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General surgery service with limited feasibility in a rural hospital: Retrospective cohort study

Kırsal hastanede sınırlı fizibilite ile genel cerrahi uygulamaları: Retrospektif kohort çalışma

Fatih Başak [1]

[1] **Department of General Surgery, Health Science University, Umraniye Education and Research Hospital, Istanbul, Turkey**

ORCID ID of the authors
FB: 0000-0003-1854-7437

Abstract

Aim: Many residents living in rural areas have access to health services more difficult than those living in urban areas. Although 20% of the US population lives in rural areas, only 9% of physicians work in these areas, and in particular general surgeons appear to be inadequate in small rural towns. This study was planned in order to determine the applications made from the general surgery in the district state hospital.

Methods: The study was carried out at the Bozkır State Hospital with 25 beds located approximately 150 km away from the center of Konya. In 2009, patient files were reviewed for general surgery polyclinic. Elective and urgent (major and minor) operations were recorded. The results are examined.

Results: During the study period, 4312 patients were seen in the outpatient clinic. The total number of working days in 2009 is 224 and the average number of patients per day is 22. During the study period, 35 major operations were performed. Twelve appendectomies, 15 inguinal hernias, six pilonidal sinus, one goiter and one intestinal resection in a case with strangulated inguinal hernia were performed.

Conclusion: The experience we have in our hospital may be related to the social structure and needs of our region. A rural surgeon, like third-line hospital services, may need experienced teams and adequate infrastructure to confront patients and meet their needs.

Keywords: Rural hospital, Surgery service, Cohort

Öz

Amaç: Kırsal alanda yaşayan birçok sakin, sağlık hizmetlerine erişimleri, kent dışı bölgelerde yaşayanlara göre daha zordur. ABD nüfusunun %20'sinin kırsal bölgelerde yaşıyor olmasına rağmen, hekimlerin sadece %9'u bu alanlarda çalışıyor ve özellikle genel cerrahlar küçük kırsal kasabalarda yetersiz kalmış gibi görünüyor. Bu çalışma ilçe devlet hastanesinde genel cerrahi açıdan yapılan uygulamaların tespiti amacıyla planlandı.

Yöntemler: Çalışma Konya il merkezinden yaklaşık 150 km uzakta bulunan 25 yataklı Bozkır Devlet Hastanesinde gerçekleştirildi. 2009 yılında genel cerrahi polikliniğine başvuran hasta dosyaları incelendi. Elektif ve acil uygulanan major ve minor ameliyatlar kayıt edildi ve sonuçları irdelendi.

Bulgular: Çalışma süresince 4312 hasta poliklinikte görüldü. 2009 yılı toplam çalışılan gün sayısı 224 olup ortalama gün başına 22 hasta düşmektedir. Çalışma süresi içerisinde 35 adet major ameliyat yapıldı. On iki apendektomi, 15 adet kasık fıtığı, altı adet pilonidal sinus, bir guatr ve bir adet boğulmuş herni vakasında barsak rezeksiyonu ve herni onarımı ameliyatı yapıldı.

Sonuç: Hastanemizde edindiğimiz deneyim, bölgemizin sosyal yapısı ve ihtiyaçları ile ilgili olabilir. Kırsal kesimde çalışan cerrah, üçüncü basamak hastane hizmetleri gibi, hastalarla yüzleşmek ve gereksinimleri karşılamak için deneyimli ekiplere ve yeterli altyapıya ihtiyaç duyabilmektedir.

Anahtar kelimeler: Kırsal hastane, Cerrahi uygulamalar, Kohort

Corresponding author / Sorumlu yazar:
Fatih Başak
Address / Adres: Genel Cerrahi Kliniği, Ümraniye Eğitim ve Araştırma Hastanesi, İstanbul, Türkiye
E-mail: fatihbasak@gmail.com

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Introduction

Rural areas of developing countries especially suffer from inadequate and irregular distribution of human resources for health [1-4]. Although 50% of the population resides in rural settings, however they have less than 25% of required doctors and 38% of nurses in these areas [5]. This vertical and inequality distribution of health care workers exacerbates health inequalities in rural areas [6-8].

Health worker attrition is a major reported problem in rural areas. In 2010, the World Health Organization proposed policies for keeping attractions, recruitment and health care workers in rural settings. Recommendations include employing health officials with a rural background, including rural health needs in the curriculum, and the use of compulsory rural services [5].

It has been determined that healthcare workers are sufficiently rural in order to improve management, rational distribution, fair distribution and protection of health care workers [8].

Human resources for the health program are registered, mostly doctors, who abandon rural hospitals to attend residential programs in urban settings for special education. In a rural area of Konya, we know little about the health worker attrition, our work rates and individual factors were assessed for attrition in a rural area hospital setting human resources for a two-year mandatory service and health program.

Materials and methods

Descriptive retrospective cohort study is designed, and the universal principles of the 1964 Declaration of Helsinki and its later amendments were applied. Informed consent was not received due to the retrospective nature of the study. This research was conducted according to the principles of the World Medical Association Declaration of Helsinki "Ethical Principles for Medical Research Involving Human Subjects".

Patients who admit to general surgery clinic of Bozkır state hospital of Konya in 2009 are enrolled into this study. Performed all operations, major or other minor local surgeries, were recorded. This rural hospital has 25 beds capacity at study time, and was 150 km and 1.5 hours away from province of Konya. There was a solo general surgeon but no anesthesiologist was present in that year. Blood bank and most of radiological studies also were not available. Hospital had an emergency service 7/24 hours. The surgeon attended to hospital emergency service if needed, and some minor emergent surgeries could be done, but some other has been transferred to larger hospitals. In this study non-trauma general surgery clinical admissions and outcomes will be presented. Trauma records of general surgery clinic of our hospital had been reported in another study last year [9].

