LABOR MARKET NEEDS ANALYSIS University of Belgrade

Requirements for determining the number of specializations in the field of Pain medicine for the needs of the market in different countries may at first act terminologically surprising, but essentially and realistically, it reflects the diversity of supply in relation to the heterogeneous forms of ownership among health care providers. Also, the diversity of citizens’ health care needs, as health care seekers, and physicians and other health care providers definitely has all the characteristics of supply and demand, as main features of every market.

In this regard, it is useful to analyze all service providers of different sizes, forms of ownership and status, regardless of whether they are large and prestigious hospitals, university clinics, institutes or hospitals in private or charitable ownership, private practices or individual ordinations. All health care providers offer citizens the services they need to meet their health needs in different ways.

Citizens satisfy their health care needs, mostly thanks to very well-developed forms of information and communication (the Internet and the media), especially in order to solve their health problem in the best and most efficient manner.

Among the criteria that are most often present in the standardization of certain specialties, the number of hospital beds is used. Thus, in the health care legislation of Serbia, in the standardization of the number of required doctors in Surgery, Internal medicine and other disciplines, the number of beds is taken as the basis for calculating the staff at: all stationary, day care hospitals, emergency care units, laboratory diagnostics in pathohistology, microbiology and transfusiology, in hospital pharmacy, radiological diagnostics, physical medicine and rehabilitation, social medicine, diet preparation work, with administrative and technical workers (20 surgeons per 100 beds or 18 internists or 15 dermatovenerologists per 100 beds, for example). We should mention an example of anesthesia in the relevant Rulebook “in anesthesia with reanimatology - one Medical Doctor specializing in anesthesia with reanimatology and two nurses - technicians with a higher or secondary school degree per 16 surgical beds, that is, one anesthetist per each operating room, anesthesiaology clinic, pain clinic and an anesthetist in the intensive care and care unit (base monitoring)’’.

Statistical data indicate that the number of beds is constantly decreasing, apparently due to significant improvements in diagnostic methods and the nature of treatment procedures in the first place of acute illnesses, but this criterion as an element for standardizing staff in the treatment of pain should also be taken with reserve.
Health care condition of the population measured by morbidity and mortality is a very important element for standardizing the staff in the treatment of pain. Since pain as a clinical manifestation is a symptom of almost all diseases, including delivery as a physiological act, the case of malignant diseases is a good illustration of the size and severity of the problem that must be addressed in the later stages of the disease, in particular during the thermal phases of the disease. However, we will focus only on the few diseases that are most represented or require increased activities and care measures.

According to the National Cancer Register, the number of cancer patients ranged from 9,898 in 1990 to 26,949 in 2014. Also, the number of deaths, from 9,814 in 1990 to 15,152 deaths from cancer in 2014. (Tables 3 and 4 taken from the publication “Incidence and mortality from cancer in Central Serbia” of the Institute of Public Health of Serbia).

Standardized rates of incidence and mortality are also illustrative in terms of the number of newborns and cancer deaths in Serbia (Figure 2 taken from the publication “Incidence and mortality from cancer in Central Serbia” of the Institute of Public Health of Serbia).
The number of services as a basis for calculation of staff by normative is used in the clinical biochemical laboratory and dialysis, taking into account the fact that for the overall staff standardization, factors such as infrastructure and human resources of health care systems are very important.

The documents governing palliative care are based on a calculation of 599 patients requiring palliative care per 100,000 inhabitants, and regarding the criteria for staff requirements, we also use the number of inhabitants - 12 health care professionals per 100,000 inhabitants, is also recommended. For a tertiary level of health care, 1 doctor is recommended for 250 beds.

Data on the number of surgeries may be of interest due to acute post-operative pain, but should be observed with certain reservations as there are indications that the number of surgeries is decreasing (according to Eurostat data, the 10 most common surgical procedures in the period 2010-2015, as well as the overall the number of operations in hospitals in Serbia in the same period).

