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HUMAN RESOURCES CAPACITY OF NATIONAL VETERINARY SERVICES IN RUSSIAN FEDERATION TERRITORIAL SUBJECTS

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SUMMARY

The paper presents the analysis results of basic quantitative characteristics of national veterinary service human resources as at 2017. The analysis was made both in general for the subject veterinary services and for their separate organizational levels: regional, local, laboratory as well as for the units, involved into the state veterinary surveillance on the regional level. The data about available number of veterinarians and staffing levels of veterinary institutions in the territorial subjects are discussed. These data suggest that the number of veterinarians correlates with the human and animal populations, as well as with the number of municipal entities and the volumes of livestock products manufactured. Notwithstanding the diverse peculiarities of the RF regions, the majority of them suffer from an actual deficit of veterinarians in the local and laboratory institutions. As of 2017, the average age of veterinarians in the RF is 40–45. The analysis of the RF average salaries showed that veterinarians of local and laboratory levels earn about 24 thousand rubles per month, which is 30% lower than the average level in Russia and almost twice lower than the salaries of regional veterinarians and official veterinary inspectors. The study results are also indicative of a sufficiently high number (about 72%) of veterinarians with a higher vocational education in RF Subject institutions, but at the same time not all of them are covered by advanced training programs.

Key words: veterinarian, veterinary service, veterinary service organizational levels, veterinary service institutions, education, salary, staffing, age of veterinarians.

INTRODUCTION

Efficient and high quality performance of veterinary service system involves logistical support, adequate organizational structure, harmonized regulatory and legislative environment. Furthermore, scientific potential of the service and sufficient high-qualified human resources are of particular importance. The human resources (HR) of the National Veterinary Service of the Russian Federation is well-trained workforce of the Russian society able to perform professional activities and successfully solve the tasks assigned. The final objective of the veterinary staff operation implies animal disease prevention, production of veterinary sound and safe animal products and protection of human population against diseases common for animals and humans. These are human resources on all operational levels, who ensure compliance with the basic principles of high quality performance of the veterinary service system, such as competence, independence, impartiality, incorruptibility, objectivity, etc. Therefore, according to the OIE recommendations, HR evaluation is one of the key elements for veterinary performance monitoring [1, 15, 16].

The set of measures aimed at provision of the RF Veterinary Service with qualified personnel, should first of all, include the full-time personnel analysis at different levels and such analysis should assess the vector trend of changes in the staff number, their well-being, balance between different categories, level of their education and age. Availability of data on the above-mentioned parameters is the primary database for the solution of a number of managerial tasks as the universal management principle involves the following: "Any changes should be made on the basis of the assessment of the current situation".

To date, the official and available information on the staffing of the Russian veterinary services is fragmentary and mostly limited, thus resulting in failure to reliably reflect the current situation in the Subjects of the country. Therefore, the research was aimed at the collection of data on the key parameters and complex analytical evaluation of the human resources of the Veterinary Service.

MATERIALS AND METHODS

In order to perform the HR analysis both in the whole country and in individual regions the FGBI "ARRIAH" experts developed an initial data collection form. This form included such parameters as number of the veterinarians,

staffing level of the subdivisions, age and education of the personnel, salary level. In 2017, the veterinary authorities in 84 Subjects of the Russian Federation (excluding Republic of Crimea) simultaneously collected data for the above-mentioned form completion. The data were collected at the following organizational levels of the Veterinary Service:

– *Regional level* – veterinary authorities of the RF Subjects exclusive of their subordinate institutions (departments, committees, administrations, etc.);

– *Local level* – institutions subordinated to the veterinary authorities (ADCS, veterinary posts, veterinary units, etc.);

- *Laboratory level* – veterinary diagnostic laboratories at different levels (Oblast, Raion, Inter-raion, etc.);

– *Units of the regional veterinary surveillance authorities* – employees (officials) involved in the regional veterinary surveillance.

Official data of the Federal State Statistics Service for 2017 were also included in the analysis [10].

The data were analyzed using conventional procedures: data consolidation and formalization, comparative analysis, descriptive statistics and correlation analysis. The submitted data were processed using STATISTICA 10.0 software (StatSoft, Inc.) intended for data statistical analysis.

RESULTS AND DISCUSSION

Following the collected data validation, the key parameters were analyzed that reflected the level of the Veterinary Service staffing with qualified human resources.

Total number of veterinarians and staffing level. As of October 2017, 51,688 veterinarians were on record at the National Veterinary Service of the RF Subjects (Fig. 1).

The data in Figure 1A demonstrate that the majority (81.2%) of the veterinarians are local veterinarians. The laboratory and diagnostic level of the VS also involves large amount of veterinarians (7,926 (1.3%)). As far as the regional level is concerned, i. e. VS managers in the RF Subjects, the major part of 1,783 of the veterinarians are the officers involved in the regional official veterinary surveillance (1,348 employees).

