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Facing the challenges of gynaecological endoscopic surgical practice in Nigeria: A review

John Celestine Osita [1,*] and Nyengidiki K Tamunomie [2]

[1] *Department of Obstetrics and Gynaecology, Faculty of Clinical Sciences, University of Port Harcourt, Port Harcourt, Rivers State, Nigeria.*
[2] *Department of Obstetrics and Gynaecology, University of Port Harcourt Teaching Hospital, Port Harcourt, Rivers State, Nigeria.*

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Abstract

Background: The scope of gynaecological endoscopy in Nigeria is expanding as more experience is gained with training and collaborations. However, this advancement is limited by multi-faceted challenges, especially in our sub region.

Objectives: To evaluate the experiences and challenges of gynaecologic endoscopic surgical practice in Nigeria.

Materials and Methods: An electronic literature search of all articles published on gynaecologic endoscopic surgery in Nigeria between 1984 and 2023 was conducted using High wire, Google, Google scholar, PubMed, Hinari, Web of Science and Springer Link. All relevant peer-reviewed articles and publications were identified, retrieved, and reviewed. Telephone and face-to-face interviews with Endoscopic surgeons from public and private institutions across the country were conducted as it related to challenges and experiences of practice. Data was collated in a pre-structured spreadsheet and analyzed with the Statistical Package for Social Science version 25. Results are presented as frequency tables and percentages.

Results: The study identified lack of public awareness, socio-cultural, economic, low budgetary allocation to healthcare, decline in national infrastructure, conflict, and insecurity as non-institutional challenges. The institutional challenges reported were limited number of public institutions offering gynaecological endoscopic services, with practice more in private hospitals.

Conclusion: Gynaecological endoscopic practice is largely suboptimal due to limited facilities and personnel, as well as a lack of political will. Efforts should be made to address these challenges and to proffer potential solutions that will improve healthcare delivery to women.

Keywords: Gynaecological endoscopy; Services; Challenges; Nigeria

1. Introduction

An estimated five billion people globally lack access to safe, quality and affordable surgical treatment[1]. This menace is specifically prominent in low and middle-income countries, where it affects nine out of ten persons[1]. As the global disease burden shifts from communicable to non-communicable diseases, evidence shows the important impact that access to crucial surgical care can have[2]. Endoscopy is a minimally invasive intervention that examines the interior of a canal or hollow viscous by utilizing a special instrument called an endoscope[3]. Gynaecological laparoscopy is a trans-

* Corresponding author: Osita Celestine John; Email: celestine.john@uniport.edu.ng

peritoneal endoscopic technique that excellently shows the pelvic structures and is often used to detect gynaecologic disorders and perform pelvic surgery without a laparotomy procedure[4]. It is among the most popular surgical intervention carried out by gynaecologists, and also one of the most crucial investigative device for detecting tubal disease in developed nations[4-9]. About 80% of gynaecological surgical procedures can be done laparoscopically[4].

Philip Bozzini pioneered modern endoscopy in 1805, when he used a light reflector to visualise the urethra[10]. This simple procedure has evolved into modern endoscopy, which uses automated endoscopy equipment and robotic surgical machine. The scope of endoscopy is increasing, as new experience is gained through training and collaborative efforts. Furthermore, new endoscopic machines and working instruments with more user-friendly interfaces have been developed, thus currently championing a shift from the usual open surgery to endoscopic procedures in gynaecological practice (laparoscopy and hysteroscopy) especially in developed countries[11]. As a result, almost all known gynecologic procedures have been performed endoscopically in the developed countries[11].

Similarly, complex procedures, such as oncological surgeries, are now done using laparoscopy[11-13]. Thus laparoscopy and hysteroscopy are utilized either as chief surgical methods for a planned surgical procedure or as an assisting intervention, thereby aiding and promoting the overall safety of the main procedure[12].

Indeed, it has been proposed that endoscopy will become the preferred approach for all gynecologic conditions worldwide due to its well-known benefits of minimal trauma, crystal clear visualization, low incidence of complications, at least 20% reduction in adhesion formation, and favourable postoperative course, as well as quick recovery and cosmetic effect[14,15].

Endoscopy is experiencing numerous challenges, particularly in developing countries where there is increasing quest to diversify gynaecological practice. However, we must overcome these obstacles if it is to remain and maintain its position as a superior alternative to open surgery and the most elegant gynaecological procedures in well selected gynaecological cases. Endoscopy challenges include acquiring and maintaining equipment, training and re-training, and backup services. Furthermore, in most developing countries, endoscopy is not widely available in hospitals and is regarded as a subspecialty procedure obtained after fellowship examinations[16].

