Emergency, anaesthetic and essential surgical capacity in the Gambia

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Objective To assess the resources for essential and emergency surgical care in the Gambia.
Methods The World Health Organization's Tool for Situation Analysis to Assess Emergency and Essential Surgical Care was distributed to health-care managers in facilities throughout the country. The survey was completed by 65 health facilities – one tertiary referral hospital, 7 district/general hospitals, 46 health centres and 11 private health facilities – and included 110 questions divided into four sections: (i) infrastructure, type of facility, population served and material resources; (ii) human resources; (iii) management of emergency and other surgical interventions; (iv) emergency equipment and supplies for resuscitation. Questionnaire data were complemented by interviews with health facility staff, Ministry of Health officials and representatives of nongovernmental organizations.
Findings Important deficits were identified in infrastructure, human resources, availability of essential supplies and ability to perform trauma, obstetric and general surgical procedures. Of the 18 facilities expected to perform surgical procedures, 50.0% had interruptions in water supply and 55.6% in electricity. Only 38.9% of facilities had a surgeon and only 16.7% had a physician anaesthetist. All facilities had limited ability to perform basic trauma and general surgical procedures. Of public facilities, 54.5% could not perform laparotomy and 58.3% could not repair a hernia. Only 25.0% of them could manage an open fracture and 41.7% could perform an emergency procedure for an obstructed airway.
Conclusion The present survey of health-care facilities in the Gambia suggests that major gaps exist in the physical and human resources needed to carry out basic life-saving surgical interventions.

Abstracts in عربي, 中文, Français, Русский and Español at the end of each article.

Introduction

Rates of death and disability from treatable surgical conditions continue to be unacceptably high in low- and middle-income countries.[1] Conditions such as injuries (road traffic accidents, burns and falls), infections (osteomyelitis and septic arthritis), pregnancy-related complications and a variety of abdominal emergencies affect primarily young adults and impose a significant burden on society. Surgical conditions account for up to 11% of the world's disability-adjusted life years.[1] Barriers to the delivery of safe, timely and effective surgical care include a lack of infrastructure as well as a shortage of physical and human resources.

The Gambia is a low-income country located in western sub-Saharan Africa whose health profile resembles that of many other developing countries of the region (Table 1). With a population of more than 1.66 million, of which 55% lives in urban areas, the Gambia is one of the most densely populated countries in Africa. More than 80% of the Gambian population lives on less than 2 United States dollars a day. The leading causes of inpatient mortality are malaria, anaemia, maternal deaths, cerebrovascular accidents and trauma.

The objective of the present study was to assess the current capacity for essential surgical and anaesthesia care in the Gambia for the purpose of providing a benchmark for critical areas needing improvement.

Methods

Assessment of surgical resources

In June 2008, a team from the Global Initiative for Emergency and Essential Surgical Care (GIEESC) of the World Health Organization (WHO) visited 11 health facilities in the Gambia to assess potential sites for implementation of the WHO Emergency and Essential Surgical Care programme. The selected sites were organized in collaboration with the Gambia's Ministry of Health and WHO country office to provide broad geographical coverage of the country. The WHO Tool for Situation Analysis to Assess Emergency and Essential Surgical Care survey was subsequently distributed to health-care management officials at facilities throughout the country.[4] Data were collected during April 2009 and surveys were completed by 65 of 76 health facilities (85.5% response rate) in the Gambia, including one tertiary referral hospital (1.5%), 7 (10.8%) district/general hospitals, 46 (70.8%) health centres and 11 (16.9%) private health facilities.

The survey included 110 questions divided into four sections. Section I consisted of 23 questions concerning infrastructure and type of health-care facility, the characteristics of the surgical population served, and the availability of oxygen, running water and electricity. Section II included 8 questions on human resources, including the number of specialist surgeons and anaesthesiologists, physicians, nurses and non-physician

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Table 1. **Selected health indicators for the Gambia, the World Health Organization (WHO) African Region[a] and the United States of America (USA)**

