KEY INDICATORS OF DISABILITY DUE TO GLAUCOMA IN THE REPUBLIC SAKHA (YAKUTIA)

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Considering the higher level of general (1247,2 per 10 thousand adult population) and primary (165,3 per 10 thousand adult population) glaucoma in RS (Y), we have conducted the statistical research of results obtained while inspecting invalids due to eye illnesses in RS (Y) and its regions.

The analysis of inability due to glaucoma in RS (Y) in 2001-2010 has revealed the leading position of glaucoma in the structure of blindness and weak eyesight in nosology of PI due to eye illnesses, the increase of IM of general inability of the population and IM of primary inability due to glaucoma on 7,2 % and 25 % accordingly, the decrease in amount of invalids I and II groups from FRI due to glaucoma and the increase in number of persons with III group, the highest parameters estimated in the arctic region.

The analysis of the basic markers of inability due to glaucoma in RS (Y) in 2001-2010 has shown the necessity of adequate monitoring of glaucoma patients, especially in the remote arctic areas of the republic for what the reorganization of ophthalmologic service in RS (Y) is necessary.

Keywords: glaucoma, primary inability, general inability, intensive marker.

Blindness is considered one of the important international problems of the modern society caused by high and steadily increasing prevalence of blindness among the globe population. According to WHO in the world there are about 150 million blind people [3]. At 13 % the blindness is caused by glaucoma, occupying the second place after cataract in nosology of blindness structure. This marker differs in the countries with different level of economy and different quality of life of the population [8].

Over the last 10 years in the Russian Federation (RF) the level of blindness due to

glaucoma has grown in 3 times from 8 to 22 per one thousand population, the blinds due to glaucoma are registered at not less than 70 thousand persons. In nosology of blindness and weak eyesight glaucoma in our country has grown twice from 14 to 29 % [4]. The share of glaucoma in nosology of primary inability due to eye illnesses has increased from 14 % to 28 % at average, as well as among invalids of senior age up to 40 % [5].

The severity of primary inability due to eye diseases was aggravated, the amount of invalids of I-II groups has increased from 60 to 85 % mainly at patients with glaucoma, firstly addressed to medical-social examination (MSE) with III-IV stages of the disease [5].

Considering high level of general (1247,2 per 10 thousand adult population) and primary (165,3 per 10 thousand adult population) glaucoma in the Republic Sakha (Yakutia) (RS (Y), we conduct the statistical research of outcomes inspecting invalids owing to eye illnesses in RS (Y) and its regions.

The purpose: to study indicators of general and primary inability due to glaucoma in RS (Y) and its regions in 2001-2010.

Material and methods: the Act of medical and social examination of citizens of Bureau MSE RS (Y) for 2001-2010, the form № 209 «Data on invalids' health maintenance» in RS (Y) for 2001-2010.

Results and discussion. In 2001-2010 the amount (absolute number) of invalids with eye diseases among adults in RS (Y) for 10 years has increased up to 13,9 % (from 2874 to 3275). Despite the decrease in relative density of glaucoma in the structure of blindness and weak eyesight to 2,1 % (from 36,8 to 34,7 %), it occupies the first place throughout all period of the research.

The intensive marker (IM) of general inability due to glaucoma for 10 years has increased up to 7,2 % (from 15,2 to 16,3 per 10 thousand adult population) (Tab. 1).

The primary inability (PI) is the main medical and social criterion of public health. The level PD of eyesight in the Russian Federation was reduced from 5,8 in 2005 to 2,5 in 2008 [2]. According to the bureau MSE among subjects of the Russian Federation the level PI of adult population RS (Y) in 2009 occupied 47th place [1]. While analyzing the basic markers of inability in RS (Y) for 2002-2006 the growth rate of people recognized as invalids for the first time (FRI) on 37,9 %, among senior aged on 95,8 % was noted. In 2007-2009 the primary inability among adult population has grown up to 31,0 %, among senior aged - 35,7 %. In nosology PI in PC () in 2001-2010 of eye disease occupied the 6th ranging place [1].

From Tab. 2 it is visible that intensive marker of PI in RS (Y) during the investigated period has grown on 47,8 % (from 50,8 to 75,6 per 10 thousand adult population); IMPI on eye diseases

and eye traumas has grown on 14,7 % (from 3,4 to 3,9 per 10 thousand adult population); IMPI on glaucoma on 25 % (from 1,2 to 1,6 per 10 thousand adult population). Relative density of eye diseases in structure PI increased up to 46 % (from 6,0 to 8,8 %) by 2006, and further decreased to 5,2 % by 2010.

