

## Review Article

# Some Results From the Sociological Survey of Neurosurgeons on Neurosurgical Care Problems in Mongolia

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## Abstract

**Introduction:** Up to date, no scientific research has been undertaken in Mongolia highlighting problems of neurosurgical care from the perspective of providers of medical services – neurosurgeons.

**Objective:** To identify the key problems and priority areas for optimizing neurosurgical care in Mongolia from the perspective of providers of medical services – neurosurgeons.

**Methods of Research:** Sociological, statistical methods.

**Results:** According to neurosurgeons, key problems of organization of neurosurgical care in Mongolia are as follows: depletion of stocks of instruments and equipment, insufficient educational base for the training of qualified specialists, and monopoly position of neurosurgical departments. Priority areas of optimization of neurosurgical care are improvement of neurosurgical care organization, including its centralization and structural reorganization, as well as staffing and resource provision.

## Conclusions:

1. The results of the study revealed that 13.8% of neurosurgeons in Mongolia rated neurosurgical care organization as unsatisfactory and 15.7% of respondents rated organization of the work of neurosurgical (surgical) departments as unsatisfactory.

2. More than a quarter of respondents (27.5%) rated the quality of tools in the operating room as unsatisfactory, while most respondents (80.4%) noted the lack of tools in the operating room.

3. According to 64.7% of neurosurgeons, neurosurgical (surgical) departments need major repairs and 25.5% of respondents noted that cosmetic repairs of departments' are needed.

4. The key problems in the organization of neurosurgical care in Mongolia are shortage of tools and equipment, insufficient educational base for the training of qualified specialists, and the monopoly position of neurosurgical departments.

5. Priority areas of optimization of neurosurgical care, according to neurosurgeons, are improving of neurosurgical care organization, including its centralization and structural reorganization, as well as staffing and resource provision.

**Keywords:** Mongolia; Neurosurgical care; Sociological survey; Neurosurgeons

## Introduction

Currently the priority goal of healthcare development is to improve the health of the population, to ensure the availability and proper quality of medical care including specialized care [1-3,6,10].

Up to date, Mongolia has not conducted scientific studies covering the problems of neurosurgical care from the perspective of a provider of medical services – neurosurgeons.

At the same time, aspects of the neurosurgeon's attitude to problems of organization of neurosurgical services and ways to solve them are quite relevant issues of optimizing neurosurgical care to the population.

## Aim

To identify key problems and priority areas for optimizing neurosurgical care in Mongolia from the point of view of medical services providers – neurosurgeons.

## Review Methods

The study based on sociological and statistical methods. A sociological survey was conducted to assess the state, problems, and prospects of optimizing neurosurgical care in Mongolia. As a part of the study, 51 respondents (neurosurgeons) of medical organizations of various organizational and legal forms were interviewed. Representativeness is calculated according to the table for determining the required sample population [4,7-9].

## Results

The conducted sociological survey of neurosurgeons on the problems and issues of neurosurgical care optimization in Mongolia evidenced the following results. Almost a third of respondents (31.4%) rated the state of Mongolia's healthcare as unsatisfactory, as satisfactory – 58.8%, as good – 9.8% of respondents. 13.8% rated the organization of neurosurgical care as unsatisfactory, 62.7% as satisfactory, and 23.5% as good.

Key problems in the organization of the neurosurgical service were identified by respondents as: a shortage of tools and equipment – 45.1%, insufficient educational base for training qualified specialists – 29.4%, the monopoly position of the neurosurgical department (in comparison with surgical departments where medical care for neurosurgical patients is provided) – 25.5% of respondents.

All respondents (100%) indicated the necessity for specialization (profiling) of surgical departments.

The patients of the departments according to their pathology profiles were distributed by respondents as follows: neuro-oncology – 35.3%, neurotrauma – 23.5%, vascular pathology – 21.6%, children neurosurgical pathology – 11.8%, pain syndrome – 3.9%, injuries and diseases of the peripheral nervous system – 2.0%, other – 1.9% of respondents.

Respondents distributed the frequency of operations according to pathology profiles as follows: vascular pathology – 25.2%, neuro-oncology – 23.5%, spinal cord injury – 17.6%, traumatic brain injury – 11.8%, pediatric neurosurgical pathology – 11.8%, injuries and diseases of the peripheral nervous system – 3.9%, pain syndrome – 2.0%, other – 3.9% of respondents.

The respondents distributed their skills (abilities) when performing operations as follows (per 100 respondents): injuries of the central nervous system – 94.1%, traumatic brain injury – 92.2%, removal of intracerebral hernia – 74.5%, bypass surgery – 70.6%, discectomy – 68.6%, brain tumors – 60.8%, vascular pathology – 23.5%, spinal fixation – 23.5%, installation of an open clip for vascular aneurysm – 11.8%, endovascular surgical interventions – 3.9%, other – 47.1% of respondents.