Characteristic	Gambia	WHO African Region	USA
Total population (in thousands)	1663	792 378	305 826
Human Development Index Rank (2009)[2]	168	NA	13
GDP per capita (PPP$; 2007)	1225	NA	47 988
Total annual expenditure on health as % of GDP (2006)	4.3	5.5	15.3
Government expenditure on health care, as % of total expenditure (2006)	8.7	8.7	19.3
Private expenditure on health, as % of total health expenditure (2006)	41.7	53	54.2
Physician density per 100 000 inhabitants (2003; 2007; 2003)[b]	1	2	26
Nurses per 1000 inhabitants (2000)	1.21	1.1	940
Hospital beds per 10 000 inhabitants (2005)	8	10	31
Life expectancy at birth (years) (2007)	59	45	78
Infant mortality per 1000 inhabitants (2007)	84	88	6
Maternal mortality ratio per 100 000 live births (2005)	690	900	11
Under-five mortality rate (per 1000 live births) (2007)	114	145	8
HIV prevalence among adults per 100 000 inhabitants (2007)	2091	4735	452
Tuberculosis prevalence per 100 000 inhabitants (2007)	423	475	3
Tuberculosis incidence per 100 000 inhabitants (2007)	257	363	4

GDP, gross domestic product; HIV, human immunodeficiency virus; NA, not available; PPP$, purchasing power parity dollar; USA, United States of America.
[a] All WHO Member States in the African continent except Egypt, the Libyan Arab Jamahirya, Morocco, Somalia, Sudan and Tunisia.
[b] The three dates in parentheses correspond to the data in this row in each of the three columns.
Source: World Health Organization Global Health Observatory.[3]

professionals who were providing surgery or anaesthesia services. Section III included 10 questions to assess emergency interventions such as resuscitation, suturing, cricothyroidotomy and burn management, as well as other surgical interventions such as caesarean section, fractures, hernia and laparotomy. Section IV consisted of 69 questions on the availability of emergency equipment and supplies for resuscitation, including capital outlays, renewable items and supplementary equipment.

Data from the questionnaires was complemented by interviews with health facility staff, government officials in the Ministry of Health and representatives of nongovernmental organizations (NGOs) responsible for health facilities. The additional content covered the state of health care in the Gambia and the challenges of administering surgical and anaesthesia services in a resource-constrained setting.

We used Stata version 10.0 (StataCorp. LP, College Station, United States of America) to perform the statistical analysis. We employed descriptive statistical methods to compare individual elements of the survey between public health facilities (i.e. the Royal Victoria Teaching Hospital [RVTH], general hospitals and health centres) and private hospitals. We performed bivariate analysis using Fisher's exact test to compare the results for public health facilities and private hospitals, with significance set at $P < 0.05$.

Results

Health facility characteristics

Of the 65 facilities that responded to the survey, 18 (27.7%) were considered referral hospitals capable of delivering surgical services. Data analysis was therefore focused on these 18 facilities, which included the country's tertiary referral hospital (5.6%), 5 (27.8%) general hospitals, 6 (33.3%) health centres and 6 (33.3%) private hospitals. The populations served by each facility ranged from 25 600 to 400 900.

Health infrastructure

Table 2 depicts the key infrastructural elements available in the health facilities assessed. Consistent sources of oxygen supply, running water and electricity were available at 14 (77.8%), 9 (50.0%) and 8 (44.4%) of facilities, respectively. Functioning power generators and anaesthesia machines were available at 9 (52.9%) and 12 (70.6%) facilities, respectively, and 4 (23.5%) health facilities reported having no functioning anaesthesia machines. A comparison of public health facilities with private hospitals showed that a significantly higher fraction of private facilities had running water consistently available ($P = 0.009$), functioning power generators ($P = 0.009$) and an uninterrupted supply of electricity ($P = 0.002$).

All 18 of the health facilities studied had at least one functioning operating room. The RVTH had four; two functioning operating rooms existed in two of the five (45.5%) remaining public facilities and in two (33.3%) of the private facilities. The RVTH had 576 beds; the number of beds ranged from 51 to 300 in other general hospitals, from 3 to 100 in health centres and from 11 to 50 in private hospitals.

Human resources

Table 3 shows health facility surgical and anaesthesia staff. Only 7 (38.9%) facilities had a surgeon, including the RVTH, which had 8; 3 (16.7%) facilities had a general doctor performing surgery. Only 3 (16.7%) facilities reported relying on paramedical staff such as surgical technicians to perform basic surgical procedures. Anaesthesia was delivered by anaesthesiologists in 4 (22.2%) facilities, general doctors in 1 (5.6%) facility and non-physicians in the rest. Only one obstetrician/gynaecologist was available in 8 (44.4%) of the facilities assessed. Most facilities (83.3%) had several paramedics and midwives who performed minor surgical interventions.

