

Medical clerks in a national university hospital: improving the quality of medical care with a focus on spinal surgery

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ABSTRACT

In our institution, which is a national university hospital, medical clerks were introduced in 2009 to improve the doctor's working environment. Seventeen clerks were assigned to 9 separate departments and the work content differed greatly among departments, but sufficient professional work was not done efficiently. The purpose of this study is to investigate the effects of the work of medical clerks on improvement of medical quality in recent years. In 2011, we established a central clerk desk on our outpatient floor to improve efficiency and centralize the clerk work. Since 2013, periodic education of clerks on spine disease has been provided by spine doctors, and this has facilitated sharing of information on spinal surgery from diagnosis to surgical treatment. This has allowed medical clerks to ask patients questions, leading to more efficient medical treatment and a potential reduction of doctors' work. In 2016, a revision of the insurance system by the Ministry of Health, Labour and Welfare of Japan increased the amount of medical work that clerks can perform, and it became possible to increase the number of medical clerks. Currently, we have 30 medical clerks, and this has allowed establishment of new clerk desks in other departments to handle patients. A training curriculum will be developed to reduce the burden on doctors further and to improve the quality of medical treatment.

Keywords: medical clerk, medical education, national university hospital, central clerk desk, team care

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INTRODUCTION

In recent years, the medical care environment has been changed by advancement of medical technology, a declining birth rate, and aging of the population.¹⁻⁴⁾ Due to subdivision and specialization of medical care, improvement of medical quality and safety is an important requirement. However, an increased burden on medical staff, especially on doctors, has become a major problem. Measures to reduce this burden have been widely implemented, including establishment of the Medical Clerk Work Assistance program in Japan in 2008, using the medical remuneration points of the Health, Labour and Welfare Ministry for the first time.⁵⁾ Several

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reviews have examined medical clerk work in Japan.⁶⁻⁹⁾

Our institution is a national university hospital with an emergency medical center. We have a 1035-bed hospital; 590,000 outpatients annually, at an average of about 2,400 people daily; 36,000 orthopedic patients; and an occupancy rate of about 90%. Since 2009, medical clerks have been employed to improve the doctors' working environment, with 17 clerks assigned to 9 departments (internal medicine, surgery, ophthalmology, orthopedics, urology, dermatology, pediatrics, otolaryngology, brain surgery). However, the work of the clerks has differed greatly among departments, with irregular work that was not originally required, including hospital guidance to patients, telephone answering, and specimen transport.

Our spine group in the orthopedic department has recently evaluated medical clerk procedures and we have undertaken our own initiatives to improve the quality of various medical treatments. Detailed reports focused on medical clerks and written in English are rare, and reports from the viewpoints of doctors in clinical settings are very rare. The purpose of this study is to investigate the effects of the work of medical clerks on improvement of medical quality from the perspective of spinal surgeons.

MATERIAL AND METHODS

First, as an initiative of the whole hospital, in 2011 a central clerk desk on our outpatient floor was established to gather clerks from each department in one place. This desk was responsible for placement of orders based on instructions written by a doctor; input of medical appointments, examination orders, and preoperative examinations; input of a change of appointment from a patient; assistance with writing medical certificates, and supplementary entry of clinical trial data.

Next, as an initiative of the spinal surgery department, since 2013 we have carried out periodic professional training by spinal surgeons for standardization of work. Training on work content had previously been performed for six months after recruitment. For further training, periodic education was conducted by spine doctors. This education included anatomical knowledge, disease, treatment, and rehabilitation in the spinal field. We used our own educational manual, with models, X-ray, MRI, and presentation of surgical procedures using videos. The goal of this education was for the clerk to be proficient as a doctor's assistant.

A questionnaire was used to examine the satisfaction of doctors in all departments with regard to reduction of burden and work time due to the work of medical clerks.

RESULTS

Due to centralization of the clerk desk for all clinical departments, it has become possible to improve efficiency and centralize the clerk work (Figure 1). This has allowed collective reservations, correspondence, interviews, and data input, with a resulting smooth operation. Periodic training by spinal surgeons has enabled comprehensive information sharing from diagnosis of disease to surgical treatment. Based on the instructions written by the doctor, the next reservation can be made and an examination order can be processed at the central clerk desk. These actions shortened examination times, which has led to reduced complaints about adjustment of schedules for multiple examinations. Interviews of patients on current symptoms and obtaining information necessary for diagnosis and treatment, such as medical history, became possible. It also became possible for clerks to examine clinical records before medical examinations for patients, and to describe clinical charts, which led to improved efficiency of medical treatment and

reduction of work for spinal surgeons. Referral of patients to all university hospitals, including patients with a long medical history and multiple spinal surgeries, became possible. Currently, 30 clerks are employed, and this has allowed new medical clerk desks to be established in the internal medicine department and surgical department, and medical inquiries at these desks are now possible (Figure 2).

