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Practice of minimally invasive gynecologic surgery in the Philippines during the COVID-19 Pandemic

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Abstract:

OBJECTIVE: This study aims to establish baseline information on the practice of minimally invasive gynecologic surgery (MIGS) among Filipino gynecologic endoscopists amid the COVID-19 pandemic.

MATERIALS AND METHODS: An online survey was conducted among Fellows of the Philippine Society for Gynecologic Endoscopy (PSGE) practicing in private and government hospitals in the Philippines after informed consent. The survey had five subsections: (1) demographic data, (2) impact of COVID-19 pandemic on MIGS practice, (3) changes of practice during the COVID-19 pandemic, and (4) changes in the conduct of surgery and postoperative care.

RESULTS: A total of 119 out of 144 PSGE Fellows based in the Philippines participated in the survey, 83% were Fellows in both laparoscopy and hysteroscopy. The majority had more than 15 years of practice and were practicing in the National Capital Region. Surgeries were canceled initially but have since resumed. The majority were hysteroscopy cases, the most common being polypectomy. Majority of the respondents reduced their clinic hours and appointments. Most have used telemedicine for consultations. Use of face masks, face shields, and personal protective equipment (PPE) were the top precautions taken in the clinics. Screening and precautions per guidelines inside the operating room setting were observed. Modifications during surgery include the use of smoke evacuators, minimizing energy device use, and wearing enhanced PPE.

CONCLUSION: The volume of laparoscopy and hysteroscopy cases was greatly reduced during the pandemic. The pandemic has disrupted the practice of MIGS both in the outpatient clinics and the operating rooms. Most of the changes made are congruent to local and international automotive task force guidelines. Precautionary measures and screening procedures must remain in place to reduce the risk of severe acute respiratory syndrome coronavirus 2 transmission to patients and health-care workers.

Keywords:

COVID-19, gynecologic endoscopy, minimally invasive gynecologic surgery

Introduction

Since the first confirmed case of COVID-19 in the Philippines on January 31, 2020,^[1]

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the Philippines has had a rising trend in cases. This prompted the government to impose a nationwide community quarantine that restricted travel of its citizens, postponed operations of nonessential services, and enforced physical distancing protocols alongside mandatory wearing of protective face masks. The community quarantine varied its restrictions based

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on the level of risk of each region which ranged from enhanced community quarantine to modified general community quarantine.^[2] On September 15, 2020, the Philippines had a total of 269,407 COVID-19 cases, 57,392 of which were still active although a downward trend after approximately 5.5 months of implementation of the community quarantine was noted.^[3]

The provision of surgical care has been greatly affected with many scheduled operations being canceled or deferred which can lead to adverse prognosis in some cases.^[4] The pandemic has also disrupted surgical training, especially in low–middle-income countries to be able to maintain safety of patients and health-care personnel, active management of deferred patients, and availability of material and human resources.^[5] Risk reduction strategies have also been seen in surgical practice during the pandemic by reducing the use of aerosol-generating procedures and volatile gas anesthetics.^[6] Furthermore, use of enhanced personal protective equipment (PPE) among health-care staff, suctioning plume with a closed filtration system, lower operating pressures, and low power use of ultrasonic devices were also recommended to reduce the risk of COVID-19 transmission during surgical care.^[7,8] There is a recommendation to confirm a patient's COVID-19 status prior to the procedure to ensure safety.^[9] These precautions can be taken into consideration despite the lack of evidence of viral transmission during surgery.^[10]

Some have suggested that minimally invasive procedures, such as laparoscopy, remain to be a preferred surgical approach during the pandemic, as it offers better containment of surgical gas and plume in addition to more health benefits.^[11] Abroad, there have been multiple guidelines on how surgical gynecologic care can be delivered.^[12] Locally, the Philippine Society of Gynecologic Endoscopy does not recommend minimally invasive gynecologic surgeries during the COVID-19 pandemic, except for urgent cases and if all safety measures are provided.^[13] This study aims to establish baseline information on the practice of minimally invasive gynecologic surgery (MIGS) among Filipino gynecologic endoscopists amid the COVID-19 pandemic.