According to the data submitted by the local authorities, the veterinary services of the RF Subjects significantly differ in the number of the employed veterinarians ranging from 39 to 2,219 employees. Herewith, the lowest staffing (below 100 employees) is typical for veterinary services of the Far Eastern Federal District. The highest amount of the veterinarians are under record in such Subjects with well developed livestock industry as Republics of Dagestan and Bashkortastan, Stavropol, Altai and Krasnodar Krais, Rostov Oblast, etc. It was also revealed that in the majority of the Subjects (63 regions) the number of the veterinarians amounts to up to 800 employees. Herewith, in 41 of such Subjects this number varies from 200 to 600 veterinarians.

The analysis of the number of the veterinarians adjusted for the RF regions' specifics leads to the conclusion that the number of such employees in the RF Subjects is largely dependent on:

– human population in the Subject (r = 0.67);

– number of municipalities (r = 0.78);

– number of administrative regions (r = 0.78);

– animal population (r = 0.7);

– volume of animal products manufactured at the establishments of all categories within the Subject (r = 0.68), where r – correlation coefficient at $p < 0.05$.

Therefore, it is possible to assert that during calculation of the Subject's demand in veterinarians of the most importance for consideration are the data specifying the regional factors.

The analysis of the workload of an individual local veterinarian (being of the highest significance in this case) demonstrated that in 72.5% of the RF Subjects one veterinarian is responsible for one to three municipal units and national average of this parameter (regardless of the geographical location of the region) amounts to 2.1 municipal units.

Analysis of the Subject area and density of the municipal units in the Subject did not demonstrate any significant relation to the number of veterinarians at all organizational levels. In addition, the results of the previous research also indicated that planning of the number of full-time veterinarians in the regions is performed without reference to such important factor as number of the regulated objects in the territory under their jurisdiction [8].

Hereafter, the analysis of the VS staffing with the veterinarians was performed. This parameter is a percentage ratio of the established and taken positions. This ratio was calculated both for the national VS as a whole and for its separate levels. The obtained results are indicative of the fact that the number of the veterinarians at all organizational levels falls within 90%. Moreover, the correlation analysis demonstrated that the staffing has no relation to both workload (composed of the number of the assigned municipal units and number of animals in these units) and area of the region and density of the municipal units.

Of importance is the fact that in many RF Subjects the VS organizational structure is occasionally optimized involving job cuts. Results of such optimization include formally high staffing data, which do not in full reflect the real staffing situation. Thus, we analyzed current situation in the RF Subjects using actual additional (to the available

Fig. 1. Number of veterinarians in the RF Subjects

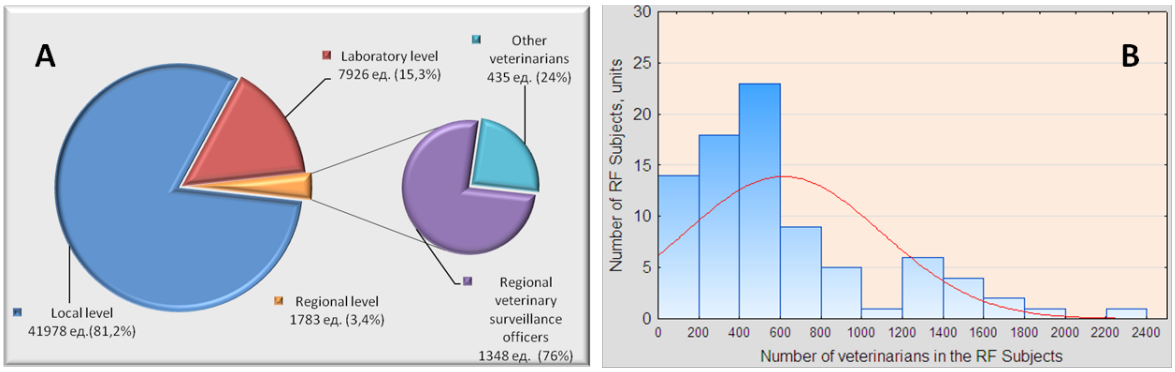


Table
Actual demand in veterinarians

VS organizational level	Level of demand in veterinarians (in addition to the available)					
	No demand	Up to 10%	10–20%	20–40%	40–60%	Over 60%
	Number of RF Subjects					
Regional	33	16	11	6	4	14
Local	7	34	31	8	2	2
Laboratory	17	31	19	10	3	4
Regional veterinary surveillance units	40	15	7	6	3	13

staff) regional demand in veterinarians, which was based on the proposals of the regional VS submitted during the data collection (see the Table).

The table demonstrates that:

– only seven Subjects (8.3%) had no demand in the local veterinarians; the majority of the Subjects (91.7%) have a demand in additional employees. However, for the majority of the regions the demand in full-time employees is not critical and amounts to 20% of the actual headcount. The situation is similar at the laboratory level – 67 Subjects are in need of additional staffing;

– in 40 Subjects (47.6%) the demand in veterinarians involved in the regional veterinary surveillance was not recovered; but for 15 Subjects this demand amounts to 10% of the available headcount. Herewith, 13 Subjects suffer from an acute lack of specialists concerned; 2–7-fold increase of the actually available headcount is required. Such Subjects are present almost in all Federal Districts of the country; however, their highest concentration is reported in the North-Caucasian Federal District;

– the current need in veterinarians at the regional level was formed due to the lack of the staff in the regional veterinary surveillance units (see Fig. 1).

