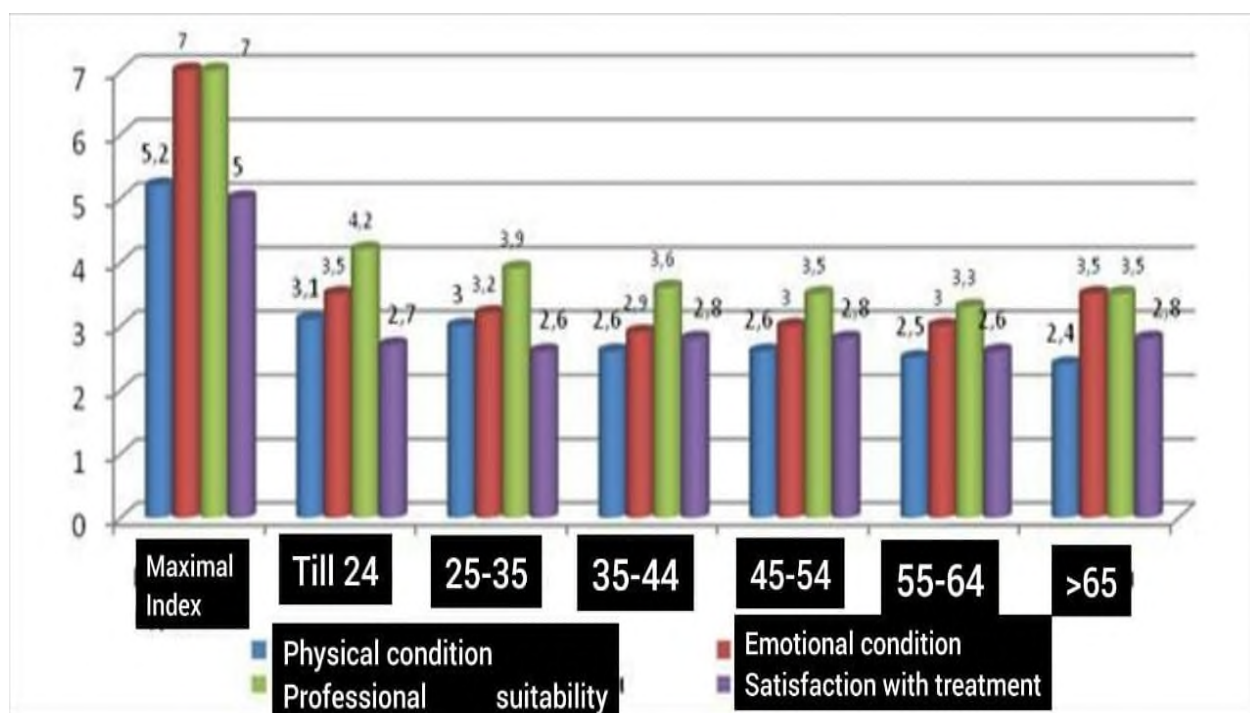


Fig. 1. QoL indicators in BA patients depending on age (in points)

The results of the study noted (Fig. 2) that in women with asthma, the parameters of QOL, characterizing the physical, emotional state and professional fitness, were significantly lower than in men. Significant differences in QOL parameters reflecting satisfaction with treatment among men and women were not found and they were reduced to 54.0% of the due.

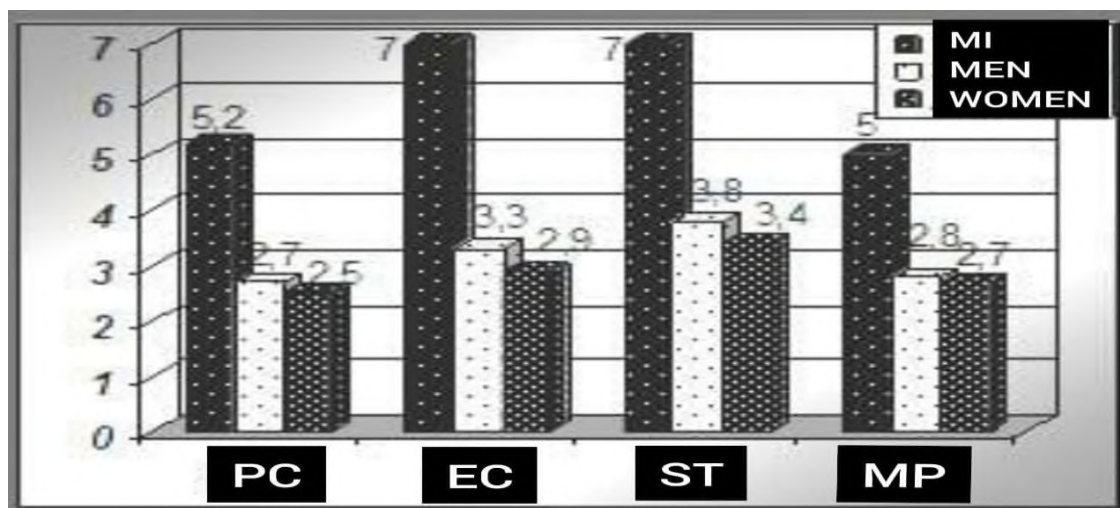


Fig. 2. QoL indicators in BA patients depending on gender (in points)