Materials and Methods

Study design

A descriptive research design was utilized to characterize the impact of COVID-19 on MIGS practice among gynecologic endoscopists in the Philippines. Quantitative data were collected from participants to establish baseline information on the current landscape of MIGS practice in the country. The current study was submitted

and approved by the research ethics board of the Quirino Memorial Medical Center.

Participants

All Fellows of the Philippine Society of Gynecologic Endoscopy (PSGE) were invited to join the study. The participants are OBGYN specialists who are credentialed gynecologic endoscopists by PSGE. OBGYN specialists who are not PSGE certified were not included in the study.

Data collection

This study used an online survey questionnaire to evaluate the impact of COVID-19 on MIGS practice among gynecologic endoscopists in the Philippines. There is no existing validated questionnaire. The present data collection tool was developed by the investigators in consultation with experts in the field. It contains the following sections with the indicated number of items per section: (1) informed Consent, (2) demographic data (10 items), (3) impact of COVID-19 pandemic on MIGS practice (6 items), (4) change of practice during the COVID-19 pandemic (8 items), and (5) changes in the conduct of surgery and postoperative care (5 items). The questionnaire was accomplished within 20 min.

The survey questionnaire was distributed to participants via e-mail, sourced from the PSGE membership database. Prior to participation, informed consent to use their disclosed information was collected. The survey was conducted from October 3 to October 13, 2020.

Data protection

In compliance with the Data Privacy Act of 2012, the data collection form utilized a protected online survey platform to ensure the safety of records. All collected records were stored in a limited access password-protected cloud storage system in the online survey platform with an assigned participant code for anonymity and confidentiality. Study team members apart from the investigators signed a nondisclosure agreement if given access to the raw data containing personal identifying information of the participants. A record access log was kept. All communication involving data collected among study staff used these anonymized participant codes. All raw documents relating to the study will be deleted after 1 year of the study's completion.

Data analysis

Descriptive statistics and measures of central tendency were used as a statistical treatment for the survey questionnaires. A frequency distribution table was used to summarize responses from the data collection form.

Results

A total of 119 (83%) out of the 144 PSGE Fellows based in the Philippines participated in the survey. Of which, 83% were Fellows in both laparoscopy and hysteroscopy, 11% were Fellows in hysteroscopy only, and 6% were Fellows in laparoscopy only. Most of these Fellows were performing laparoscopy and hysteroscopy prior to the pandemic. The average age of respondents was 53 years old. Nearly (92%) of the respondents were female, with the majority (65%) having more than 15 years of practice, and were practicing in the National Capital Region. The majority (77%) practiced in private institutions with 51 Fellows practicing in an academic private hospital. Table 1 shows the characteristics of the respondents.

Impact of COVID-19 pandemic on minimally invasive gynecologic surgery practice

Findings show that nearly all respondents (97%) canceled surgeries due to the pandemic. Resumption of surgeries has been reported as early as April 2020 with an increasing number of starting surgeries in June. As of the 2nd week of October 2020, only 41% of Fellows had returned to perform laparoscopy. Adnexal surgery was the most frequently cited reason for performing laparoscopy (60%) followed by total laparoscopic hysterectomy (15%) and myomectomy (13%) [Figure 1].

Table 1: Demographics of respondents

Demographic	n (%)
Sex	
Female	109 (92)
Male	10 (8)
Years of practice (years)	
More than 15	77 (65)
6-10	26 (22)
11-15	11 (9)
<5	5 (4)
Area of practice	
National Capital Region	75 (63)
Region VII: Central Visayas	14 (12)
Region XI: Davao	7 (5)
Region IV-A: CALABARZON	6 (5)
Cordillera Administrative Region	5 (4)
Region III: Central Luzon	5 (4)
Region VI: Western Visayas	2 (2)
Region V: Bicol	2 (2)
Region II: Cagayan Valley	1 (1)
Region I: Ilocos	1 (1)
Region X: Northern Mindanao	1 (1)
Hospital type	
Academic private	51 (43)
Private	41 (34)
Academic government	23 (20)
Government	4 (3)

In contrast, more Fellows have been performing hysteroscopy (68%). Polypectomy (44%) followed by diagnostic (30%) and myomectomy (25%) were the top reasons for hysteroscopy [Figure 2].