General and trauma surgery

The ability of each health facility to provide several basic surgical procedures was assessed (Table 4). All general hospitals reported performing at least 100 surgeries annually; 4 (66.7%) of them performed more than 500 per year. Health centres reported from 11 to 300 annual surgical admissions, while general hospitals reported from 100 to more than 5000. Surgical admissions to private hospitals ranged from 11 to 200 a year.

All facilities were able to perform incision and drainage of abscesses and male circumcision. Laparotomies were performed in 56.3% of facilities. Compared with public facilities, a significantly greater percentage of private facilities performed appendectomies, caesarean sections and hernia repairs ($P = 0.044$). Only 5 (29.4%) facilities repaired obstetric fistulas. Management guidelines for surgical care were available in only 10 (55.6%) facilities.

Regarding trauma procedures, 93.8% of facilities removed foreign bodies and 82.4% managed burns. Cricothyroidotomy/tracheostomy and chest tube insertion were performed in only 41.2% and 33.3% facilities, respectively. Management guidelines for emergency care were available in only 8 (44.4%) facilities. Patients needing procedures not performed in health facilities and hospitals because of a lack of skilled personnel, equipment or supplies were referred to tertiary facilities.

Of the health facilities without official operating rooms, several managed to carry out basic life-saving procedures including burn management (72.7%), incision and drainage of abscesses (81.8%) and foreign body removal (66.7%). More technically difficult or equipment-intensive procedures such as appendectomy (2.3%), laparotomy (4.8%) and open fracture repair (2.5%) were less frequently available.

Anaesthesia

The availability of the resources needed to provide anaesthesia services was assessed (Table 4). The most common types of anaesthesia provided were ketamine intravenous anaesthesia (82.4%) and regional anaesthesia (76.5%), while spinal (72.2%) and general inhalational (72.2%) anaesthesia were also available. Management guidelines for anaesthesia and pain management were available in 10 (58.8%) and 5 (27.8%) facilities, respectively.

Table 2. **Percentage availability of infrastructure and health resources in the Gambia, 2009**

Resource	Total ($n=17$)	Public ($n=11$)	Private ($n=6$)	*P*
Medical records	88.9	91.7	83.3	1
Laboratory	77.8	75.0	83.3	1
Oxygen	77.8	66.7	100	0.245
Functioning anaesthesia machine	70.6	63.6	83.3	0.6
Operational power generator	52.9	25.0	100	0.009
Running water	50.0	25.0	100	0.009
Postoperative care area	50.0	33.3	83.3	0.131
Blood bank	47.1	50.0	40.0	1
Electricity	44.4	16.7	100	0.002
X-ray machine	38.9	41.7	33.3	1
Emergency care area	33.3	16.7	66.7	0.107

Table 3. **Human resources for surgery and anaesthesia in the Gambia, 2009**

Staff	Total ($n=18$)	Public ($n=12$)	Private ($n=6$)
Surgeon physician	14	12	2
Anaesthesiologist physician	4	4	0
Obstetrician/gynaecologist	8	5	3
General doctors providing surgery	3	1	2
General doctors providing anaesthesia	1	0	1
Non-physician anaesthetists	14	12	2
Surgical technician	7	0	7
Paramedics/midwives	88	61	27

Table 4. **Percentage availability of general surgery, trauma and anaesthesia procedures in the Gambia, 2009**

Procedure	Total ($n=18$)	Public ($n=12$)	Private ($n=6$)	*P*
General surgery and trauma				
Abscess incision and drainage	100.0	100.0	100.0	1
Male circumcision	100.0	100.0	100.0	1
Foreign body	93.8	100.0	80.0	0.313
Acute burns	82.4	91.7	60.0	0.191
Appendectomy	58.8	41.7	100.0	0.044
Caesarean section	58.8	41.7	100.0	0.044
Hernia repair	58.8	41.7	100.0	0.044
Laparotomy	56.3	45.5	80.0	0.308
Amputation	44.4	33.3	66.7	0.321
Cricothyroidotomy/tracheostomy	41.2	41.7	40.0	1
Closed fracture	41.2	41.7	40.0	1
Skin grafting	38.9	27.3	66.7	0.141
Chest tube insertion	33.3	27.3	60.0	0.299
Open fracture	29.4	25.0	50.0	0.344
Obstetric fistula	29.4	16.7	60.0	0.117
Anaesthesia				
Ketamine	82.4	75.0	100.0	0.515
Regional	76.5	75.0	80.0	1
Spinal	72.2	58.3	100.0	0.114
General inhalational	72.2	66.7	83.3	0.615