Total additional need of the national VS in the specialists amounts to 6,293 full-time employees, among them 379 specialists are required at the regional level, 4,959 – at the local level, 939 – at the laboratory level and 298 – for regional veterinary surveillance units.

It is noteworthy that in this study the justification of the data submitted by the regions as for additional demand in the veterinarians was not examined. In fact, the demand of the regions can differ from the actual on-site situation. The point is that according to the questionnaire data only few regions of the country have developed and implemented the documented work standardization procedure, on the basis of which the VS demand in veterinarians is determined. In the majority of the Subjects the staffing is planned either according to the traditional structure and staffing profile of the Subject VS or spontaneously, in isolation from the present day realties and research and technical achievements. Such approach surely results in the bias of the demand parameters. Moreover, such bias can be both positive and negative and it can lead to both to the lack of the specialists and their abundance that in any case results in inefficient use of labor resources and thus to misbalanced operation of the regional VS.

Therefore, the regional VS management should pay closer attention to the headcount efficacy analysis that requires determination and introduction of labor standards and consistent assessment of their implementation as well as regular revision of such standards in light with technical, economic, organizational and other factors. Herewith, it is noteworthy that the key task of the labor standardization includes establishment of necessary and sufficient work time values for implementation of some process under specific conditions. Otherwise stated, there should be no doubts about the fact that labor standards should be defined by the VS of each individual Subject, insofar as the activities of the veterinarians in different regions depend on natural and climatic conditions, animal husbandry specificity, distribution and density of the regulated farm objects, access to transportation, capacities of the laboratory facilities, social factors, etc. In the current context, the veterinarians' labor standards cannot and must not be similar and uniform for all regions or groups thereof. Averaged standards demonstrated in the specialized reference papers can be used as a guide for in-house solutions in each individual region of the country [2, 3, 12]. We believe that the most constructive solution of the issue should include labor standardization by each regional VS through involvement of the experts and appropriate research methods and through development of a dossier being the documented evidence base supporting the demand in specific specialists.

Veterinarians' age composition and HR policies. Examination of the staff age composition is an important component of the HR analysis. The examination results demonstrate that average age of the veterinarians in 64% of the RF Subjects is 40–45 years old. Similar pattern is typical for all VS organizational levels (Fig. 2A).

The data in Figure 2B demonstrate that the widest fluctuation range of the mean age of the majority of the veterinarians (from 35 to 49 years old with mean 42 ± 7) is reported among the veterinarians involved in the regional veterinary surveillance. Only in 26 Subjects the mean age of the veterinarians involved in the regional veterinary surveillance is 30–40 years old (with mean 35 ± 5). Similar situation is also reported at the regional level though the fluctuation here is somewhat lower.

The situation is different at the local level. There is smaller variation of the vet's mean age: 40–45 years old in 50 Subjects and 45–50 years old in 23 regions. There are only single regions where the mean age of the staff amounts to 30–40 years old.

As for laboratory and diagnostic level, in half of the Subjects the mean age of the personnel amounts to 40–45 years old. The rest of the regions split into two equal groups, and the value here amounted to 35–40 years old and 45–50 years old, respectively.

Altogether, at significantly similar mean values the following fact is noted at all VS organizational levels: the

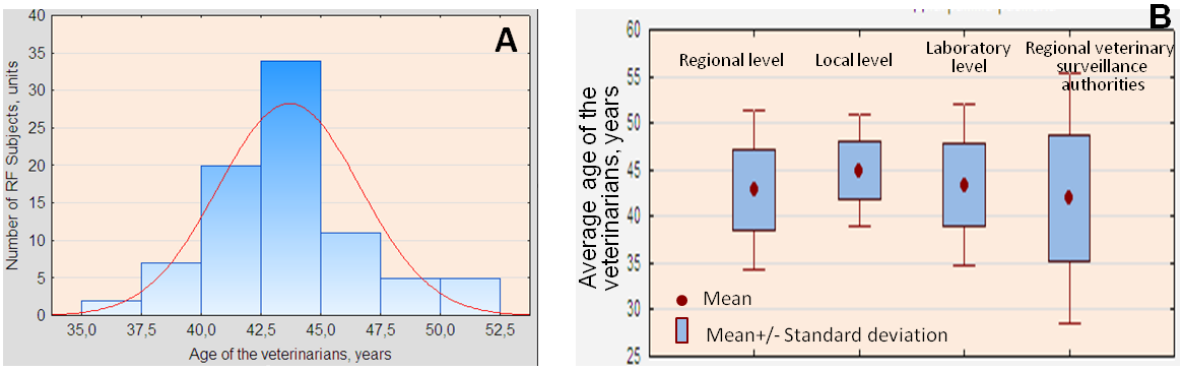


Fig. 2. Age distribution of the veterinarians

highest number of regions where the mean age of the specialists amounts to 45–50 years old and the minimal number of the regions where the mean age of the veterinarians is 30–40 years old were reported at the local level.