The high growth rate of addressed patients in establishments MSE and firstly recognized as invalids in 2005 was subject to the Federal laws № 173 «About labour pensions in the Russian Federation» and № 166 «About state maintenance of pensions in the Russian Federation» about inability pension appointment by degree of restricted labour activity having come into force since January, 1st, 2004. Another Federal law № 122 «About state social help» having been adopted since January, 1st, 2005 confirmed monthly monetary payments (MMP) instead of existing privileges [6].

During the reorganization of inability pensions the increase of IM of firstly recognized inability more than on 43,5 % is marked. By 2005 and 2007 it has made 72,9 and 70,3 per 10 thousand adult population accordingly. The same tendency is observed among invalids with eyeball diseases. IM of firstly recognized invalids among the given group by 2005 has increased on 47 % (from 3,4 to 5,0 per 10 thousand adult population). IMPI with glaucoma has also reached the maximum values in 2005, the growth rate has made 50 % (from 1,2 to 1,8 per 10 thousand adult population), and since 2006 the given marker is at one level (1,6 and 1,5 per 10 thousand adult population).

In 2001 the relative density of glaucoma among causes of PI eye illnesses made 35,5 % and, having increased by 2006, reached the maximum value of 52,6 %. Further, despite the decrease of this marker to 37,3 % by 2010, glaucoma nevertheless remains in the leading position among the causes of PI of eye illnesses.

Apparently from Tab. 3 in RS (Y) in 2007-2010 the 1st group invalids among firstly recognized glaucoma patients has decreased on 5 % (from 50,4 to 45,4 %), the second - on 0,8 % (from 22,0 to 21,2 %), the third - has increased on 5,8 % (from 27,6 to 33,4 %).

Women at the age of 55 years and more senior as well as men aged 60 years and over predominated among FRPI: in 2007 - 85,3 %, in 2008 - 83,6 %, in 2009 - 86,0 %, in 2010 - 81 % [7].

From Fig. 1 it is visible that IMPI due to glaucoma in regions RS (Y) is non-unified. In the Arctic region practically for all period of the research the highest parameters of IMPI are revealed, the growth rate amounting 16 % (from 1,9 to 2,2 per 10 thousand adult population) during 2002 and 2010, reaching the maximum in 2008 (3,2 per 10 thousand adult population).

In the Central region IMPI in comparison with 2002 has increased on 11 % (from 1,8 to 2,0 per 10 thousand adult population) by 2006, and further has decreased up to 1,5, 1,2 and 1,1 per 10 thousand adult population in 2007, 2009 and 2010 accordingly.

In Viljujsky region IMPI has grown on 180 % (from 0,5 to 1,4 per 10 thousand adult population), however the maximum value - 2,5 per 10 thousand adult population was noted in 2005 Since 2006 IMPI was at one level - 1,2, but a little increase (on 1,4) was noted in 2010.

In Southern region for the investigated period IMPI has increased more than three times (from 0,4 to 1,7 per 10 thousand adult population). By 2005 the parameter has increased to 1,5 per 10 thousand adult population, further by 2008 has decreased to 0,7, but in 2010 the growth up to 1,7 was noted repeatedly.

In all regions of the republic the growth of IMPI was observed in 2005 with the adoption of the law having changed the appointment of inability pension, and the law, confirmed MMP. The further studies pointed out the considerable growth of IMPI in the Arctic region (the highest value was in 2008 - 3,2 per 10 thousand adult population). In the given group the highest parameters of general glaucoma (1479,1 per 100 thousand adult population exceeding republican on 18,5 %) and primary glaucoma (190,8 per 100 thousand adult population exceeding on 19,6 %) are registered.

Thus, the analysis of glaucoma inability in RS (Y) in 2001-2010 has revealed:

- The growth rate (absolute number) of invalids with eye illnesses among adults in RS (Y) on 13,9 % (from 2874 to 3275);

- The leading position of glaucoma in the structure of blindness and weak eyesight, despite the decrease in its relative density from 36,8 to 34,7 %;

- The increase of IM of general inability at glaucoma patients on 7,2 % (from 15,2 to 16,3 per 10 thousand adult population);

- The growth of IMPI due to eye diseases on 14,7 % (from 3,4 to 3,9 per 10 thousand adult population);

- The growth of IMPI due to glaucoma on 25 % (from 1,2 to 1,6 per 10 thousand adult population), stable marker 1,6 noted since 2006;

- The leading position of glaucoma in nosology of PI due to eye diseases with the increase of its relative density from 35,0 to 37,3 %;

- The decrease in amount of 1st group invalids with FRPI due to glaucoma in 2007-2010 on 5 % (from 50,4 to 45, %), II - on 0,8 % (from 22 to 21,2 %), the increase in number of persons with III group on 5,8 % (from 27,6 to 33,4 %);

- The highest values of IMPI in the arctic region during 2002 to 2010 on 16 % (from 1,9 to 2,2 per 10 thousand adult population) and reaching the maximum rate in 2008 (3,2 per 10 thousand

adult population).