In the questionnaire, responses were obtained from 296 of 346 doctors (response rate 92%) (Table 1). These indicated that the work of clerks led to work reduction for doctors (Table 2), with an average reduction in time of 76 ± 46 minutes (Table 3).

Table 1 Responses to the questionnaire sent to doctors

Department	Number of doctors	Number of responses	Response Rate (%)
Internal Medicine	108	82	76%
Abdominal surgery	48	37	77%
Orthopedics	33	32	97%
Obstetrics and Gynecology	22	16	72%
Dermatology / Plastic Surgery	20	14	70%
Urology	18	18	100%
Psychiatry	18	18	100%
Pediatric and Pediatric Surgery	15	15	100%
General Medicine	15	15	100%
Neurosurgery	14	14	100%
Otolaryngology	13	13	100%
Ophthalmology	12	12	100%
Dental Surgery	10	10	100%
Total	346	296	92%

Table 2 Degree of alleviation of doctor's office work (n=296)

Answer	N (%)
Extremely reduced	172 (58%)
Reduced	101 (34%)
Uncertain	18 (6%)
Not reduced	5 (2%)

Table 3 Reduction in time of doctor's office work (n=296)

Reduction in time (min)	N (%)
≤30	83 (28%)
31–60	113 (38%)
61–90	24 (8%)
91–120	45 (15%)
121–150	3 (1%)
≥151	28 (9%)

Table 4 Current roles of medical clerks at Nagoya University Hospital**Documents**

Medical certificate

Outpatients

Interview of patients

Outpatient orders

Examine clinical records before medical examinations

Examination orders

Describe clinical charts

Reservations

Case registration

Case registration

**Fig. 1** Central clerk desk installation for all medical departments**Fig. 2** Establishment of a new clerk desk (Department of Surgery)

DISCUSSION

A university hospital plays an important role as an educational institution for training medical personnel such as doctors and nurses, as a research institute for research and development of new medical technology, and as a medical institution providing advanced medical care. Rapid aging, changes in disease structure, and changes in awareness with regard to seeking high-quality medical care have made it important to provide care at university hospitals based on modern clinical medicine and education for staff.⁶⁾ The importance of training is emphasized, and these factors have increased the burden on doctors at university hospitals.

The features of the medical field include (1) medical technology becoming more sophisticated and complicated, requiring high expertise, (2) an increased number of patients due to aging, (3) and increased treatment options with diversification.⁶⁾ With regard to medical clerk work, aptitude, quality, skills, and medical knowledge are essential and a wide range of skills is required.⁷⁾

Initially, medical clerk work in our hospital mainly supplemented other activities, but with no specific tasks, and this had a negative influence on motivation. For this reason, the medical clerk desk was centralized and a training course was given by a spinal surgeon. Noda et al. suggested that the necessity for clerk work is increasing,⁷⁾ but that approaches to this work are inconsistent among medical institutions. As a more professional level of ability and knowledge becomes required, we believe that continuous human resource development will be particularly important. Today, it is possible for clerks to respond to referral of all patients with spinal disease, including those with a long medical history and with multiple spinal surgeries. In 2016, a revision of the insurance system by the Ministry of Health, Labour and Welfare of Japan allowed clerks to perform more medical work, and it became possible to increase the number of medical clerks. This has resulted in improved motivation among our current staff of 30 medical clerks, and they can now perform their work smoothly as a member of the medical care team.

The roles of medical clerks at our institution are shown in Table 4. It is desirable to create an environment that supports clinical work led by doctors and promotes efficiency by reducing the workload of doctors. The changes made in the orthopedic department described in this report should be suitable for implementation in all departments.

CONCLUSION

Centralized medical clerk work and periodic education by spinal surgeons have been introduced in our hospital. The number of staff has increased in recent years, and establishment of new clerk desks and answers to medical inquiries have become possible. Development of a training curriculum is required to reduce the burden on doctors and improve the quality of medical care.

CONFLICT OF INTEREST

None of the authors have a conflict of interest. Funding was from institutional sources only.

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