Ninety-two percent (92%) of the respondents noted that their hospital of practice provided protocols for elective surgery; however, most reported reduced surgical staff (71%). Cited reasons for reduced surgical staff were: resignation (31%), reduced workforce (30%), transfer to COVID wards (22%), and absences (18%) [Figure 3].

Change of practice during the COVID-19 pandemic

Majority of the participants reduced their clinic hours (95.8%) with 55.5% reducing clinic hours to <50% of their maximum clinic hours [Figure 4]. The majority postponed surgeries (96%) and appointments (87%) due to the pandemic.

Most (75%) resorted to the practice of telemedicine during the pandemic. Face masks, face shields, and PPE were the top three precautions taken in the clinics [Figure 5], while symptom assessment, temperature screening, and universal reverse transcription-polymerase chain reaction (RT-PCR) testing were the most common routine screening procedures prior to surgery [Figure 6]. Respondents preferred laparotomy over laparoscopy (65%) and the majority (97%) do not perform MIGS on patients with COVID-19 infection.

Changes in the conduct of surgery and postoperative care

Most (81%) of the participants reported that disposable equipment was available in their place of practice, while a minority (7%) were not aware of its availability. Additional precautions taken by a majority in the operating room are face masks, eye protection, and half or full respirator mask [Figure 7]. Forty-six percent (46%) of respondents used powered air-purifying respirators. Electrosurgical devices were used by 80% of respondents during MIGS surgery. Available risk reduction equipment in operating rooms were suction devices (81%), smoke evacuators (59%), exhaust fans (56%), and negative pressure rooms (52%) [Figure 8]. Most respondents request patients to follow up after operation.

Discussion

Many changes in clinical and surgical practice have been reported among PSGE Fellows due to the COVID-19 pandemic. The concerns of viral transmission and uncertainties have reduced the use of minimally invasive surgery, which were increasingly performed in the prepandemic period. A comparison of the number of cases from 5 training hospitals for 2019–2020 shows

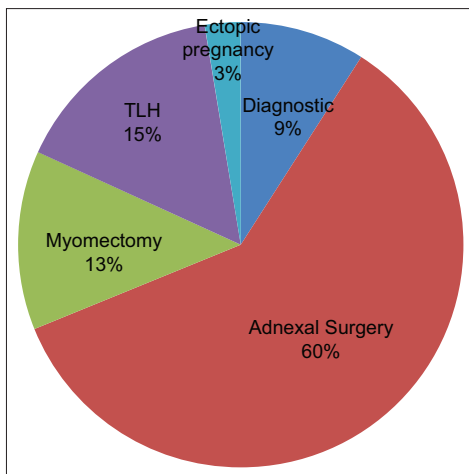


Figure 1: Reasons for performing laparoscopy during the pandemic (reported in percentage)

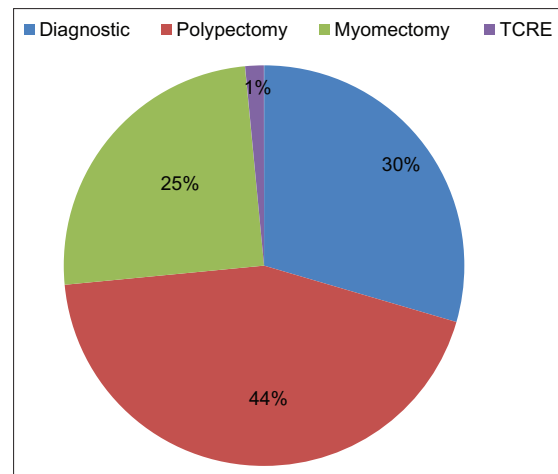


Figure 2: Reasons for performing hysteroscopy during the pandemic (reported in percentage)