Respondents distributed their intentions in training operations as follows (per 100 respondents): all neurosurgical operations – 92.2%, endoscopic surgery – 72.5%, epilepsy surgery – 49.0%, vascular surgery – 35.3%, reconstructive surgery – 31.4%, vascular anastomosis – 27.5%, brain base surgery – 23.5%, operations on the peripheral nervous system – 15.7% of respondents.

More than a quarter (27.5%) rated the quality of instruments in the operating room as unsatisfactory (poor), as satisfactory – 64.7%,

as good – 7.8% of respondents. The vast majority (80.4%) noted the lack of tools in the operating room, and only 19.6% of respondents noted its sufficiency.

Respondents assessed the department's need for repairs as follows: 64.7% need for major repairs, 27.5% need for cosmetic repairs, 7.8% of respondents noted no need for repairs. Organization of the neurosurgical (surgical) department work was assessed as unsatisfactory (poor) by 15.7% of respondents, as satisfactory – 54.9%, as good – by 29.4% of respondents.

More than a quarter of respondents (27.5%) believe that accreditation of neurosurgical (surgical) departments is not necessary, 60.8% believe accreditation is needed, 11.7% of respondents found it difficult to answer. According to 17.6%, the implementation of the recommendations given during accreditation does not affect the quality of neurosurgical care, 45.1% do, and 37.3% of respondents were undecided.

According to respondents, the quality of neurosurgical care is most affected (per 100 respondents) by: personnel and personnel policy, qualification of neurosurgeons – 92.2%; specialization (profiling) of departments for specific neurosurgical pathology – 88.2%; equipment, tools, medicines – 76.5%; management level and effective labor organization – 70.6%, service level for patients – 52.9% of respondents.

Respondents of the survey indicated the following aggregated and standardized areas of optimization of neurosurgical care (per 100 respondents).

Most often neurosurgeons called the optimization of neurosurgical care organization the key area of optimization of neurosurgical care (70.2%), including:

- Centralization of neurosurgical care – creation of a national neurosurgery center and specialized branches with individual infrastructure (cranio surgery, neurovertebrology, etc.) – 42.7% of respondents;
- Structural reorganization of neurosurgical care (21.6%) – specialization (profiling) of neurosurgery departments – 11.8%, development of private hospitals with neurosurgical units – 3.9%, creation of preoperative (3.9%) and postoperative (2.0%) departments (divisions) in neurosurgical (surgical) clinics;
- Ensuring the provision of pediatric neurosurgical care of appropriate quality – 3.9%;
- Optimization of the work organization of neurosurgical (surgical) departments – 2.0% of respondents.

The next most important area of optimization of neurosurgical care is improvement of personnel policy (29.5%): compliance with ethics by medical personnel and patients – 7.8%; professional development and continuous training of medical personnel; salary increase for doctors and nurses; involvement of highly qualified surgeons and nurses in neurosurgical (surgical) departments – 5.9% each; training level of surgeons in neurosurgery – 4.0% of respondents.

Optimization of resource provision was placed sufficiently on top of neurosurgical care improvement (9.8%): providing neurosurgical care with modern hardware and equipment – 7.8%; supplying

equipment and specialists to provide neurosurgical care to children – 2.0% of respondents.

## Discussion

Thus, according to neurosurgeons, key problems of organization of neurosurgical care are as follows: depletion of stocks of instruments and equipment, insufficient educational base for the training of qualified specialists, and monopoly position of neurosurgical departments (in comparison with surgical departments where medical care for neurosurgical patients is provided).

Priority areas of optimization of neurosurgical care are improvement of neurosurgical care organization (including mainly its centralization and structural reorganization), as well as staffing and resource provision.

## Conclusion

1. The results of research revealed that 13.8% of neurosurgeons in Mongolia rated the organization of neurosurgical care as unsatisfactory and 15.7% of respondents rated the organization of the work of neurosurgical (surgical) departments as unsatisfactory.

2. More than a quarter of respondents (27.5%) rated the quality of tools in the operating room as unsatisfactory, while most respondents (80.4%) noted the lack of tools in the operating room.

3. According to 64.7% of neurosurgeons, neurosurgical (surgical) departments need major repairs and 25.5% of respondents noted that cosmetic repairs of departments' are needed.

4. The key problems in the organization of neurosurgical care in Mongolia are a shortage of tools and equipment, insufficient educational base for the training of qualified specialists and the monopoly position of neurosurgical departments.

5. Priority areas of optimization of neurosurgical care, according to neurosurgeons, are improving of neurosurgical care organization, including its centralization and structural reorganization, as well as staffing and resource provision.

## Data for RISC

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