The national average proportion of the veterinarians of the retirement age (60 years old for men and 55 years old for women) is 22%. At the local and laboratory levels this parameter also amounted to 22–23% of the total number of the veterinarians. However, at the regional level and at the level of the regional veterinary surveillance the proportion of the staff of the retirement age was twice as lower as the national average. For this indicator the regional level can, in its turn, be subdivided into two big groups: in the first group (31 Subject) the proportion of the considered veterinarians varies from 10 to 20%, in the second one (40 Subjects) – 20–30%. Furthermore, there are ten Subjects, where the proportion of the veterinarians of such age employed at the state veterinary institutions is within the range of 30–40% (Fig. 3A).

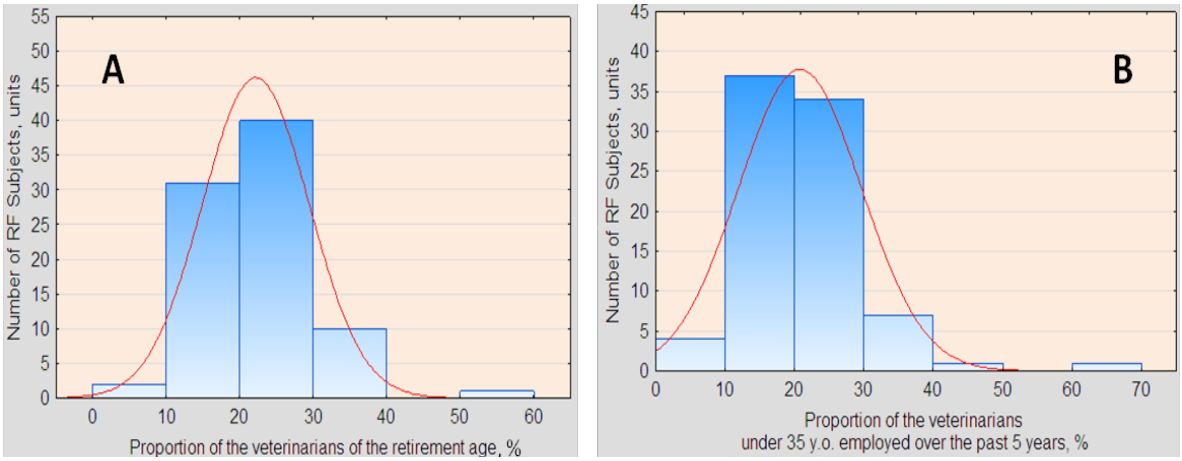
By comparison, the age profile of the European veterinarians shifts towards juvenation with an age peak falling at 30–34 years old. Thus, 44% of the European veterinarians are under 40 years old and 32% of the veterinarians are over 50 years old [14].

Over the past five years, the proportion of the young veterinarians (under 36 y. o.), who obtained employment in the VS institutions amounted to 10-30% in the majority of the regions of the country (Fig. 3B). Numerically, local institutions employ 7,863 young veterinarians out of 10,107 employed ones. However, the proportion thereof at this level is still the smallest – about 19% (of the total number of the veterinarians). At the regional level and at the level of the regional veterinary surveillance the average number of the young veterinarians varies from 20 to 25%; however, over the past five years no staff juvenation occurred at the regional level in 12 Subjects and at the level of the regional veterinary surveillance – in 16 Subjects. As for territorial aspect of this parameter, the process of the young veterinarians' involvement in the institutions of the local level is least expressed in the Subjects within the North-Caucasian Federal District (11% at an average).

It is also worth mentioning that during this research we failed to identify any significant relation between the staff juvenation at the veterinary institutions in the Subjects and such supposedly decisive factors as salaries (both in the sector and in the Russian Federation as a whole) and veterinarians' workload. Possible reason of such inert inflow of young veterinarians could include insufficiently efficient systems of financial and social protection of the veterinarians working in the rural communities; housing shortage for young people and low quality of life. Accordingly, we may suppose that inefficiency of the financial and support system in protection of the young veterinarians (especially, in rural communities) cannot be fully compensated by the salary increase alone.

There was also no interrelation between the inflow of young specialists and availability of regional/ departmental social programs. Such programs were developed and introduced only in 13 Subjects, mostly in the Siberian and Far Eastern regions. No such programs have been officially