Gynaecologic endoscopic procedures in Nigeria were initially primarily diagnostic, with only a few tubal sterilizations performed[17-19]. Endoscopic practices were poorly accepted, widely criticized, and unavailable in most centres. As a result, this fast growing subspecialty of gynaecology reduced traction and unfortunately came to a standstill because of infrastructural decadence in majority of Nigerian government hospitals[17]. However, a small number of private hospitals in Nigeria have managed to keep laparoscopy alive in their practices, and they are responsible for the published reports of operative laparoscopy in Nigeria[17,18]. In Nigeria, there has recently been resurgence in the practice of endoscopy in the private, public, and private partnership sectors[16].

A study by Onoh et al[16] in Southeast Nigeria showed that the major challenges bedeviling endoscopy were: late report of endoscopic-related cases, inadequate equipment, lack of maintenance, unstable power supply and wrong notion by the population. However, Fehintola et al[20] in a study in Southwest Nigeria, reported zero mortality in 287 patients that underwent various degree of endoscopic interventions and thus documented local adaptation and improvised approach as the ways to make endoscopy affordable and easily accessible.

Endoscopy experiences and challenges vary from hospital to hospital, and these differences are determined by the commitment of the hospital's management boards, the endoscopic surgeons' willingness, and as well as the hospital structure, which could be a private facility, a public-private partnership, or a government-owned and operated facility[16]. We therefore aimed to highlight our experiences and challenges with gynaecological endoscopic practice in Nigeria.

2. Materials and methods

An electronic literature search of all articles published on gynaecologic endoscopic surgery in Nigeria between 1984 and 2023 was conducted using High wire, Google, Google scholar, PubMed, Hinari, Web of Science, and Springer Link. All relevant peer-reviewed articles and publications were identified, retrieved, and reviewed. Telephone and face-to-face interviews with endoscopic surgeons from public and private institutions across the country was done with regards to the challenges of practice. Data was collected in a pre-structured spreadsheet and analyzed with the Statistical Package for Social Science (SPSS 25.0). Results are presented as frequency tables and percentages.

3. Results

The reasons why some surgeons do not practice minimal access surgery were shown in table 1. 45.7% went for breakdown of instruments and equipment, 14.3% chose poor institutional support, 11.4% went for frustration leading to inertia, 5.7% each chose Patient inability to pay and lack of interest respectively, while 17.1% chose the combination of all these factors. Similarly, 94.3% still showed concern in practice continuation, while 5.7% showed loss of interest in further practice.

Table 2 shows the proportion of gynaecologic endoscopic service provision in public institutions. Obafemi Awolowo University Teaching Hospital (OAUTH) in Osun state, had the highest service provision of 23.7%, followed by Federal Teaching Hospital, Abakaliki with 4.45%, while University of Port Harcourt Teaching Hospital and River State University Teaching Hospital were the least with 1.57 each respectively.

Table 1 Reason(s) for not practicing minimal access surgery

Reasons	Frequency (n=35)	Percent (%)
Breakdown of instrument	16	45.7
Poor institutional support	5	14.3
Frustration leading to inertia	4	11.4
Lack of interest	2	5.7
Patient inability to pay	2	5.7
All the above	6	17.1
Still interested in practice?		
Yes	33	94.3
No	2	5.7

Table 2 Gynaecologic Endoscopic Service Provision in Public Institutions

Geographical zone and Institution	Percent (%)
SouthEast	
Federal Teaching Hospital, Abakaliki	4.45
SouthWest	
Obafemi Awolowo University Teaching Hospital (OAUTH), Ile-ife	23.70
SouthSouth	
River State University Teaching Hospital	1.57
University of Port Harcourt Teaching Hospital	1.57
Federal Capital Teritory (FCT)	
National Hospital Abuja	2.80

4. Discussion

Endoscopic experiences and problems differ according to regional geographical location and further differ in different hospital settings within a country as well[16]. The non-institutional challenges identified during this review were lack of public awareness, socio-cultural, economic, low budgetary allocation to healthcare, decline in national infrastructure, conflict, and insecurity. Furthermore, the institutional challenges reported were limited number of public institutions, with practice more in private hospitals. The challenges faced by both private and public institutions can be divided into

4 major areas namely financial constraints, manpower development, equipment purchase and maintenance, and service provision. Financial constraints included the high cost of setting up, poor funding in public hospital, prohibitive loans, poor return on investment, and high cost of procedure for patient. Similarly, manpower development factors are few gynae endoscopists who are found majorly in cities and less than 20% in most gynae units. Training in basic skills were mostly done in India and Nigeria, while the few with advanced skills are predominantly in Private practice. However, over 90% of gynaecologists desire training but cannot afford it. The barriers to manpower training include funding, availability and maintenance of equipment, local access to experienced laparoscopic trainees, poor knowledge of effective training curricular, long learning curve, lack of practice opportunities after training. Generally, very few public hospitals have equipment. All equipment manufactured abroad, imported/maintained through third party/agent, experienced technical support lacking, breakdown, incomplete, obsolete equipment. The major factors limiting uptake are the cost to patient and doctors, lack of insurance coverage, option of open surgery, and irregular service provision.