Table 5. **Percentage availability of essential supplies in private and public hospitals in the Gambia, 2009**

Item	Total (*n*=18)	Public (*n*=12)	Private (*n*=6)	*P*
Examination gloves	66.7	75.0	50.0	0.344
Intravenous infusion set	66.7	75.0	50.0	0.344
Resuscitator bag	58.8	58.3	60.0	1
Sterilizer	52.9	54.5	50.0	1
Nasogastric tubes	38.9	33.3	50.0	0.627
Eye protection	18.8	18.2	20.0	1

Emergency and sterilization equipment and supplies

The availability of emergency equipment and supplies was assessed in each of the health facilities (Table 5). Resuscitator bags were available in 10 (58.8%) facilities, while 12 (66.7%) facilities reported having intravenous infusion sets. Nasogastric tubes were available in 7 (38.9%) facilities, and examination gloves and sterile gloves were available in 12 (66.7%) and 10 (55.6%) facilities, respectively. Sterilizers were consistently available in 9 (52.9%) facilities, while other sterilization methods, including cold sterilization and boiling, were used in the remainder. Only 3 (18.8%) facilities reported having adequate eye protection for health staff and 6 (35.3%) reported having enough protective aprons.

Discussion

Although surgery is a cost-effective element of preventive health care,[1] access to essential surgery is limited in most resource-constrained settings.[5–10] This is the first survey to assess the status of essential and emergency surgical care and of anaesthesia services in the Gambia. The most striking finding was the absence of any facilities equipped with all of the physical resources needed to provide emergency and essential surgical care. Major gaps in the physical resources needed to carry out basic surgical and anaesthetic care in the Gambia were identified. These included deficits in the availability of water, electricity, oxygen, and emergency and anaesthesia equipment.

The WHO Tool for Situation Analysis to Assess Emergency and Essential Surgical Care was used to assess surgical capacity in several countries. In Afghanistan, 30% of facilities had limited oxygen delivery mechanisms, 40% had unreliable sources of running water and only 34% had uninterrupted electrical power.[9] Comparatively, in the Gambia reliable sources of oxygen, running water and electricity were available in 77.8%, 50.0% and 44.4% of facilities. In Sierra Leone, only 20% of facilities had functioning anaesthesia machines[8] compared with 75.0% in the Gambia. In Ghana, a shortage of adequately trained human resources was identified as the major barrier to the delivery of surgical and anaesthetic services; 88% of facilities could perform caesarean sections and 94% could perform appendectomies.[10] Human resource shortages were also identified as an obstacle in the Gambia, where only 58.8% of facilities were performing caesarean sections and appendectomies. Thus, surgical and anaesthesia services in the Gambia are at an intermediate level when compared with those of neighbouring countries.

Access to care

In the Gambia, inequitable access to surgical services is propitiated to some extent by the concentration of health facilities and staff in urban areas such as the Western Division.[11] As a result of poorly developed referral systems and a lack of physicians in secondary health facilities, many patients are referred to distant health facilities for basic procedures that should be performed at the primary and secondary levels. Health centres and private hospitals will first refer cases to district hospitals before referring them to the RVTH. Unfortunately, the RVTH is already overstretched and faces human and physical resource challenges similar to those faced by the institutions assessed in this project. Moreover, the Gambian River, which divides the country, further hinders access to basic surgery facilities by limiting transportation from distant rural areas to Banjul. Although improved transportation to more distant facilities with better equipment may temporarily help reduce these inequities, it is not a sustainable solution for patients requiring urgent assessment and management. Policies in support of resource allocation for improving district-level access to surgical care that can save lives and prevent disability are needed to relieve the burden on tertiary-level health facilities such as the RVTH.