Fig. 3. Age profile of the official veterinarians in the RF Subjects



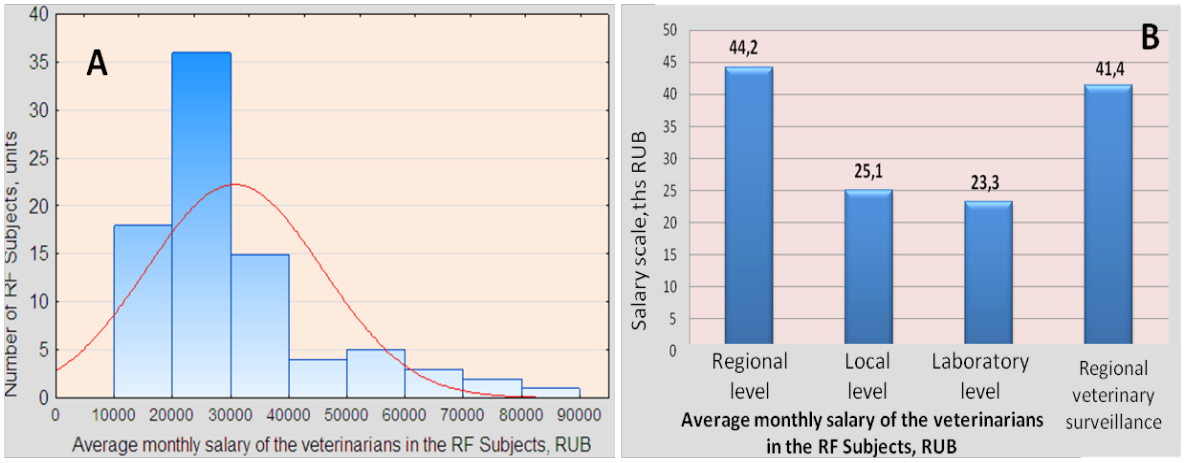


Fig. 4. Average monthly salaries of the veterinarians in the Russian Federation

approved in any Subject of the Central and Southern Federal Districts.

Veterinarian's salaries. Salary is the key factor motivating any employee for productive work; it is also a factor capable of influencing image of the profession and inflow of young veterinarians. During the research we evaluated the salary level of the veterinarians in the regions of the country, at the VS organizational levels and as compared to the average salary in the RF Subjects as of September, 2017 (Fig. 4–5).

The data in Figure 4A demonstrate that the average monthly salaries of the veterinarians at the official VS institutions in the RF Subjects widely vary from 10.4 to 80.9 ths RUB (with the average being 30.6 ths RUB). However, in many regions (36 Subjects) the salaries of the veterinarians are below the average and amount to 20–30 ths RUB, and in 17 regions – below 20 ths RUB. The situation among the Subjects is significantly diverse when analyzed by territories. As for North Caucasian Federal District, it is worth mentioning that the salaries of the veterinarians in all Subjects of the District are lower than the national average salary. By contrast, the considered value is significantly above the national average salary in such metropolitan cities as Moscow and St. Petersburg as well as in the Far Eastern and northern regions of the country that is, apparently, due to regional premium rate and markup percentage added to the salaries of the employees residing in regions of the Far North and equated localities.

The situation on remuneration of the veterinarians involved in the activities at different VS organizational levels is also varying (Fig. 4B):

– *regional level* – average salaries by the Subjects vary from 8 to 108 ths RUB and the national average salary amounts to 44.2 ths RUB. In one third of the regions the average salaries lay within 30 to 40 ths RUB; in 13 regions – 20–30 ths RUB, and in 15 other regions – above 40 ths RUB;

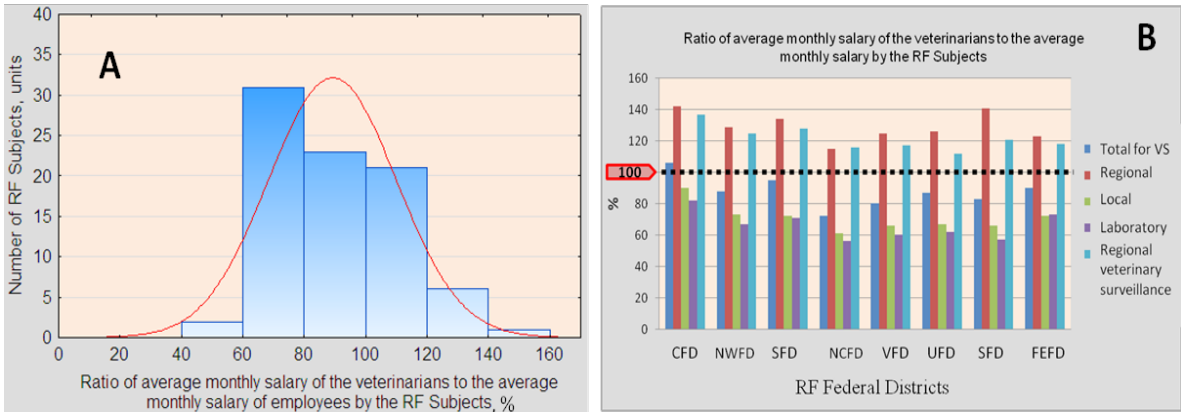
– *local level* – average salaries of the veterinarians – 25.1 ths RUB – is nearly twice as lower as the salaries of the veterinarians at the regional level and vary within 9.9–70.7 ths RUB by the RF Subjects. The similar situation is also typical for the laboratory level and the average salary here amounts to 23.3 ths RUB;

– *regional veterinary surveillance level* – with the average 41.4 ths RUB the situation is mostly similar to the situation at the regional level but the minimal average monthly salary of the veterinary officials involved in the regional veterinary surveillance amounts to 16.6 ths RUB.

