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The Indicators of Quality of Life in Athletes Enrolled in the College of Olympic Reserve

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Abstract- This article is devoted to the study of the quality of life of athletes in the conditions of College of Olympic Reserve and their comparative characteristics in some sports. Analysis of life quality in various sports disciplines indicates the prevalence of high values in the most popular sports in the country. Accordingly, the level of physical functioning in relation to others is high, it should be noted that values of emotional and school functioning are to decrease. However, emotional and social functioning is one of the most important integral characteristics in terms of athlete's formation and its effectiveness. A comprehensive study of the status of athletes through quality of life indicators can serve as one of the criteria for assessing the realization of their potential in the process of its ability to lead a healthy, full, creative and active life.

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I. INTRODUCTION

The quality of life (QoL), like the concept of health, is an integral characteristic of the person's physical, psychological, emotional and psychosocial functioning, based on his subjective perception of the external world [6, 10]. The study of QoL in medicine is aimed directly to identify state and degree of patient's satisfaction with conditions and their characteristics. For this purpose, many questionnaires are used. QoL depends on the state of health, communication in the society, psychological and social status, freedom of activity and choice, stress and excessive concern, organized leisure, educational level, access to cultural heritage, social, psychological and professional self-affirmation, psycho type and communication adequacy and relationships [8, 9]. The interest in studying QoL of children and adolescents involved in sports in context of specialized educational institutions, due to the need to assess their potential in the process of implementing a healthy, productive, creative and active life that can serve as a criterion for assessing the degree of their satisfaction. Among the published studies, we found some important studies, which is explored QoL in children, who involved in sports, and it was performed at the children and youth sports schools in Yakutia, among 7 to 13 years old children. There are publications of foreign specialists, where QoL amongst junior athletes and their peers, not engaged to sport professionally, was assessed. In addition, there is a meta-analysis of

publications assessing QoL in athletes, who suffered injuries. In this regard, we have paid attention with high interest in assessing the integral QoL indicators for athletes who attends colleges of Olympic Reserve of the Republic of Uzbekistan [5, 6].

The purpose is to study and compare athletes' QoL indicators depending on sport and age in terms of College of Olympic Reserve.

II. MATERIALS AND METHODS

The definition of QoL was conducted by using Pediatric Quality of Life Inventory - PedsQL 4.0 Generic Core Scale, among 738 athletes aged 13-20 years who lives and studies at the College of Olympic Reserve. The study involved athletes in the sports of Turon (national wrestling), swimming, cycling, weightlifting, judo, boxing, freestyle wrestling. Athletes were divided into two age groups, but there was no gender distribution because of the small number of female students among the students. In addition, athletes who suffered trauma in the near future, who are on treatment and during rehabilitation, and who have chronic diseases those were not included. The athletes filled the questionnaire by themselves under supervision of researcher. Obligatory condition was to separate filling of questionnaires by respondents in order to avoid mutual influence on each other's answers. The Peds QL 4.0 Generic Core Scale questionnaire is an adapted general questionnaire applicable to determine QoL of children and adolescents and, correspondingly, of this contingent of people involved in sports. The following indicators are mainly estimated:

1. Physical functioning (PF) – 8 questions (graded mobility, walking, running, pain syndrome);
2. Emotional functioning (EF) – 5 questions (assessed sleep, anxiety, mood, fear, sadness);
3. Social functioning (SF) – 5 questions (estimated interactions with other children);
4. School life (SL) – 5 questions (assessed functioning in a school team, frequency of absences in connection with illness or the need to visit a doctor).

The number of points varies from 0 to 4 (0 – never, 1 – almost never, 2 – sometimes, 3 – often, 4 – almost always). If more than 50% of questions on the scale are omitted, the total score on this scale is not calculated. In the process of rating scales can be obtained: the total score of the physical component of

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the QoL (includes physical functioning), the total score of psychosocial functioning (PsF) (includes emotional scales, social and role functioning) and the total score for all scales of the questionnaire is general (includes physical and emotional scales, social and role functioning). The total number of points after transcoding (translation of raw data into scores of QoL) is calculated on 100-point scale, the higher value of child. The protocol for validating Peds QL Generic Core Scale questionnaire included an assessment of reliability, validity, and sensitivity. Statistical processing of the data was carried out using the ABM SPS Statistics program.