Human resources

The shortage of health personnel at the primary level is also a major obstacle to the provision of surgical and anaesthesia services in the Gambia (Table 3). Although several health services have been expanded, staffing does not meet the needs of the institutions or their catchment areas. The Gambia has less than 0.5 physicians per 10 000 inhabitants, compared with 2.4 per 10 000 in the WHO African Region.[3] Moreover, most (80%) of the practicing physicians are not of Gambian nationality.[11] The brain drain is pervasive because many health workers leave the public health system to work in the private sector, in NGOs or in other countries.[12–14] To compensate for the lack of trained personnel, health facilities have increasingly relied on paramedical staff to meet their surgical and anaesthesia needs. Despite the noticeable lack of surgeons in many of the facilities assessed in this study, every facility had ample nursing and health-care staff.

General surgery and trauma

Access to essential surgery and emergency services is a key determinant of health,[15] yet many basic procedures, including amputation, fracture repair and chest tube insertion, were not provided in many of the facilities assessed in our study. Many also lacked management guidelines for emergency, anaesthesia and surgical care.[16] Thus, implementing the aforementioned guidelines in all health facilities could be a cost-effective intervention for preventing surgical complications and reducing morbidity and mortality.

The widespread availability of male circumcision is encouraging, given the role of this procedure in HIV prevention efforts (Table 1 and Table 4).[17] A greater percentage of private hospitals than public ones performed hernia repair, appendectomy and caesarean section. Other studies have documented disparities in infrastructure, supplies and equipment between public and private health-care facilities in the developing world.[18,19] Our findings indicate that in the Gambia private facilities may

be better equipped to perform certain procedures than public ones. In addition, private facilities reported greater reliance on surgical technicians and paramedical staff for providing health services (Table 3), perhaps a reflection of the country's historical reliance on nurses and other paramedical staff for procedures such as cataract and lens extraction.[20] Non-physicians in countries such as the Democratic Republic of the Congo, Kenya, Malawi and Mozambique have performed basic surgical procedures for years with outcomes equivalent to those observed when specialists perform them.[21–24] Strengthening the training of mid-level health-care providers in the Gambia in emergency, surgical and anaesthesia procedures at the district level would certainly help to attenuate the human resource crisis and fulfil part of the unmet need for basic surgical care.

Although surgery is a specialized activity that cannot be made available in every facility, certain emergency procedures and techniques, such as burn management, should be more widely available. Despite the lack of an operating room, several facilities not included in the statistical analysis performed several basic emergency and essential surgical procedures. Increasing the capacity of these centres to provide essential surgical care may also help to reduce the burden of conditions requiring surgery in the Gambia.

The Gambian government, having recognized the enormous deficits that exist within the health-care system, has tried to provide citizens with improved access to better surgical and anaesthetic care. The nation's only medical school, established in 2000, has integrated surgery into the medical school curriculum to encourage students to pursue surgical careers. The Ministry of Health has established a successful collaboration with the World Health Organization and two international organizations to advance the state of maternal and child health through improved delivery of emergency and obstetric services at one site in the Gambia.[25] Similar collaborations would also help to overcome the lack of other necessary surgical procedures in the Gambia. More system-wide changes are needed to create a sustainable mechanism for procuring and maintaining the supplies and technical skills required to perform surgery safely.

Anaesthesia

A global anaesthesia workforce crisis is emerging.[26,27] Our work highlights the shortage of trained anaesthesia providers and services in the Gambia, where anaesthesia in referral hospitals is delivered primarily by nurses and clinical officers. Thus, it is thus extremely important to ensure appropriate training in the country and to motivate health-care workers to pursue careers in anaesthesiology. The WHO Integrated Management for Emergency and Essential Surgical Care toolkit provides management guidelines that should be incorporated in the training when building surgical capacity in non-surgical programmes in district- and sub-district-level health facilities that have no surgery specialists.

As in other resource-limited health settings, in the Gambia ketamine-based anaesthesia (82.4%) was the type most commonly available in the health facilities assessed.[28] This may reflect a shortage of the skills and equipment needed to provide spinal and general anaesthesia.