The following data can be demonstrated as an additional information allowing for evaluation of the salary level of the veterinarians in the RF Subjects:

– according to the official data for the whole country, in 2017 the average salary of physicians and medical practitioners employed in the public and municipal institutions and having medical (pharmaceutical) degree amounted to 56.4 ths RUB; the average salary of medical (pharmaceutical) technicians – 30.2 ths RUB;

Fig. 5. Ratio of monthly average salary of the veterinarians to the monthly average salary by RF regions



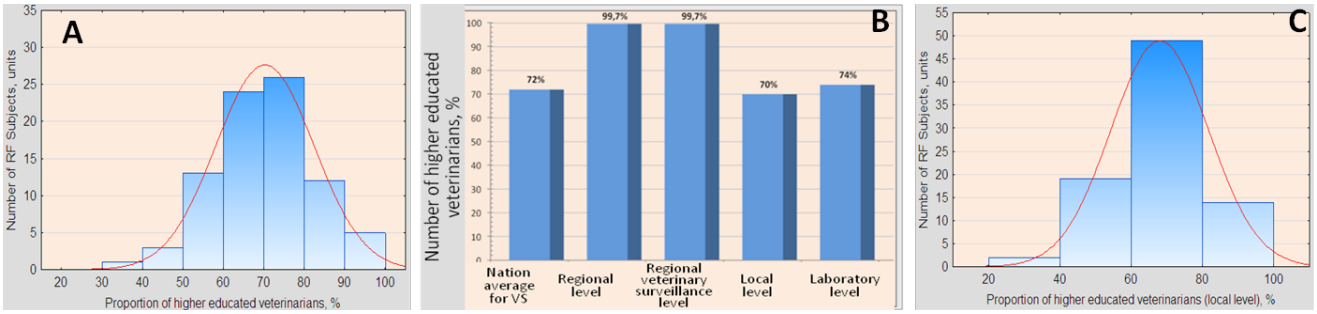


Fig. 6. Educational level of the veterinarians in the veterinary institutions of the RF Subjects

– according to the research performed by the Federation of Veterinarians of Europe (FVE) in 2016, the average salary of the veterinarians in the European countries amounted to 3.7 ths EURO/ month (44 ths EURO/year; the data were revised with allowance for purchasing parity and cited before taxation) [14];

– according to the information published on the Rosselkhoznadzor official web-site, in 2017 the average salary of the veterinarians employed in the Rosselkhoznadzor Territorial Administrations amounted to 38.6 ths RUB/ month [11].

Additional analysis of the ratio between the average salary of the veterinarians in the RF Subjects and the monthly nominal salary due in the full range of the institutions by the RF Subjects (over 9 months of 2017) was performed (Fig. 5).

The analysis results suggest that the salary level of the veterinarians in the majority of the regions (56 Subjects) is below the monthly nominal salary due in the Subject. In the third part of the regions this value lies within 60–80% and only in 23 Subjects – 80–98%. Herewith, the lowest values of the ratio concerned were reported in the Subjects of the North-Caucasian, Volga and Siberian Federal Districts. On the contrary, the leading position in this respect (both as for the whole VS and all organizational levels) was taken by the Central Federal District as in the majority of the Subjects in this District the salaries of the veterinarians are above the average regional salary (Fig. 5B).

As for current value of this parameter at different VS organizational levels, it is quite similar in the regions of the country (Fig. 5B). Mean values of the examined parameter are indicative of the fact that in the Subjects of all Federal Districts the salaries of the veterinarians are above the average regional salary only at the regional level and at the level of the regional veterinary surveillance and they amount to 131% and 123%, respectively. The situation at the local and laboratory levels appears less optimistic as the salaries at these levels are significantly below the average regional salary – on average by 30%. Similarly, to the overall situation in the VS, the highest retention is reported in the Subjects of the North-Caucasian FD. Moreover, 2017 the Federal State Statistics Service reported of the lowest monthly average employees' salaries in the Subjects of this District.

Educational level of the veterinarians. According to the Veterinary Law, one of the priorities of the sector involves specialist training in the relative area of expertise. Veterinary activities may be performed only by the specialists having higher or vocational veterinary education [4].

Nationwide there are about 72% of the veterinarians in the RF Subjects, who have relevant higher education. Herewith, in more than half of the RF Subjects the value of this parameter varies from 60 to 80% (Fig. 6A). Herewith, in some regions (mostly at the local and laboratory level) the proportion of the veterinarians-university graduates is below 50%. Therefore, such Subjects appear to have lack of highly qualified staff.

The proportion of veterinarians with higher education reaches its peak at the regional level – 99.7%. Thus, it can be concluded that as far as quality is concerned, regional VS management is sufficiently staffed with highly qualified personnel (Fig. 6B).

The situation is similar as for the education level of the veterinarians involved in the state veterinary surveillance (99.7%), which is hardly surprising, as the veterinary staff of the veterinary authorities is mostly comprised of the officers from this subdivision.