Note; PC - physical condition, EC - emotional condition PS - professional suitability ST - satisfaction with treatment, MP - maximum possible

In the study of the relationship between QOL and the duration of the disease in BA patients, the results were obtained (Table 1) that up to 5 years the QOL parameters of the physical state ($p < 0.001$), emotional state ($p < 0.05$), professional fitness ($p < 0.001$) and satisfaction treatment ($p < 0.05$) were significantly higher than 15-24 and more than 24 years of the duration of the disease. Thus, in BA patients with disease duration from 5-14 years, significantly low values of all QOL parameters were obtained. The anxiety inherent in the first years of illness is replaced by a feeling of hopelessness. In addition, as the chronic disease progresses, the negative impact of somatic disorders on the human psyche increases.

Table 1.

QoL indicators in BA patients depending on the length of the illness (in points)

Options	M P	till 5 n=82	5 -14 n=60	15-24 n=25	> 24 n=8	P				
						1-2	1-3	2-3	1-4	2-4
PC	5,2	2,7±0,0 7	2,4±0,0 7	2,1±0,1 3	2,0±0,1	<0,00 1	<0,00 1	<0,0 5	<0,00 1	<0,0 1
EC	7,0	3,3±0,1 3	2,8±0,1 4	2,9±0,2 1	2,4±0,4 5	<0,01	<0,05	>0,5	<0,05	>0,5
PS	7,0	3,7±0,1 2	3,3±0,1 3	3,2±0,2 3	2,3±0,2 8	<0,01	<0,05	>0,5	<0,00 1	<0,0 1
ST	5,0	2,7±0,0 8	2,7±0,1 4	2,5±0,1 0	2,3±0,1 9	-	<0,05	>0,5	<0,05	<0,0 5

Note; PC – physical conditions, EC – emotional conditions PS – professional suitability ST – satisfaction with treatment, MP – maximum possibility

Assessment of the smoking parameter and its duration (Table 2) did not establish a significant effect on the decrease in QOL parameters in BA patients.

Table 2

QoL indicators in BA patients depending on smoking experience (in points)

Options	M P	Non-smokers n=33	till 20 n=26	> 30 n=8	Ex-smokers n=8	P					
						1-2	1-3	2-3	1-4	2-4	3-4
PC	5,2	2,5±0,1 2	2,4±0,1 4	2,8±0,3 4	2,9±0,3 6	>0, 5	>0, 5	>0, 5	>0, 5	>0, 5	>0, 5
EC	7,0	3,2±0,2 0	2,7±0,2 5	2,8±0,5 5	3,7±0,6 9	>0, 2	>0, 5	>0, 5	>0, 5	>0, 2	>0, 2
PS	7,0	3,6±0,2 1	3,3±0,2 1	3,5±0,5 3	3,8±0,6 2	>0, 5	>0, 5	>0, 5	>0, 5	>0, 5	>0, 5
ST	5,0	2,4±0,1 3	2,7±0,1 5	2,6±0,1 9	2,6±0,3 1	>0, 2	>0, 5	>0, 5	>0, 5	>0, 5	–

Note; PC – Physical conditions, EC – emotional conditions PS – professional suitability ST – satisfaction with treatment, MP – maximum possibility

It was noted that in BA patients, the presence of concomitant diseases can serve as an additional factor contributing to a decrease in the parameters of physical condition and professional fitness (Table 3). There was no effect of concomitant diseases on the decrease in the factors of satisfaction with treatment and emotional state.

Table 3.

QOL indicators in BA patients depending on the presence of concomitant diseases (in points)

Options	Maximum possibility	BA n=175		P
		With accompanying diseases n=92	without accompanying diseases n=83	
Physical Conditions	5,2	2,4±0,06	2,6±0,07	<0,05
Emotional conditions	7,0	3,0±0,11	3,1±0,13	>0,5
Professional suitability	7,0	3,3±0,12	3,6±0,12	<0,05
Satisfaction with treatment	5,0	2,6±0,07	2,6±0,09	–

The results of the study of the QOL parameters of BA patients living in cities and villages showed a decrease in all QOL parameters in BA patients: physical condition – up to 48.1-50.0%, emotional state – up to 44.3% of the due, professional suitability – up to 48.6-51.4% and satisfaction with treatment – up to 52-54% of the due. However, there were no significant differences in the parameters of QOL in urban and rural residents among BA patients (Table 4).

Table 4

QOL indicators in BA patients depending on the place of residence (in points)

Options	Maximum possibility	BA n=164		P
		city n=90	village n=74	
Physical Conditions	5,2	2,5±0,06	2,6±0,08	>0,5
Emotional conditions	7,0	3,1±0,12	3,1±0,14	–
Professional suitability	7,0	3,4±0,11	3,6±0,14	>0,5
Satisfaction with treatment	5,0	2,7±0,09	2,6±0,08	>0,5

Analysis of the state of QOL parameters depending on the social status of BA patients (Table 5) showed that employees had a significant higher level in parameters of physical, emotional and professional suitability compared to workers.