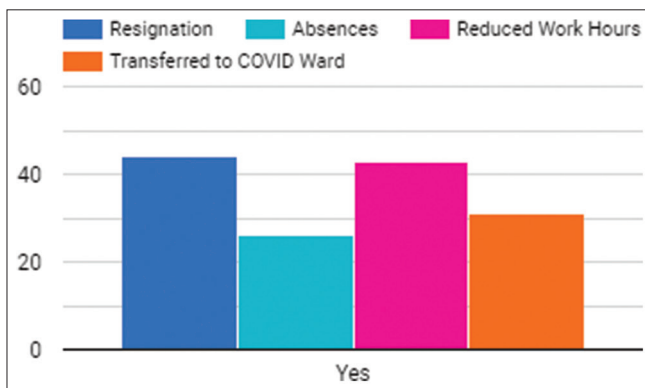


Figure 3: Reasons for reduced staff (reported in percentage)

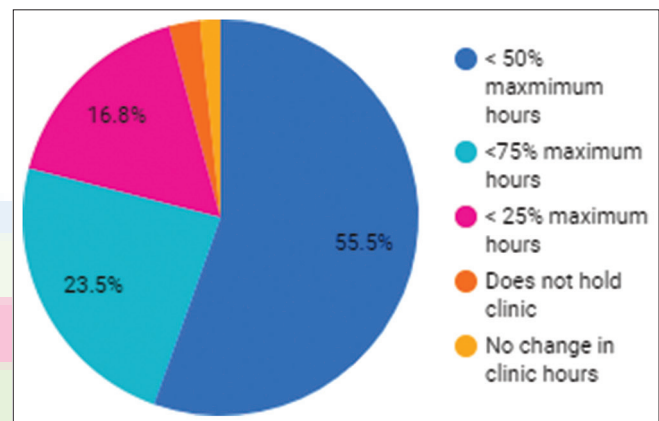


Figure 4: Reduction of clinic hours (reported in percentage)

the absence of laparoscopy cases for April, May, and June and a 90% drop in the number of hysteroscopy cases for April to August 2020. A comparison of trends in laparoscopy and hysteroscopy cases performed from January to August 2019 and 2020 is illustrated in Figures 9 and 10. With the reduction in cases, training in MIGS fellowship programs was likewise affected.

Despite cancellations, postponement of surgeries and clinic appointments across all hospital types, age groups, area of practice, and years of practice, most have started to perform surgery with most Fellows starting in June 2020. The recent availability of centers for testing for RT-PCR with a shorter turn-around time for results has allowed all patients to be tested a few days prior to elective surgery. Universal screening minimizes the risk of exposure to operative staff and on performing surgery on asymptomatic patients with COVID-19. These patients are said to have poorer perioperative outcomes.^[14] With 100 licensed RT-PCR testing facilities operating as of August 2020,^[15] it has encouraged more surgeries to be allowed. The use of PPE both in the clinics and operating room setting is consistent with local and international recommendations.^[13,14]

Although on a national scale, most have yet to return to laparoscopy, certain regions and age groups 40–49 and those with more than 15 years of experience have been performing laparoscopy again. Hysteroscopy was more commonly performed compared to laparoscopy. Moreover, more private institutions have returned to hysteroscopy than government hospitals. It is important to note that with the decrease in clinic hours and government-imposed quarantine, nearly 75% of the respondents have turned to consultation through telemedicine. Telemedicine has allowed doctor–patient consults minimizing the risk of exposure.^[16] Although several applications that allow videoconferencing are available in the market, phone calls, text, or online messaging are also used.

More private hospitals than government institutions were also seen to provide protocols for elective surgeries. Reduction of surgical staff was observed across all hospital types and regions; however, resignation and reduced workforce were the more common reasons in private hospitals, while resignation and transfer to

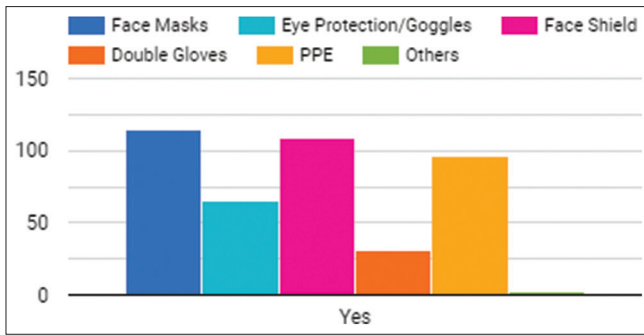


Figure 5: Precautions taken during clinic hours (reported in actual numbers)