Statistical analysis

Variables are expressed as mean ± standard deviations (SD) or as medians (range) depending on their distribution. Categorical variables were expressed as frequencies and percentages.

Results

During the study period, 4312 patients admitted to the outpatient clinic. The total number of working days in 2009 is 224 and the average number of patients per day is 22. During one year study period, 35 patients with major operations were included in the study. Mean age of the patients was 46.7±13.1, and male/female ratio was 1.5 (21/14). Twelve appendectomies, 15 groin hernia repairs, six pilonidal sinuses, one goiter operation and one intestinal resection in a case with strangulated hernia were performed. General anesthesia was used in 14 cases, and local anesthesia was used in the rest. In most of pathologies that requiring surgery, due to patient's preference he/she was transferred to main hospitals in Konya providence.

In addition, 121 minor surgeries, e.g. excisional biopsy of subcutaneous mass were performed. All excised specimens were sent to another hospital with a pathology clinic in Konya providence. No malign pathology is determined in any of specimens.

Discussion

Our findings show that surgery in rural areas might be a vital component of the health care services, but it is limited due to shortage of acceptable availabilities. In our hospital a surgeon had performed only 35 major and 121 minor operations in one year because of deficiency of surgical instruments with new technology such as endoscopy and laparoscopy, lack of blood bank and patient's preference as not choosing the hospital. Most hospital views the ability to provide surgical services as crucial to their rural hospital. However their ability to do so is limited because of current and projected shortages of surgeons and adequate facilities.

It creates the impression that countless are experiencing issues enlisting or potentially holding a specialist to rehearse in their group and this undermines their capacity to offer surgical care. Regarding the rustic surgical workforce, the expanding period of specialists joined with the way that less broad surgery occupants are honing in provincial territories proposes that the lack will just intensify in coming years [10,11]. Given that rustic inhabitants are additionally maturing and that the rate and seriousness of injury in country settings is higher than in urban zones, the requirement for provincial general specialists will probably increment while the supply diminishes [12,13].

One of the principle reasons why there are less specialists honing in rustic healing facilities is that the workforce is maturing and more specialists are resigning without somebody to supplant them. Some future specialists may be picked not to rehearse rustically to some degree since they feel deficiently arranged to go up against the various caseloads that numerous provincial specialists experience in their training [14,15]. A general specialist is regularly the endoscopist, injury specialist, and basic care supplier in a little provincial doctor's facility. Surgical residency preparing, in any case, is ending up more particular as Residency Review Committee for Surgery inhabitant case log information demonstrate that the quantity of gynecologic, orthopedic, and urological methods performed by general surgical occupants declined forcefully in the vicinity of 1999 and 2005 [16].

Moreover, there are not very many preparing programs that are either situated in rustic zones or offer a provincial preparing track [17]. Projects that prepare inhabitants in rustic settings have been appeared to create essential care doctors who will probably rehearse in country regions [18]. This feasible is on account of they give introduction to and involvement in overseeing run of the mill cases seen in provincial practice and enable them to create of a feeling of what it resembles to hone and live in a rustic group. Expanding the quantity of general surgery residency programs that offer rustic preparing knowledge is one means for tending to the country surgery workforce lack; in any case, more activity is expected to create other imaginative approaches to address this expanding issue.

Most by far of provincial clinics studied depend vigorously on the capacity to give surgical administrations as 83% of chairmen in this investigation expressed they would be compelled to decrease administrations on the off chance that they lost their surgical program. While a part of the diminishment in administrations estimated by directors in the present study would be an immediate aftereffect of not performing surgical cases, considerably more pernicious would be the loss of downstream income from related administrations, for example, radiology and drug store. Common health problem among the elderly population in rural area is pain, and these patients get other problems with not applying health-care. Also, patients who leave their neighborhood look for mind at a bigger inaccessible doctor's facility may get other social insurance benefits there too, adding to encourage misfortunes for the littler nearby rustic healing center [19,20].

There are a few potential answers for the issue of surgical staffing in little provincial doctor's facilities incorporating changes out in the open arrangement, surgical preparing, and the structure of surgical practice. Given that free market standards work in our social insurance framework, money related motivating forces would likely offer assistance. Reinforcing the monetary state of little clinics would enable them to give more money related motivators to specialists. What's more, payer repayment incongruities could be acclimated to give better remuneration to surgical administrations in rustic regions. As to surgical preparing, the techniques by which specialists are right now prepared could be acclimated to keep the end of general surgery. This could incorporate building up a general surgery "sub-claim to fame" enveloping more extensive preparing in the fluctuated surgical methods that little country doctor's facilities require their specialists to give. At long last, provincial healing facilities could create imaginative synergistic connections between their specialists and tertiary care focuses to help enhance the issue of expert seclusion [21].

The study has a number of possible limitations. Our data contains only cases that refer to the Bozkır State Hospital. Patients who were brought to the hospital but could not be operated due to technical insufficiency were not included in the study. In addition, it may not be applicable to all rural areas because it is the only one hospital based data. Also, we could not obtain sufficient data about the clinical status of patients who were admitted to hospital, except for the fact that they were discharged.

In conclusion, the experience we have in our hospital is related to the social structure of our region. The rural surgeon needs experienced teams and adequate infrastructure to face patients, such as tertiary hospital services.

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