NURSES INVOLVED IN THE PROVISION OF HOSPITAL CARE IN ROMANIA, SITUATION ANALYSIS FOR THE 2014 YEAR

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In the last decade, with the entry of Romania into the European Union, the phenomenon of labor migration is becoming increasingly apparent, so statistics indicate that there is a steady decrease in the number of healthcare personnel that tends to endanger the health of Romanian patients. In order to avoid this situation, the health authorities, on the basis of in-depth analyzes, must put in place in the field of human resources a correct health policy, adapted to the current and real needs of the population.

Keywords: human resources, hospital, nurses, Romania

BACKGROUND

In the last decade and a half in Romania, the total number of nurses has been stagnating. Referring to population, the indicator has seen a slight increase since 2000 (530.03 nurses / 100,000 inhabitants) by 2007 (588.66 nurses / 100,000 inhabitants), in 2013 the value (552.42 assistants / 100,000 inhabitants) was close to the one registered in 2000. If in Romania the tendency from 2007 until now has been decreasing, in the European Union and the European Region since 2000 the tendency is slowly growing. In absolute figures, according to Health for all database [1], the values of this indicator in 2013 in Romania were lower than those recorded at European level (1.3 times lower) and those registered in the European Union (1.5 times smaller) - graph no.1.

Regarding the number of nurses with post-secondary or higher education, according to the same Health for all database [1], referring to 100,000 inhabitants, Romania has steadily rising values since 2009, so that in 2013 the indicator had a value almost double as in the year 2000 (from a value of 57.9 graduate assistants / 100000 inhabitants to 91.38 graduate assistants / 100000 inhabitants). Compared to the European Union average but also the European average, the figures recorded in our country were much higher, even though in these areas the trend was also increasing - graph no.2

Most of the nurses are employed in hospitals, graph no.3 lists these data on Romania and the European Union average, data only available in those years.

In recent years, the phenomenon of labor migration is increasing in our country, informations from 2007 to date confirms that the number of medical staff is decreasing. the National School of Public Health, Management and Development in Health has conducted a 2014 study on different aspects of health care delivery. In this article we will present some of the results of this study in the area of human resources, more precisely we will analyze the human resource represented by nurses operating in hospitals.

OBJECTIVES OF THE STUDY

To identify the distribution of nurses working in public hospitals at national level in each of the 8 development regions and related counties at the 2014 year level.

METHODOLOGY

A transversal, national, descriptive study was conducted in 2014 using secondary data from the databases provided by the National Institute of Statistics, the Ministry of Health, the Public Health Directorates, the Local Public Administration and the Romanian Academy (the database for the health personnel in hospitals / counties in 2014 and the database with the number of beds in acute care and intensive care sections).

The information on the development regions and counties regarding the number of nurses who provide medical services in different types of acute medical units was extracted. Regional and county aggregation has been achieved, percentage frequencies, regional and county averages, number of beds in care of a nurse were calculated in accordace with the norms on human resources in health and the results were presented in graphical and tabular form. The EXCEL software program was used for data processing and analysis.

RESULTS

According to the data included in the analyzed database, in Romania in 2014 in the public sanitary units with beds (hospitals) were employed 54143 nurses. In this section of the database of health care staff in hospitals / counties in 2014 (data source: Ministry of Health, Public Health Directorates, Local Administration and Romanian Academy) we will present the distribution of nurses according to the development region and the county, but also according to the type of hospital unit (county, municipal or town hospital) in which they work.
HUMAN RESOURCES MANAGEMENT

Distribution of the number of nurses in public hospitals in Romania according to the development region they are active in

The total number of nurses in the public hospital units was about 54,143 persons in 2014, with the highest number being registered in the Bucharest-Ifov region (9,194 nurses representing 17% of the national total) and the North-East region (8,362 representing 15.4% total), compared to the lowest values in the West (4,941, 9.1% of the total national) and South-West (5,288, 9.8% of the national total) - graph no.4.

