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THE QUALITY OF LIFE OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS

Abstract
The analysis of the literary data testifies that COPD leads to deterioration of all life quality components of the person. Restrictions for normal life of patients accrue with illness weighting. At the same time there is other data relative to influence of illness gravity on life quality. Appreciable variability of life quality indicators within one severity level was shown too. The literary data about sex influence on life quality inconsistent.
There are too little researches about life quality of patients with different severity level of COPD and its dynamics in illness development. Only individual researches contain the data about influence of long basic therapy on life quality of patients with COPD.
Keywords: chronic obstructive pulmonary disease, quality of a life, SF-36, SGRQ.
The chronic diseases inclined to progression and proceeding with exacerbations lead to stress chronisation and can lead to essential restrictions in all components of normal existence of the person [9]. In turn these restrictions can be more important for the patient than symptoms of illness. In this connection the concept of life quality (LQ) has been entered. The individual, its physical, psychoemotional and social status is an object of LQ research [2].
LQ is an integrated characteristic of physical, psychological, emotional, social functioning of the person which is based on its subjective perception [7]. Based on the recommendations of WHO Scientific research institute of pulmonology of Ministry of Health of the Russian Federation has offered to define LQ as a degree of comfort of the person both in itself, and within the limits of the society [2]. It completely depends on a physical, psychoemotional condition, level of independence, a social standing, environment and personal representations of an individual.
The feature of the modern approach to LQ assessment is the development of objective procedures of quantitative measurement of all components entering into this concept. LQ categories can be measured separately or in aggregate by means of various questionnaires, scales, indexes. All of them are divided into the general and specialized. It is necessary to perceive that LQ questionnaires do not estimate weight of disease. They reflect patient tolerance to the disease [23].
General questionnaires at COPD patients are applied to LQ comparison with population indexes defined in various population group, regions, countries, for LQ comparative analysis at COPD and other diseases, in epidemiological researches, for an assessment of efficacy of medical and preventive actions [18]. SF-36 (The 36-item MOS Short-Form Health Survey) is used more often of such questionnaires for LQ research [21]. It allows analysing of LQ in compliance with 9 scales reflecting the physical and psychosocial status of the patient for last 4 weeks. Assessment criteria are physical activity (PA), a role of physical problems in restriction of vital activity (RV), a pain (B), general well-being (GW), viability (V), social activity (SA), a role of emotional problems in vital activity restriction (RE), mental health (MH), the way one feels comparison (CF). The assessment is manufactured with respect to 100-point scale. The better part of LQ canons of criticism such as PA, GW, V, SA and MH are direct: the above a point, the better LQ of patient. Estimated criteria of such LQ indexes as RV, P, RE are anatropic: the higher the value, the less the influence on person LQ.
The physical status of the respondent is characterized by 5 scales (PA, RF, GW, V), the psychosocial

status estimates also on 5 scales (RE, SA, MH, GW, V). Last two indexes are defined both physical, and mental status of the person. As a whole, general questionnaires are the tool allowing estimating LQ interrelation with the social status, mental health and the general well-being of an individual [20].

Specialized questionnaires are oriented on concrete nosology, therefore they are more sensitive to change of the health status and LQ conditioned only by certain diseases [18]. SGRQ (the respiratory questionnaire of clinic «Sacred George») has received a wide circulation in the capacity of the special questionnaire for LQ assessment at COPD patients [2; 4; 17]. It includes 76 questions, 4 generalized domains in the capacity of such estimated parameters as «Symptoms», «Activity», «Influence», «the Sum». The assessment of each domain was manufactured after code conversion of «crude points» by the instrumentality of 100-mark scale. Estimated criteria are anatropic: as the point rises negative influence of illness on respondent LQ becomes more negative. Changes of such and such scale at least 4 points are considered clinically significant in researches made in dynamics of disease or at an assessment of efficacy of various medical programs [17]. Mean LQ deterioration at COPD patients in line with SGRQ questionnaire compounds 1,87 points per annum [19].

Modern researches have shown LQ decrease of COPD patients starting with the easy and moderated disease [9]. The researches of last decade have confirmed a close tie between COPD severity and patients LQ. The same researches show that the patients' perception of their symptoms, physical and mental activity reflects weight of illness truer and more exact than the data of objective research in many cases [9; 15]. The harder the COPD, the worse the LQ. In sum E. Stahl. et al. have revealed that average values of SGRQ domain «Sum» have compounded 25, 32, 36, 53 points for I, II, III, IV stages of COPD, respectively [15].

Similar results were received by R. Antonelli-Incalzi et al. However, they didn't reveal statistically significant LQ differences depending on severity level according to questionnaire SF-36 [10]. Nevertheless, LQ parameters varied within one stage of disease, for example, LQ of COPD patients become worse at every fourth patient with 0 stages than a mean score of LQ indicators at patients with severe COPD. It can be bound that LQ indicators won't be compounded with functional indicators of an individual underlying classification of a stage of illness, and reflect how the patient transfers the disease [5].

Besides, the phase of disease, feature of its current, age and a floor of respondents, the smoking, an accompanying pathology, the functional status, efficiency of medical and rehabilitation measures influence on LQ . S. Spencer and P.W. Jones have established that the repeated exacerbation occurred more often at patients who have higher SGRQ score when incorporated into the research [24]. ISOLDE Research has shown interrelation between frequent COPD exacerbations and lower LQ according to SGRQ questionnaire initially and its fast deterioration further [16]. The augmentation of hospitalization frequency was accompanied by LQ deterioration. According to I.M. Osman et al. patients having the general SGRQ estimation by 4,8 points above within the first year after an extract from a hospital, were with repeated hospitalization [22]. The augmentation of illness duration was accompanied by its heavier clinical course and increase of negative LQ influence. Researches had shown that the longer the respondent was ill, the greater its LQ declines. Thus, according to A.G.Chuchalin data, LQ indexes increased by 15-18 points over the subsequent decade in comparison with the 5-year-old season of illness in all SGRQ domains [4]. The age and increase of patients number with heavy clinical course was associated with augmentation of illness duration that can cause the LQ decrease, but the long clinical course can be considered as independent predictor of LQ decrease.