Challenges with partnerships

Increased mortality has been correlated with deficits in health infrastructure,[29] medical technology[30] and integration of resources to provide surgical services.[31] The capacity of health facilities to provide basic life-saving interventions must be strengthened. Multidisciplinary partnerships, such as between governments and NGOs, offer welcome opportunities to improve health care in countries such as the Gambia and to develop solutions that can generate important changes. The Global Initiative for Emergency and Essential Surgical Care (GIEESC) was established by WHO in 2005 to reduce death and disability associated with surgical conditions.[32] Through technical assistance, needs assessments and education and training, the GIEESC strengthens resource-limited countries' capacity to deliver safe and effective emergency surgical care. Our study suggests that the GIEESC can play an important role in bringing together stakeholders interested in building surgical capacity in primary health-care facilities and in ensuring the availability of material resources and of properly trained human resources.

Our study has limitations. First, the sample was taken only from facilities offering surgery and anaesthesia services. Second, some of the assessed facilities may have undergone significant infrastructural improvements since the time of the survey, although this is unlikely. Despite these limitations, the data presented accurately reflect the Gambia's current capacity to provide surgery and anaesthesia services.

The WHO tool has been validated for assessing the capacity of health facilities in the developing world.[33] Although good test-retest reliability has been documented for the sections covering physical infrastructure, equipment and human resources, those parts that pertain to the process of delivering health care can benefit from supplemental data. Overall, the WHO tool makes it possible to quickly assess health facilities' capacity for delivering essential surgical and anaesthetic services and to compare data across developing countries.

Conclusion

In conclusion, the Gambia faces many obstacles to the delivery of surgical and anaesthesia services, including a shortage of human resources, equipment, supplies and infrastructure. Future studies are needed to help determine precisely how the shortage in each area affects surgical outcomes. To effectively reduce death and disability from surgical conditions, efforts to improve surgical capacity within the Gambian health-care system must focus on the district level. Training mid-level health practitioners in surgery and developing partnerships between the government and NGOs may be important steps towards improving surgical and anaesthetic services in the Gambia. ■

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ملخص

القدرات الخاصة بالطوارئ والتخدير والجراحة الأساسية في غامبيا

الغرض قياس الموارد الخاصة بالرعاية الجراحية الأساسية والطارئة في غامبيا

الطريقة وُزِعَت أداة منظمة الصحة العالمية لتحليل الحالة لقياس الرعاية الجراحية الطارئة والأساسية على مدراء الرعاية الصحية في المرافق في كل أنحاء غامبيا. واستكمل المسح من قبل 65 مرفقاً صحياً – وأحد المستشفيات الثالثية للإحالات، و 7 مستشفيات عامة ومستشفيات مناطق، و 46 مركزاً صحياً، و 11 مرفقاً صحياً خاصاً – وقد ضم المسح 110 سؤالاً جرى تقسيمهم إلى أربعة أقسام هي: 1) البنية الأساسية، ونوع المرفق، وعدد السكان الذين يخدمهم المرفق، والموارد المادية؛ 2) الموارد البشرية؛ 3) معالجة الحالات الطارئة والتدخلات الجراحية الأخرى؛ 4) تجهيزات وإمـدادات الطوارئ الخاصة بالإنعاش. واستُكْمِلت معطيات الاستبيان بمقابلات مع العاملين في المرافق الصحية، والمسؤولين في وزارة الصحة، والممثلين عن المنظمات غير الحكومية.

النتائج جرى تحديد أوجه قصور هامة في البنية الأساسية، والموارد البشرية، وتوفّر الإمدادات الأساسية، والقدرة على أداء الإجراءات الجراحية الخاصة بالجروح، والولادات، والجراحات العامة. ففي 18 مرفقاً كان متوقعاً لها القدرة على أداء الإجراءات الجراحية، عانت 50.0% منها من انقطاع إمدادات المياه، وعانت 55.6% من انقطاع الكهرباء. وقد توفّر وجود طبيب الجراحة في 38.9% فقط من المرافق، بينما توفّر وجود طبيب التخدير في 16.7% فقط من المرافق. وعانت جميع المرافق من نقص القدرة على أداء الإجراءات الجراحية الأساسية الخاصة بالإصابات والجراحات العامة. ففي المرافق العامة، لم تتمكن 54.5% من المرافق من إجراء فتح البطن جراحياً، ولم تتمكن 58.3% من المرافق من إصلاح الفتق. وتمكن فقط 25% من المرافق من معالجة الكسور المفتوحة، في حين تمكن 41.7% من أداء الإجراء الجراحي لمعالجة انسداد المسلك الهوائي.