The highest number of nurses was found in 2014 in Bucharest (8,958), while Ilfov County registered 236 nurses.

Reported to country's population are about 271 nurses / 100,000 inhabitants. The calculation for each of the regions shows that the best coverage of the population in terms of the number of the nurses working in hospitals is found in the Bucharest-Ifov region (402.7 assistants / 100,000 inhabitants), followed by the North-West region (296.8 assistants / 100,000 inhabitants) and the Center region (255.5 assistants / 100,000 inhabitants), while the worst situation is encountered in the South (188.5 assistants / 100,000 inhabitants) and South East.
(234.8 assistants / 100,000 inhabitants). Close to the national average we find the West region (271.8 assistants / 100,000 inhabitants) - graph no.5.

Taking into account the average number of nurses at the regional level, the leading development regions were Northeast (1393.7 nurses), North West (1282.5) and West (1235.2), in the opposite place being situated South regions with the lowest average (830.9) and Southeast (981.8 assistants) - graph no.6.

**Distribution of the number of nurses by the county**

Except for Bucharest with the largest number of nurses in the country, other counties with a high number of nurses were generally counties with large cities of residence, university medical centers. Thus, counties...
like Iași (414.4 assistants / 100,000 inhabitants), Cluj (409.5 assistants / 100,000 inhabitants), Mures (400.7 assistants / 100,000 inhabitants), Dolj (306 assistants / 100,000 inhabitants) recorded high values of the indicator, and alongside these large centers there are also other counties such as Brăila (345.1 assistants / 100,000 inhabitants) or Hunedoara (337.6 assistants / 100,000 inhabitants). Calculating a national average of 1315.9 assistants, it is noted that only 14 of the 41 counties (about one third) have registered a number of assistants above average, the rest of the counties being below this average and the most decreased value was registered in Ilfov county (only 236 assistants, respectively 56.5 assistants / 100,000 inhabitants).

Distribution of the number of nurses in hospitals according to their education studies and the development region in which they operate

Of the 54143 nurses registered in public hospitals in 2014, a share of about 15% had higher education. The highest rates of post-secondary or university-level assistants are found in the Northwest (25.9% of the total nurses working in public hospital in the region) and Bucharest-Ilfov (18%). In the South (7.8% of the total of this region) and North-East (11%), are observed the lowest percentages of post-secondary study assistants, and the West and Southwest regions are around the national average - graph no.8.

Graph no. 9 shows the distribution of the graduated nurses percentage in public hospitals in each of the counties and in Bucharest in 2014. It is noted that the highest percentage is found in Cluj County (41.7%), followed by Mehedinți County (36.4%) and Salaj County (35.2%). Vâlcea, Neamț, Caraș Severin, Olt and Dâmbovița counties have the lowest percentages (less than 2%), and Bucharest has a share of 18.5% of higher education assistants, being in the 10 top counties.

Distribution of the number of nurses according to the type of hospital unit in which they operate, by development regions

The study of the distribution of the number of nurses according to the type of hospital in which they work indicates that most of the assistants are employed in county emergency hospitals in each region. Of the total number of hospital nurses, the regions with the highest number of nurses in county emergency hospitals are the South East (67.7% of total hospital assistants in the region) and Southwest (61%), compared to the Northeast (42.1%) and West (43.9%) regions with the
lowest number. In the case of municipal hospitals, the largest percentage of nurses employed in such units compared to the total number of hospitals in the region is observed in the West region (33.3%) and the Center region (23.7%) and the lowest percentage in the Southeast (11.5%) and Southwest (15.7%). For town hospitals, most employees are in the South (12.8%) and Southwest (12.3%), and the least in the Northeast (4.1%) and Southeast (4.4%). Hospitals with just one specialty from Northwest (22.4%) and Northeast (21.5%) had the largest number of nurses in the Southwest and West Regions (approximately 11%). According to the data analyzed from all types of hospitals, the ones for chronic diseases have the least employed nurses, practically less than 1% of the total number of assistants in the hospitals of the regions - graph no.10.