The situation is different at the local level, where the proportion of the veterinarians with higher education amounts to 70% of the total number of the veterinary personnel. Herewith, in the majority of the regions (49 Subjects) the proportion of veterinarians with higher education ranges from 60 to 80% and only in two Subjects it amounts to about 30% (Fig. 6C). Figure 6C demonstrates that the situation at the local level is the same as the situation in the country as a whole, i. e. directly affects the general index because the majority of the veterinarians are the local veterinarians. It is obvious that in order to improve this index the corrective measures should be, first of all, directed at the local VS. Moreover, the correlation analysis demonstrated some statistic dependence between the proportions of the veterinarians with higher education at the local and laboratory levels in the Subjects ($r = 0.46$ with $p < 0.05$). This fact indicates that the defined educational level of the veterinarians will likely aid to similar tendencies at these levels in the regions – either to the increase or to the decrease of the proportion of the veterinarians with higher education.

As for the laboratory and diagnostic level, the situation here is similar to the situation at the local level: the number of the veterinarians with higher education amounted to 74%. Meanwhile, it is worth mentioning that veterinary laboratories in just one-third of the regions are staffed with higher educated veterinary specialists at a sufficiently high level (80–100%).

The research results demonstrate significantly high educational level of the VS specialists. However, the availability of the documentary evidence of higher veterinary education of a specialist is not always the indicator of high level of professional expertise. Each year the national veterinary society closer and closer faces the discrepancy between the knowledge taught at the higher educational institutions and skills essential for actual operation.

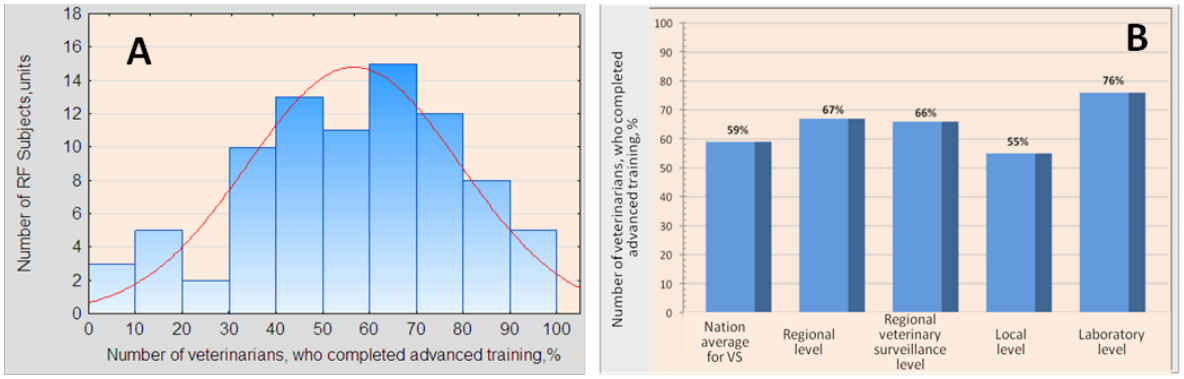


Fig. 7. Coverage of the employees of the veterinary institutions in the RF Subjects with the advanced training programs

Our understanding is that introduction of the procedure of the specialist's accreditation along with the evaluation of both theoretical knowledge and practical skills will be the most objective way to determine the competence level of a veterinarian as well as his/her compliance with the occupational standards and to decide whether he/she can be allowed to exercise the profession. Moreover, such accreditation procedure should by of several types:

– *primary accreditation* – should be realized right after the completion of the basic program of the higher veterinary education;

– *competence-based accreditation* – should be realized after any new expertise is acquired within one's qualification (profession);

– *periodical accreditation*– should be implemented during the whole period of the professional activities after the completion of the subsequent course of the continuous professional education (advanced training).

Professional associations together with the government can play a key role in the evaluation of the competencies of the veterinarians. We believe that such control can be realized through the establishment of the so-called veterinary statutory (licensing) body that should be commercial interest-free and impartial. At the same time, according to the OIE Terrestrial Animal Health Code the policy and tasks of the veterinary statutory body including its powers and functions should be officially prescribed by the national legislation [1, 17].

System of the advanced training of the veterinarians. One of the key quality indicators of the workforce potential is the capacity for maintenance and improvement of the competence level under the ever-changing national and international challenges. That can be reached through the advanced training programs and participation of the veterinarians in these programs.

According to the law, the advanced training is currently not binding for the majority of the veterinarians. The exceptions are the employees engaged in veterinary drug distribution chain as well as civil officers, for whom the advanced training procedure, terms and programs are prescribed [5, 6, 7]. The remaining part of the veterinarians upgrades their competences at the employer's discretion and depending on the needs of the institution. Therefore, the veterinary institutions of the RF regions demonstrate different values of the indicator concerned. It can be nevertheless supposed that over the past five years the advanced training programs, some way or other, covered all the staff of the veterinary services.