الاستنتاج يدل المسح الحالي لمرافق الرعاية الصحية في غامبيا على وجود نقص كبير في الموارد الطبيعية والبشرية اللازمة لأداء التدخلات الجراحية الأساسية لإنقاذ الحياة.

摘要

冈比亚紧急、麻醉和基础外科处理能力

目的 旨在评估冈比亚基础和紧急外科处理的资源。

方法 将世界卫生组织用来评估紧急和基本外科处理的现状分析工具分发往全国卫生机构管理人员。本项调查由65家卫生机构完成(1家三级转诊医院,7家地区/综合医院,46家卫生中心和11家私人卫生机构),包括110个问题,分为四部分:(1)基础设施、机构类型、服务人群和物质资源;(2)人力资源;(3)应急和其他外科手术管理;(4)应急设备和救护用品。调查问卷数据通过与卫生机构人员、卫生部官员和非政府机构代表的访谈予以补充。

结果 研究确定了基础设施、人力资源、基本供给可用性和进行外伤、产科和一般外科处置的能力。在有望进行外科处置的18家机构中,50.0%存在供水中断情况,55.6%存在电力供给中断情况。仅38.9%的机构有外科医生,仅16.7%的机构有麻醉师。所有机构进行基本外伤和一般外科处置的能力均有限。公共机构中,54.5%不能进行剖腹手术,58.3%不能修复疝气。仅其中的25.0%能够治疗开放性骨折,仅41.7%能够进行呼吸道阻塞急救处理。

结论 冈比亚本项医疗卫生机构调查表明,主要问题是用于开展基础的救生外科处置的物质和人力资源缺乏。

Résumé

Capacité en termes d'urgence, d'anesthésie et de chirurgie essentielle en Gambie

Objectif Évaluer les ressources en soins chirurgicaux essentiels et d'urgence en Gambie.

Méthodes L'outil d'analyse de situation pour évaluer les soins chirurgicaux d'urgence et essentiels de l'Organisation mondiale de la Santé a été distribué aux gestionnaires de soins de santé dans les établissements de tout le pays. L'enquête a été remplie par 65 établissements de santé - un hôpital de référence tertiaire, 7 hôpitaux de district/généraux, 46 centres de santé et 11 établissements de santé privés - et comptait 110 questions, réparties en quatre sections: (i) infrastructures, type d'établissement, population traitée et ressources matérielles; (ii) ressources humaines; (iii) gestion des urgences et autres interventions chirurgicales; (iv) équipements d'urgence et de réanimation. Les données du questionnaire ont été complétées par des entretiens avec le personnel des établissements de santé, des fonctionnaires du ministère de la Santé et des représentants d'organisations non gouvernementales.

Résultats Des lacunes importantes ont été identifiées en termes d'infrastructures, de ressources humaines, de disponibilité d'équipements essentiels et de capacité à effectuer des interventions de traumatologie, d'obstétrique et de chirurgie générale. Sur les 18 établissements supposés effectuer des interventions chirurgicales, 50.0% rencontraient des interruptions d'approvisionnement en eau et 55,6% en électricité. Seuls 38,9% des établissements disposaient d'un chirurgien et 16,7% d'un médecin anesthésiste. Tous les établissements avaient une capacité limitée pour effectuer des interventions traumatologiques de base et de chirurgie générale. Ce sont 54,5% des établissements publics qui ne pouvaient pas effectuer de laparotomie et 58,3% ne pouvaient pas guérir une hernie. Seuls 25.0% d'entre eux pouvaient traiter une fracture ouverte et 41,7% pouvaient effectuer une intervention d'urgence pour dégager des voies respiratoires obstruées.

Conclusion La présente étude sur les établissements de soins de santé en Gambie suggère d'importantes lacunes en termes de ressources humaines et physiques nécessaires pour effectuer des interventions chirurgicales de base, permettant de sauver des vies.

Резюме

Потенциал плановой хирургической помощи, экстренной хирургической помощи и анестезиологических служб в Гамбии

Цель Оценить ресурсы плановой и экстренной хирургической помощи в Гамбии.