**Analysis of the number of nurses in the hospitals by development regions, according to the staff regulations in force (Order no.1224 / 2010), in 2014**

Order No. 1224/2010 [2] on the approval of staff norms establishes that in a hospital one nurse provide medical assistance to 8-12 beds / shift. Taking into account the provisions of the Order, the minimum number (the lower limit of the interval) and the maximum number (the upper limit of the interval) of medical assistants allowed by law for each type of hospital were calculated, depending on the number of beds existing in these hospitals. Graph no.11 highlights that overall, hospitals in each development region exceed the maximum limit of the reference interval calculated according to the normative. The graph shows beside the reference range (upper and lower limit) where staff should be framed in hospitals in each region and the surplus of health care personnel. Surplus values vary from region to region, ranging from 38% to 80%. Thus, the highest nurses surplus compared to the maximum limit calculated according to the norm was recorded in the Southwest (80%) and West (76%), while the lowest values were observed in the Northeast (54%) and West (38%).

Regarding county hospitals, norms are far exceeded in all 8 regions, with surplus values ranging from + 50% to more than double the maximum number of assistants provided by law to be employed by the number of beds existing in each of the hospitals regions. The largest surplus of nurses staff is registered in the Southwest region, where, compared to a required maximum of 1599 nurses, in 2014 there were 3226 in the hospitals of the region, more than double. Another example is the Southeast region with a surplus of 93%. The lowest values were registered in the Northwest and Northeast regions with a surplus of approximately 39% and 51%-graph no.12.

For municipal hospitals, the surplus of nurses is also noticeable, but much lower than that recorded in county emergency hospitals. The values observed in this type of hospitals ranged between approximately 20% and 52% of the maximum number of assistants provided by the law, related to the number of beds. The highest figures were recorded in the Southwest (52%) and Northwest (48%), and the lowest values were in the Northeast (20%) and Southeast (39%) - graph no.13.

At the level of the small, town hospitals there is a smaller surplus of nurses, the values being situated between 16% and 49%. The highest surpluses were observed for town hospitals in the Southwest (+ 49%) or Northeast (+ 44%) regions, and the lowest in the West (+ 16%) or the South region (+ 20%) - graph no.14.

However, these figures refer to the situation in the region, at the level of the county or in the case of some localities there can be found hospitals that fall within the limits of the personnel norms. Some examples could be: in the Western region - the hospitals in Oțelul Roșu and Moldova Nouă (Caras Severin) and the hospitals in Făget and Sannicolau Mare (Timiș), in the South-West region - Segarcea town hospital, Baia de Aramă and Brezoii hospitals, in the Northeast region - the town hospital Hărău. As for the municipal hospitals, there are also some examples such as: Drăgășani municipal hospital (Southwest region) or Northeast municipal hospitals Moinesti Bacău or Vatra Dornei. These examples draw attention to the fact that in-depth analyzes are needed in order to be able to have a real picture of the situation in the territory from the point of view of the nurses staff providing hospital care.

**Conclusions**

According to official data, in Romania there has been a steady decrease in the number of nurses since the year 2007, probably due to the intensification of the labor migration phenomenon with the accession of our country to the European Union. Compared with both the European Region countries and the European Union countries, Romania is far behind them as number of nurses related to the population, and the trend in our country is
hospital classes have a smaller staff surplus, for example, municipal hospitals ranged between +20 and +52%, and in the case of town hospitals the surplus was between +16 and +49%. Figures represent the situation in the region, but there are situations at the local level, especially in the case of small hospitals where the norms are not exceeded, so in order to be able to have a real picture of the situation in the territory from the point of view of the nurses providing hospital care it is required a more in-depth analysis that reflects the situation at the local level. The health policy in the field of human resources must consider conducting studies / analyzes to determine the real needs in terms of ensuring the health of the population.

References
1. http://data.euro.who.int/hfadb/