The data from the Clinical Hospital Center “Dr Dragiša Mišović - Dedinje” are interesting, including diseases requiring additional activities of staff on the management of prolonged pain conditions, such as malignant diseases, neurological diseases and patients on palliative treatment.
Group diagnosis | Individual group diagnosis | Structure diagnosis
---|---|---
C0-C97 | 3295 | 60.47
D0-D09 | 55 | 1.51
G43,G44,G50,G53,G54,G62 | 1447 | 26.56
M50,M51,M31.5,M79 | 958 | 17.58
TOTAL | **5755** | **105.62***

*Total of 5449 patients or 5.62%, have diagnoses from two or more different groups

The numerical prevalence of malignant diseases in comparison to neurological diseases (in the group of diseases characterized by prolonged duration of intense painful conditions registered in 2017 at the “Dr Dragiša Mišović - Dedinje” Clinical Hospital Center) is striking. The fact that in this institution in 2017, 1454 services provided to patients with palliative care are also related to the prevalence of diseases and conditions in which prolonged pain is one of the dominant features. However, it is characteristic that the presence of acute and chronic pain in these diseases requires additional engagement of staff, especially trained for pain therapy.

| DIAGNOSIS | Total number of diagnosis | Number per groups | Structure per groups | Overall |
---|---|---|---|---
C0-C97 | - | 3295 | 60.47 | 3.44
G43,G44,G50,G53,G54,G62 | - | 1447 | 26.56 | 1.51
D00-D09 | - | 55 | 1.01 | 0.06
M50,M51,M31.5,M79 | - | 958 | 17.58 | 1.00
TOTAL | **95921** | **5755** | **105.62** | **6.00**

Birth as a natural, physiological act and condition that almost exclusively happens in a hospital institution, is accompanied by intense pain, which is why the need is increasing, to relieve pain or even eliminate it. From the data of the Hospital for Gynecology and Obstetrics of the Clinical Hospital Center “Dr Dragiša Mišović – Dedinje”, it is evident that the number of deliveries has been increased by caesarean section and exceeds 30% in the total number of deliveries. It would be too arbitrary to conclude that among the cesarean deliveries there are those who are motivated by the desire to avoid pain, but that is definitely for special analysis, because every imperial cut requires the involvement of anesthetists.
In the total number of deliveries at the Clinical Hospital Center “Dr Dragiša Mišović – Dedine”, a very high percentage of births performed in epidural anesthesia is noticeable, and it is also evident that the number of requests for epidural anesthesia in childbirth is on the rise. In addition, it is also undisputed that additional supportive anesthesiology staff is required in order to support this justified trend in the demands of the mother.

A comprehensive approach to the elaboration of elements that can be considered as criteria for standardizing staff in pain medicine, involving the analysis of health care status, number of beds, number of services, number of surgeries, deliveries and epidural anesthesia, palliative care services, confirm previous views on the need for an empirical method in choosing the required criteria.

At the same time, the analyzed data, including certain experiences of the Clinical Hospital Center “Dr Dragiša Mišović – Dedine”, direct us to the way in which pain clinics are organized and also to the elements in the standardization of staff in palliative care, as criteria that are more objective than others and of the most proximity to our task.

Thus, since there are few or no pain ambulances, in the standardization of staff in the treatment of pain for inpatient hospital care, it is possible to start from the recommendation on the need to start the operation of the pain clinic in each hospital, with one specialist for pain therapy:
- 1 specialist in each hospital by the year 2023.

In outpatient care, which is equally important for patients who do not need hospital treatment or need to continue therapy after hospital treatment, in the standardization of the staff for pain medicine there should be recommended:
- 1 specialist of pain medicine per 100,000 inhabitants by the year 2023.
The defined criteria represents a starting point and provides a development dimension in staffing for the next 5 years. As one of the HEPMP Project goals is to strengthen the capacity of higher education and create educational programs, the 5-year-period seems to be an acceptable time span for the development of staff for pain medicine.

To conclude, the production of staff for pain medicine will represent an extension of supply to citizens and their health care needs, so that their response as a health care service seeker can be a signal for adjusting and correcting the criteria in staffing for pain medicine.