The analysis results demonstrate (Fig. 7) that over the past five years in the majority of the regions the advanced education programs covered 30–80% of the veterinarians. The parameter amounted to 95-100% only in singular regions. On average, slightly more than half of the national VS staff (59%) have completed their advanced training over the past five years. Herewith, the proportions of the veterinarians completed the advanced training at different VS organizational levels are rather homogenous and vary from 55 to 76% of the total number of the veterinarians at a relative level. In addition, it is worth mentioning that in the whole country the lowest coverage with the advanced training programs is reported at the local level (only 55%). Herewith, positive correlation is observed at the laboratory level and among the employees who completed the advanced training ($r = 0.5$ with $p < 0.05$). Thus, it can be supposed that while in the regions the attention to the advanced training can be adequate (or inadequate), it is unidirectional at these two levels of the Veterinary Service.

It is noteworthy that at the level of the regional veterinary surveillance this parameter amounted only to 66%. The reason is that the staff at this level is mostly comprised of the veterinary officers, who are to complete the advanced training at least once every three years [5, 6]. This parameter, no doubt, varies by the Subjects and in case of 33 regions the values are 100%; for the remaining part of the country the values are extremely low and for 13 regions they amount to zero. The recovered facts are indicative of low discipline in national law enforcement and insufficient attention to the issue as well as of inadequacy and inefficiency of disciplinary measures.

Meanwhile, the above mentioned analysis reflects just quantitative properties of the advanced training system. But while looking at the situation from the qualitative perspectives one can with some confidence say that there is no possibility to monitor the number and quality of the educational programs as well as competence of the institutions offering educational services until there is no national educational standard for additional professional education of the veterinarians and no regulation for the control of this process. In other words, the advanced training process becomes rather formal in the domestic veterinary area.

In view of the high rate of the scientific and regulatory data update, the current organization of the advanced training in Russia, with just single advanced training course every 3–5 years for a veterinarian, does not comply with the dictates of time. This approach does not allow timely rearranging of one's activities in line with the developments of

innovation processes thus leading to the decrease of the preparedness for tasks allotted to the Veterinary Service. In order to improve the efficacy of the advanced training programs the system of the continuous veterinary education and the accreditation system for the veterinarians should be introduced. Such pattern is successfully used in many different countries including Australia [13] and its currently being introduced in the domestic public health system [9]. The basic principle of the continuous education is that is should start right after a person acquires his/her profession and continues during the whole period of the professional activities including essential individual records and periodic control of his/her knowledge and practical skills. However, the introduction of such large-scale innovations into the system of the Russian veterinary education is extremely difficult without legal support, close attention by the high management of the RF VS and due commitment of the veterinary professional community.

CONCLUSION

The following conclusions can be made basing on the results of the above-mentioned research of the national veterinary service human resources in the Subjects of the Russian Federation:

– The majority of the veterinarians are the specialists at the local level, which amount to over 80% of the total number of the veterinary staff.

– The number of the veterinarians is different in all RF Subjects and significantly depends on such factors as size of human and animal populations, number of municipal institutions and volume of animal products manufactured in the Subject.

– Staffing of the veterinary institutions with qualified veterinarians range within 90%. Nevertheless, in the majority of the Subjects there is an actual shortage of veterinarians at the local and laboratory institutions.

– In the vast majority of the Subjects there is a need for the development and introduction of labour standards focusing on the organizational and technical conditions of labour activities in the regions.

– Increase of the average age of the veterinarians up to 40-45 years old is reported in the most of the RF Subjects. This process is more pronounced at the local level, where the highest ratio of the employees of retirement age is reported. Meanwhile, over the past five years, there is a large influx of young specialists to the local institutions.

– The size of the monthly average salary of the veterinarians varies greatly from region to region. The salaries at the local and laboratory institutions are nearly twice as lower as the salaries at the regional level and at the level of the regional veterinary surveillance (where the salaries are, on the average, 20-30% higher than the average salary in the Subject). Besides, the salaries of the veterinarians at the local and laboratory levels are 30% lower than the average salary in the Subject. High salaries are reported in metropolitan cities and in the Far Eastern and northern parts of the country.

– The research results are indicative of sufficiently high proportion of the veterinarians with higher education at the veterinary institutions in the RF Subjects. Herewith, there is an insufficient coverage of the veterinarians (55–76%) with the advanced training programs at all VS organizational levels. In order to improve the VS compliance with the continuously changing tasks both at the national and international levels, currently there is a need to upgrade the educational system including the advanced training system through the introduction of the program of the continuous veterinary education.

The data demonstrated during the research allowed for the evaluation of the situation in the national veterinary service at the moment of the raw data collection, i. e. as of 2017. Nevertheless, due to the lack of earlier reports on this topic (at least, in free access), it is not possible to assess the trends of the current processes as for quantitative and qualitative HR properties examined during this research. Thus, it is not possible to forecast the situation on the examined parameters. However, the obtained results can be an indicator for future priorities in HR policies and decision-making at different tiers of the governance aimed at the improvement of the national veterinary service activities in the Subjects of the Russian Federation.

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