The reported data about sex influence on LQ of COPD patients are inconsistent. Some researches have shown that men have better LQ indicators even under more expressed disturbances of pulmonary function [10]. Poor LQ on «Influence» domain and the general indicator was marked in women in comparison with men [10]. Subjective reaction to clinical implications of illness has been more expressed in men on the results of multicenter research «IKAR-COPD»; they estimated

degree of FA restriction on «Activity» domain and the general negative COPD influence on a state of health. The psychological problems associated with COPD and defined by «Influence» domain had no statistically significant sexual differences [3; 4].

The analysis of age influence on LQ was shown that its augmentation was accompanied by authentic LQ depression [4; 10].

The majority of researches have found relationship between smoking and LQ. Authentic differences on such SGRQ domains as «Symptoms», «Influence» and the general LQ are taped between smokers and ex-smokers. However it was not revealed authentic differences between them on «Activity» domain [12]. Research «IKAR-COPD» has taped depression of LQ level only at high (smoking index (SI) = more than 30 pack-years) value of an smoking-index [3].

Rising of C-reactive protein level (CRP) was associated with LQ depression at COPD patients. The Score on LQ scale of «Sacred George» clinic at COPD patients was more than at patients with normal CRP value [11].

As already it has been told above, increase of COPD severity conducts to LQ depression, but appreciable variability of LQ indicators within one stage was shown too [6; 10]. The given circumstance was possibly bound that FEV1 reflects the clinical and functional status of the patient not in full. Thus, there was low correlative relationship between FEV1 and dyspnea intensity and tolerance to exercise stress. The coherence between FEV1 and LQ indicators was confirmed not in all studies.

The dyspnea which is the basic complaint of patients and forcing them to address for medical aid, also influences on LQ. In a number of researches it was shown that correlation communications between dyspnea level and LQ indicators closer in comparison with those between LQ and size of bronchial obstruction [6]. The interrelation between dyspnea level and all LQ domains was high, thus higher communication was at «Activities» domains ($r=0,83$ on MRC scale and $r=0,70$ on Borg's scale, $p<0,05$) and «Sum» (MRC $r=0,81$ on MRC scale and $r=0,73$ on Borg's scale, $p<0,05$) [6].

Authentic connection between «Symptoms» domains ($r=0,63$), «Sum» ($r=0,62$) and size of residual volume of lungs was established. More expressed interrelation between LQ indicators and a dyspnea was due to the fact that bronchial obstruction and a hyperinflation act the part in a dyspnea genesis; the contribution of these factors to depression of the functional status can vary at different patients.

The expressed influence on LQ renders tolerance level to exercise stress. Return correlation between «Activity» domain under the SGRQ questionnaire and the 6-Minut Walk Test (6MWT) distance was shown [14]. Significant inverse relationship between all scales of the SGRQ questionnaire and 6MWT distance was received in I.N. Trofimenko and B.A. Chernjak's research [6].

The BODE-index including tolerance to exercise stress estimated by the instrumentality of 6MWT, a dyspnea ratable by MRC scale, obstruction (FEV1) and body-weight index [25] is an integrated indicator of the functional status of an individual. It was shown that patients with high BODE-index parameters had worse LQ parameters on «Activities», «Influence», «Sum» domains of SGRQ, than patients with an average and low index [6].

It is necessary to note polimorbidity, characteristic for COPD patients among the factors influencing on LQ. It was shown by means of SF-36 questionnaire that a combination of three and more diseases reduce LQ on psychoemotional and social scales more than advanced age and clinic functional indicators [26]. LQ analysis with use of specialized SGRQ questionnaire has shown similar result, i.e. the worst indicators were shown on the scales characterizing the psychosocial status and general LQ indicator [10]. Differences of LQ indicators depending on an accompanying pathology decrease in process of augmentation of illness gravity. Communication between severity level of COPD and SGRQ scales was more expressed for the patients who do not have accompanying pathology [9].

Prognostic LQ value deserves attention at COPD patients. Deterioration of 3 domains of the questionnaires indicators testifies to simultaneous deterioration of all LQ aspects. The accurate interrelation of death frequency and LQ was noted According to T. Oga and coworkers. The augmentation of the general estimation under SGRQ questionnaire on each point was accompanied by growth of death risk by 3,3 % [8].

It was shown in research of P. Almagro and coworkers that the augmentation of the general estimation by SGRQ by 10 units was accompanied by mortality growth by 21 % during the period later on discharge from the hospital [20].

Similar results were received and in a work of A. Domingo-Salvany et al. [13]. The growth of mortality at men with COPD by 61 % at estimation deterioration under SGRQ questionnaire by 1 standard deviation was shown. Similarly LQ deterioration under SF-36 questionnaire was the risk factor of death.

Thus, as the analysis of the literary data testifies, COPD leads to deterioration of all LQ components of the person. Restrictions for normal life of patients accrue with illness weighting. At the same time there is other data relative to influence of illness gravity on LQ. As stated above appreciable variability of LQ indicators within one severity level was shown too [6; 10]. The literary data about sex influence on LQ inconsistent.

There are too little researches about LQ of patients with different severity level of COPD and its dynamics in illness development. Only individual researches contain the data about influence of long basic therapy on LQ of patients with COPD [1].

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