III. RESULTS

In the process of analysis of the obtained data it should be noted that physical functioning among

adolescents from 13 to 16 years old are mostly high in heavy athletes, the second place swimming, and boxing, then judo, cycling and Turon, the lowest rate recorded in athletes was in free-style wrestling. However, athletes from 17 to 20 years old have equally high values in the sports of boxing and judo, gradually decrease is observed from wrestling, cycling, weightlifting to the Turon. The differences in performance, according to age, total PF is statistically insignificant, probably connected with the experience classes in the same sport, and adaptive capacity in young athletes. Indicators of emotional functioning have relatively low values in the age group of 13-16 years in all sports, the lowest figure in wrestling, with a tendency to increase from Turon, cycling, boxing and swimming to weightlifting.

Table 1

Age	PF		EF		SF		SL		PsF	
	13-16	17-20	13-16	17-20	13-16	17-20	13-16	17-20	13-16	17-20
Freestylewrestling	83,78±11,48	91,67±7,11	68,75±2,11	81,11±1,092	84,06±1,381	93,89±8,32	79,37±1,788	84,16±1,101	77,4±14,4	86,8±6,67
Boxing	92,46±4,16	96,66±3,23	84,12±9,74	88,33±6,99	92,35±5,18	92±6,49	89,41±5,66	86±12,42	88,63±5,95	88,77±5,99
Judo	91,94±6,44	96,88±4,01	86,97±1,036	90,38±6,7	91,45±7,94	95,0±5,94	84,47±1,163	93,61±7,63	87,63±8,37	93,15±4,27
Heavy Atl	95,72±4,99	85,21±6,02	89,47±7,59	81,36±1,06	91,05±1,41	83,81±1,121	89,21±1,184	78,29±1,177	89,91±7,96	81,00±9,36
Velocity	87,98±7,44	86,67±1,046	75,77±1,253	83,67±1,343	88,46±1,473	96,00±6,32	81,15±1,211	81,83±1,187	81,79±1,083	87,00±8,6
Swimming	92,19±4,51	80,64±1,048	86,25±1,277	71,47±1,732	87,08±1,282	81,49±6,82	88,33±1,115	75,88±1,361	87,22±9,49	76,15±9,39
Turon	88,87±4,96	83,51±1,188	74,53±1,357	70,97±2,078	78,39±1,099	79,03±1,593	84,79±1,101	73,89±1,510	79,24±1,011	74,63±1,459

PF - physical functioning, SF - social functioning

SL – school life, PsF - psychosocial functioning, EF - emotional functioning

Note: * - differences with respect to the control group are significant (*-P <0.05, ***-P <0.001)

Social functioning reflects the attitude within society, adolescents from 13 to 16 years boxers have the highest, judoists and weight lifters take the same value, with a gradual decrease from the cycling to freestylers. In turn, among older students cycling, judo and wrestling show high values with a gradual decrease in performance of swimmers. The value of school functioning in age from 13 to 16 years have a variation from 79 to 89 points, while freestyle wrestlers are the lowest, in turn, weightlifters and boxers are high. At the age of 17 to 20 years of distinguished wrestlers and boxers, poorly rated athletes in the sport of Turon. Psychosocial functioning is a set of social, emotional and role functioning, in the minor age category has a value from 77 to 89 points, mostly high scores in boxing, judo and weightlifting with a decrease in the value of

free-style wrestling. In turn, the high school students there is a tendency to increase the judoists, boxers and cyclists, then wrestling, weightlifters, swimmers and wrestlers Turon. As mentioned above, the evaluation of QoL in athletes has different meanings depending on the age, even in the same sport. The most significant is difference in the assessment of emotional functioning in freestyle wrestlers, cyclists and swimmers. Reduced emotional background for athletes 13-16 years of age is probably due to changes in their lifestyle, stay in the new conditions, peculiarities of training and competitive process, and a change mentor. With the development of adaptive reactions expressed tendency to increase accordingly. A statistically significant difference in the indicators of school functioning in athletes studied groups in all sports except for cyclists. Psychosocial

functioning tends to difference between swimmers and freestyle wrestlers, while the high school athletes weightlifters, swimmers and athletes of the national kind of wrestling Turon values lower than adolescents, which is also evident in the indicators of physical functioning.