Most gynecologists still use the old open non-endoscopic operative and diagnostic intervention in managing gynecological cases probably due to of lack of expertise, therefore limiting the referral of patients for endoscopic procedures upon presentation[16]. Moreover; awareness about gyne endoscopy procedures is relatively low among both patients and healthcare providers in Nigeria, with many patients not knowledgeable about these minimally invasive options, hence continue to opt for traditional surgery. Similarly, healthcare providers may not be knowledgeable about the benefits and availability of gyne endoscopy, leading to underutilization of these techniques.

Frequent and continuous challenges related with endoscopic equipment were recognized as a major contributing factor at tertiary facilities in Abuja and Ile Ife,[17,21] which correlated with the 45.7% obtained due to breakdown of equipment in this study. Thus, working with this broken equipment created a limit on how endoscopic interventions could be carried out and only gave room for improvisation[16]. As previously reported by Onoh et al[16] challenges such as cost of equipment, poor maintenance, and poor institutional support seen in the tertiary care facilities could be attributed to third party partnership, as there were no local manufacturing industries that specialized in producing equipment in Nigeria, while consequently created scarcity of these equipment.

Poor institutional support in this study was 14.3%, with major part of it emanating from the administrative ineptitude and hectic procurement processes, which makes the approval of endoscopic material or equipment from the hospital management rather difficult. Although, in cases where the equipment are made available in the tertiary care facilities due to third party partnership, the lack of adequately trained endoscopy technicians for the maintenance of these equipment is also a problem and most times resulted in using substituted materials in place of basic recommended materials[16].

Though only 5.7% in our study chose patient inability to pay as a reason for not practicing minimal access surgery, however this factor is a far more reaching due to the poor economic setting in Nigeria. Another challenge is the inadequate reimbursement for gyne endoscopy procedures in the country. Insurance coverage for these procedures is also limited, making it challenging for both patients and healthcare providers to afford or recommend these techniques. This agreed with Onoh et al[16] who had previously identified the major funding plan to be family-based and personal oriented, due to ineffective or absence of health insurance scheme in his study at South East Nigeria.

Other critical factors such as training and retraining of medical personnel and also absence of stable power supply also mitigate the growth of endoscopic practice in Nigeria, which had been reported by Onoh et al[16]. Furthermore, endoscopy is dependent on power supply and the recent technological advancement of using robotic, telemedicine and more users' friendly working instruments such as harmonics and sonicision could not be obtained in our country due to poor power supply, financial constraints and partnership dearth[16].

In order to overcome all the above challenges, the Association of Gynaecological Endoscopic Surgeons of Nigeria (AGES) must engage with Federal government and National Assembly on fulfilling their health sector budget, lobby for ministerial allocation for training in endoscopy, create awareness of the benefits of endoscopic surgeries via radio, newspaper, television, conference and social media, highlight the advantages of endoscopic surgeries and thus encourage the public to imbibe the paradigm shift from open to endoscopic surgeries.

Secondly, the AGES should encourage its members to reduce the endoscopic operating fees and total expenses, advocate for coverage of endoscopic procedures under the National Health Insurance Authority (NHIA) and other Health Maintenance Organizations (HMOs), play an advisory role to members about to start their practice, engage in lease agreement with equipment manufacturers where they will provide and maintain their equipment under use, form partnership and collaborations with individuals, group of clinics, other stakeholders, while also regularly syndicating single digit interest loans from Bank of Industry (BOI) an the Federal government.

Furthermore, Chief Medical Directors (CMDs) of Teaching Hospitals in conjunction with AGES should provide budget for training and retraining, invite trainers and provide incentives, create awareness of the advantages, availability, and scope of endoscopic surgeries to doctors and patients, ensure the inclusion of endoscopic surgery in training curriculum for student / residents, provide alternatives to electricity power using solar, generators, etc. They should also provide skills acquisition labs, include other support staff in training programmes as a team, develop endoscopy team for both elective and emergency cases, provide sponsorship for advanced gynaecological endoscopy training, lease agreement with equipment manufacturers and ultimately reducing cost of endoscopy to patients.

Finally, the training institutions should give grants or single digit interest loans to the private institutions already providing training, form public-private partnership to establish structured training and education centres in all regions of the country, develop curricula for training adapted to our own local environment and practice, leverage on information technology for training through webinars, telemedicine etc, establish assessment and certification of skills for various level of competencies in gynae endoscopy using Post graduate colleges such as West Africa College of Surgeons (WACS) and National Postgraduate Medical College (NPMC). Similarly, they should also insist on complete equipment and utilization for basic endoscopic practice in all accreditations going forward, run update courses for gynae endoscopy annually, and collaborate among colleagues to mentor, train, perform or assist in endoscopic surgeries.

5. Conclusion

Gynaecological endoscopic practice is largely suboptimal due to limited facilities and personnel, as well as a lack of political will. Efforts should be made to address these challenges and to proffer potential solutions that will improve healthcare delivery to women.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare no conflicts of interest regarding the publication of this paper.

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