Table 5

QoL indicators in BA patients depending on social status (in points)

Options	MB	Employees n=69	Workers n=81	Collective farmers n=12	P		
					1-2	1-3	2-3
Physical Conditions	5,2	2,7±0,08	2,3±0,07	2,5±0,26	<0,001	>0,5	>0,5
Emotional conditions	7,0	3,5±0,14	2,7±0,13	2,6±0,27	<0,001	<0,01	>0,5
Professional suitability	7,0	3,7±0,15	3,1±0,11	3,4±0,38	<0,01	>0,5	>0,5
Satisfaction with treatment	5,0	2,7±0,10	2,6±0,08	2,5±0,13	>0,5	>0,5	>0,5

There were no significant differences in the decrease in the parameter of satisfaction with treatment in BA patients with different social status and remained reduced to 50.0-54.0% of the required value.

Assessment of QOL parameters depending on the number of family members of a BA patient revealed only differences in the parameters of satisfaction with treatment among patients with 5 or more people in the family (2.5 ± 0.10) and physical condition (2.4 ± 0.17) in patients with up to 3 people in the family (table 6).

Table 6

QoL indicators in BA patients depending on family member (points)

Options	MP	Till 3 people n=18	4-5 people n=41	Over 5 people n=54	P

Physical Conditions	5,2	2,4±0,17	2,7±0,12	2,5±0,09	>0,5	>0,5	>0,5
Emotional conditions	7,0	2,9±0,28	3,2±0,20	2,9±0,16	>0,5	–	>0,5
Professional suitability	7,0	3,3±0,29	3,7±0,21	3,4±0,15	>0,5	>0,5	>0,5
Satisfaction with treatment	5,0	2,8±0,16	2,8±0,14	2,5±0,10	–	<0,05	<0,05

The results of the study noted that BA patients living in difficult living conditions have a lower level of indicators that determine their physical condition (40.4% of the required), emotional state (34.3% of the required) and professional suitability (38.6% from the due), in comparison with patients with good living conditions, in whom the level of QOL parameters was higher than 51.4% and 57.1% of the due, respectively (Table 7).

Table 7

QoL indicators in BA patients depending on living conditions (in points)

Options	MB	Good n=52	Satisfactory n=82	Heavy n=41	P		
Physical Conditions	5,2	2,7±0,09	2,6±0,07	2,1±0,09	>0,5	<0,001	<0,001
Emotional conditions	7,0	3,6±0,17	3,0±0,13	2,4±0,18	<0,01	<0,001	<0,01
Professional suitability	7,0	4,0±0,15	3,4±0,11	2,7±0,16	<0,02	<0,001	<0,001
Satisfaction with treatment	5,0	2,7±0,11	2,7±0,08	2,5±0,14	–	>0,5	>0,5

Evaluating the QOL parameters in BA patients depending on the level of medical care, it was noted that in patients who were observed by a pulmonologist, the parameters characterizing the emotional state, the level of professional suitability and satisfaction with treatment were significantly higher in comparison with the group of patients who were not observed anywhere and were either treated by a therapist (table 8).

Table 8

QoL indicators in BA patients depending on medical care (in points)

Options	MB	At the therapist n=112	At the pulmonologist n=36	No where were they treated n=23	P		
Physical Conditions	5,2	2,5±0,06	2,6±0,11	2,4±0,16	>0,5	>0,5	>0,5
Emotional conditions	7,0	2,9±0,10	3,3±0,20	3,0±0,28	<0,05	>0,5	>0,5
Professional suitability	7,0	3,4±0,11	3,8±0,17	3,3±0,25	<0,05	>0,5	<0,05

Satisfaction with treatment	5,0	2,6±0,07	2,8±0,12	2,3±0,08	>0,5	>0,5	<0,05
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Findings

Thus, the results of the study showed that QOL parameters in BA patients are determined by many factors and decrease depending on age, sex, length of illness, and a number of social factors: place of residence, occupation, number of family members, level of living conditions and medical care. In BA patients, depending on age, a significant decrease with age in the parameters of physical condition and the level of professional fitness was noted. Indicators of physical condition with age decreased by 22.6% in patients over 65 years of age compared with BA patients at the age of 24 years. A low level of assessment of the emotional state in BA patients was noted in the age groups 35-44 years old and 45-54 years old, accounting for 41.4% of the required value. Assessment of QOL parameters depending on gender showed that women with asthma had lower QOL parameters, which determine physical and emotional states. In BA patients, the presence of concomitant diseases can serve as an additional factor contributing to a decrease in the parameters of physical condition and professional fitness. However, there were no significant differences in the QOL parameters among urban and rural residents among BA patients. We noted that employees have significantly higher levels of assessment of the physical, emotional state, professional suitability and satisfaction with treatment compared to collective farmers.

Conclusion

The results of the study noted that BA patients living in difficult living conditions have a lower level of indicators that determine their physical condition (40.4% of the due), emotional state (34.3% of the due) and professional suitability (38.6%). from the due), in comparison with the sick with good living conditions. The level of QOL parameters was significantly higher among patients who were followed up by a pulmonologist.

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