Table 2: Total score of indicators depending on the sport

	PF	EF	SF	SL	PsF
Turon	85,8±9,4	72,72±17,2	81,14±15,1	76,36±14,5	76,74±12,6
Swimming	88,75±8,7	80,4±16,3	86,6±10,3	84,2±12,9	83,73±10,0
Cycling	87,28±9,3	80±13,6	92,5±11,8	81,25±12,0	84,58±10,1
Weightlifting	92,7±6,7	85,14±15,4	89,86±12,7	85,83±12,2	86,94±10,2
Judo	93,8±6,2	88,58±9,6	92,75±7,7	87,58±11,1	89,64±7,7
Boxing	94,43±4,3	86,09±8,9	92,18±5,8	87,81±9,5	88,7±6,0
Freestylewrestling	87,95±10,1	75,29±17,4	89,26±12,1	81,91±14,6	82,16±11,7

Note: * - differences with respect to the control group are significant (*- $P < 0.05$, ***- $P < 0.001$)

According to the data in the table to draw conclusions primarily about the high rates of all types functioning in athletes of such sports as Boxing and judo. It should be assumed that probably has a value of priority of Boxing and judo in the country, the existing experience of employment in the sport before enrolling in College, technical - tactical preparation of athletes and also developed the emotional stability of the athletes of martial artists. Respectively physical functioning have a high score in boxers, on the second place judoists, then weightlifting, swimming, wrestling, Cycling and completes the Turon. The lowest value in the total count observed in athletes is the new direction of martial arts as the Turon. The analysis of the data indicates the need for a more detailed review of all the characteristics of integral indicators full functioning of athletes and the development of further programs to enhance the quality of life.

IV. FINDINGS

This study related to cross-sectional transitional epidemiological studies of descriptive nature. The main purpose was expressed in study of the QoL in young athletes who attend to the College of Olympic Reserve by applying standard Pedsq^l™ 4.0 questionnaire for the age group of children and adolescents under 20 years old. In this case, characteristics of six groups of questions that can define the physical, emotional, social, life in school, psychosocial and general functioning of child are characterized. Interest in assessing the quality of life of this contingent among people is related to the conditions of stay in a specialized educational institution, as well as the impact of physical and emotional stress. The obtained results were compared depending on sport and age; gender distribution was not carried out, and any comparison was not performed with such contingent of person who does not engaged in sports professionally. Comparative analysis of results reveals the highest performance indicators for sportsmen in priority sports, such as boxing and judo,

To assess the indicators as a whole, we summarized the values of the QoL by sport. Data are given in Table 2.

linked to other sports. In this study, it is necessary to identify implementation of their lead a healthy, full, creative and active life, which can serve as a criterion for assessing the degree of satisfaction. Indicators of social, emotional and psychosocial functioning are the most significant for athletes in the process of individualization of their preparatory-training process. A comprehensive assessment of the QoL of athletes will allow development of criteria that can serve as a kind of professional standard for QoL parameters among young athletes. In subsequent studies, a more detailed study and comparative analysis of indicators, depending on age, gender and sporting achievements, should be carried out.

V. CONCLUSIONS

1. According to the results of this study, indicators of QoL in total values on 100-point scale and the highest was the judoists and boxers. Weightlifters have also advantage compared to freestyle wrestlers, cyclists and swimmers.
2. Lower values are observed in athletes engaged in the national type of struggle Turon.
3. Comparative analysis of indicators in the two age groups tended to vary in sports that may be associated with peculiarities of the stay in a specialized institution, experience of training, change of tutors, influence of physical and emotional stress, as well as its adaptive reserve of a young athlete.
4. Knowledge of optimal values of QoL is necessary to establish pattern between the change in performance when it decrease and identify among them those with low levels in order to develop special measures to improve the quality of life and eliminate conditions of physical and psychological discomfort.

Conflict of Interest

Authors declare that there is no any comments for conflict of interest

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