Методы Руководителям медицинских учреждений страны был роздан разработанный Всемирной организацией здравоохранения «Инструмент ситуационного анализа для оценки экстренной и плановой хирургической помощи». Исследование было завершено в 65 медицинских учреждениях – одной больнице третичной медицинской помощи, семи окружных больницах общего профиля, 46 медицинских центрах и 11 частных медицинских учреждениях – и включало в себя 110 вопросов, распределенных по четырем разделам: (i) инфраструктура, тип медицинского учреждения, обслуживаемое население и материальные ресурсы; (ii) кадровые ресурсы; (iii) управление экстренной помощью и другими видами хирургического вмешательства; (iv) оборудование для экстренной помощи и реанимации. Сбор данных для заполнения анкет осуществлялся путем проведения интервью с медицинским персоналом, ответственными работниками Министерства здравоохранения и представителями неправительственных организаций.

Результаты Были выявлены серьезные недостатки в инфраструктуре, кадровых ресурсах, доступности основных видов ресурсного обеспечения и способности выполнять травматологические, акушерские и общие хирургические процедуры. Из 18 медицинских учреждений, в которых предположительно должны были выполняться процедуры с хирургическими больными, в 50,0% наблюдались перебои в водоснабжении, а в 55,6% – в электроснабжении. Только в 38,9% медицинских учреждений имелся штатный хирург, и лишь в 16,7% – врач-анестезиолог. Во всех учреждениях отмечался ограниченный потенциал выполнения основных травматологических и общих хирургических процедур. В государственных медицинских учреждениях не могли проводиться: в 54,5% – лапаротомия, а в 58,3% – вправление грыжи. Только в 25,0% из них могла быть оказана помощь по поводу открытого перелома, а в 41,7% могла быть проведена процедура экстренной помощи по устранению непроходимости дыхательных путей.

Вывод На основании данного обследования медицинских учреждений Гамбии можно сделать вывод, что основной дефицит существует в сфере материальных и кадровых ресурсов, необходимых для осуществления важнейших видов хирургического вмешательства по спасению жизни.

Resumen

Capacidad de asistencia de emergencias, asistencia anestésica y asistencia de traumatismos en Gambia

Objetivo Evaluar los recursos existentes de la asistencia esencial y de cirugía de emergencia en Gambia.

Métodos Se distribuyó la herramienta de Análisis de la situación de la Organización Mundial de la Salud para evaluar la asistencia quirúrgica esencial y de emergencia entre gerentes de asistencia sanitaria de instituciones de todo el país. El estudio se llevó a cabo en 65 instituciones sanitarias (un hospital de asistencia sanitaria especializada, 7 hospitales de distrito/generales, 46 centros de salud y 11 centros sanitarios privados) y se incluyeron 110 preguntas divididas en cuatro secciones: (a) infraestructura, tipo de centro, población atendida y recursos materiales; (b) recursos humanos; (c) gestión de las urgencias y otras intervenciones quirúrgicas; (d) equipamiento de urgencias y suministros para reanimación. Los datos del cuestionario se complementaron con entrevistas mantenidas con el personal del centro sanitario, los funcionarios del Ministerio de Sanidad y los representantes de las organizaciones no gubernamentales.

Resultados Se identificaron deficiencias importantes en las infraestructuras, los recursos humanos, la disponibilidad de suministros esenciales y la habilidad para realizar intervenciones quirúrgicas de traumatología, obstetricia y cirugía general. De los 18 centros en los que se esperaba que se realizaran procedimientos quirúrgicos, el 50,0% sufrieron interrupciones en el suministro de agua y el 55,6% en el suministro de electricidad. Solo el 38,9% de los centros contaba con un cirujano y solo el 16,7% contaba con un médico anestesista. Todos los centros presentaron limitaciones a la hora de llevar a cabo los procedimientos quirúrgicos básicos de traumatología y cirugía general. De los centros públicos, el 54,5% no pudo realizar laparotomías y el 58,3% no pudo reparar una hernia. Solo el 25,0% de los centros pudo gestionar una fractura abierta y el 41,7% pudo llevar a cabo un procedimiento de urgencia por vías respiratorias obstruidas.

Conclusión El presente estudio de centros de asistencia sanitaria en Gambia sugiere que las mayores lagunas se encuentran en los recursos físicos y humanos necesarios para llevar a cabo intervenciones quirúrgicas básicas para salvar vidas.

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