The analysis of the basic markers of inability due to glaucoma in RS (Y) in 2001-2010 has shown the necessity of adequate monitoring of glaucoma patients, especially in the remote Arctic areas of the republic for what it is needful to reorganize the ophthalmologic service in RS (Y):

1. Establishment of an unified out-patient polyclinic on the basis of the State Budgetary Establishment RS (Y) the Yakut Republican Ophthalmologic Hospital (SBE RS (YROH) uniting all ophthalmologic service of the republic with the organization of a unified republican glaucoma center.

2. Introduction of medical information systems and telemedical technologies for carrying out remote medical consultations, new methods of diagnostics and treatment.

3. Organization of mobile specialized service on the basis of YROH for remote areas of the arctic region which can render both primary specialized help, and surgical interference on places, providing maximum availability and quality of specialized medical aid to the population.

4. Foundation of intraregional branches SBE RS (Y) YROB functioning as advisory-diagnostic units, equipped according to the order MH RF from November, 12th, 2012 № 902н «About adjustment of the order in rendering medical aid for adult population with eye illnesses, its additional device and orbit» in the Central, Viljujsky and Southern regions of the republic.

Table 1

Markers of General Inability due to Eye Illnesses and Glaucoma in RS(Y) in the period of 2001 and 2010.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Adult invalids with eye illnesses (abs.)	2874	2881	2829	2801	3144	3116	3276	3168	3246	3275
Glaucoma relative density (%)	36,8	29,9	34,4	36,9	37,9	39,0	35,6	36,2	34,6	34,7
IP of general inability due to glaucoma (per 10 thousands adult population)	15,2	12,5	14,0	15,6	17,7	17,9	16,9	16,5	16,2	16,3

Table 2

The analysis of showings of primary survey patients by specialized bureau MSE in RS (Y) in 2001-2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
IMPI in RS(Y) (per 10 thousands adult population)	50,8	50,4	50,6	57,0	72,9	70,4	58,9	66,2	76,2	75,6
IMPI due to eye illnesses (per 10 thousands adult population)	3,4	3,3	2,4	3,2	5,0	3,6	3,0	3,3	3,8	3,9
IMPI due to glaucoma (per 10 thousands adult population)	1,2	1,2	1,0	1,1	1,8	1,6	1,5	1,6	1,5	1,6
Relative density of eye illnesses (%)	6,0	6,3	5,4	5,6	7,8	8,8	5,1	5,0	4,9	5,2
Relative density of glaucoma (%)	35,5	36,2	44,7	45,2	49,2	52,6	41,4	50,2	35,7	37,3

Table 3

The structure of firstly recognized inability due to glaucoma in the period of 2007-2011 RS(Y) (%)

Group of inability / Year	I group	II group	III group
2007	50,4	22,0	27,6
2008	48,2	22,7	29,1
2009	57,0	21,5	21,5
2010	45,4	21,2	33,4

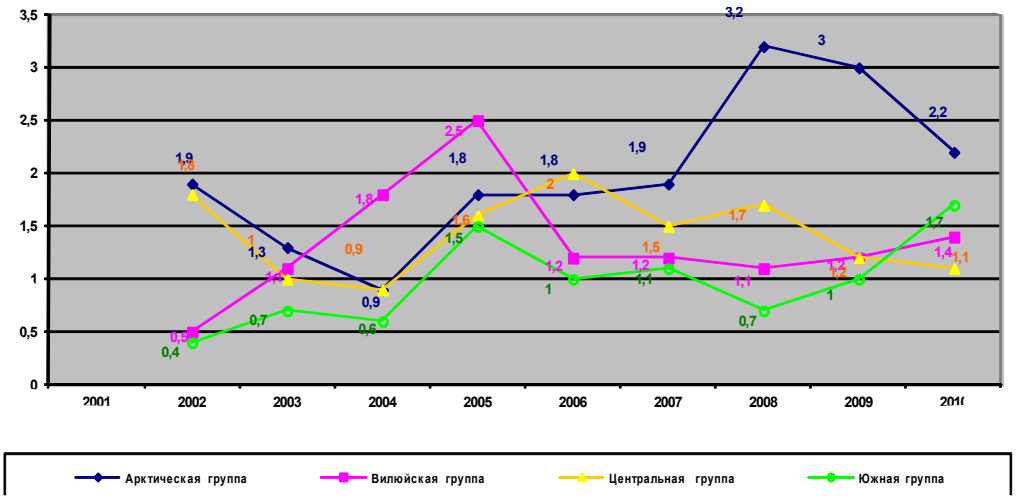

Рис. 1.

Fig. 1. Dynamics IMPI due to glaucoma in regions RS (Y) in 2001-2010 (per 10 thousand adult population).

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