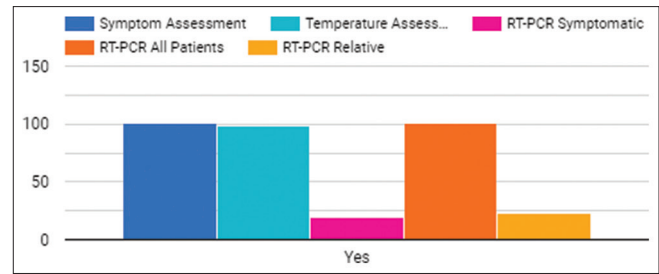


Figure 6: Screening procedures prior to surgery (reported in actual numbers)

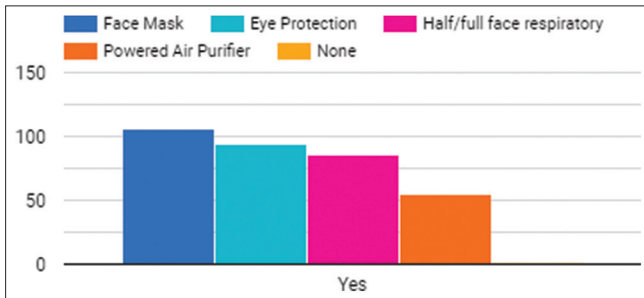


Figure 7: Precautions during surgery (reported in actual numbers)

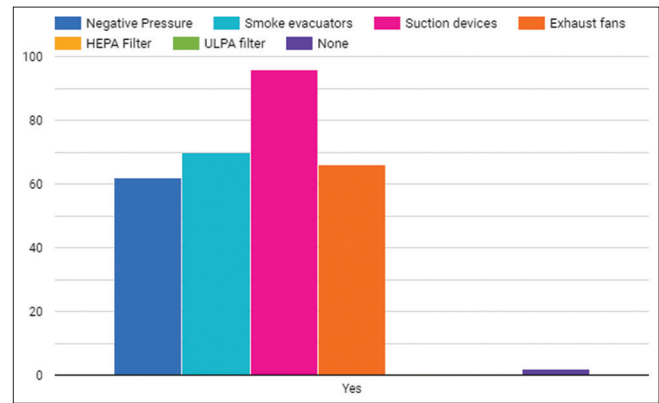


Figure 8: Available protective features of the operating room (reported in percentage)

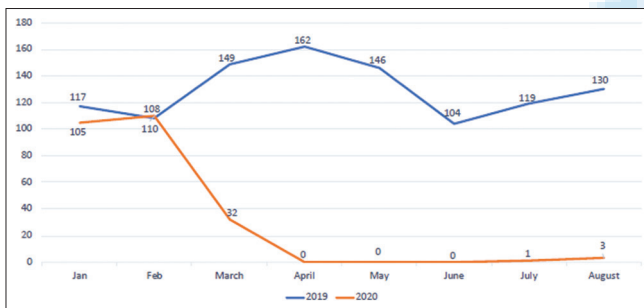


Figure 9: Comparison of laparoscopy cases performed January to August 2019 and 2020 (reported in actual numbers)

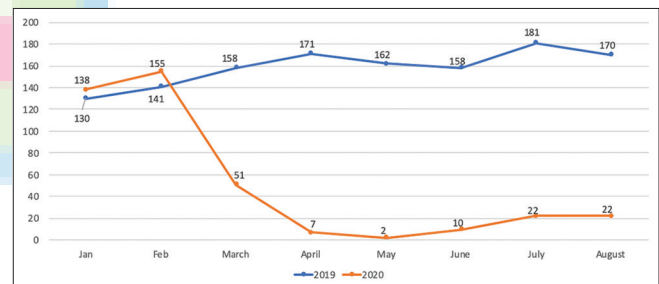


Figure 10: Comparison of hysteroscopy cases performed January to August 2019 and 2020 (reported in actual numbers)

the COVID wards were highest in government-run hospitals. The latter may be due to the designation of government-run hospitals as COVID-referral centers.

The transmission of the COVID-19 virus through aerosol-generating procedures is a concern, especially during laparoscopy with the risk of carbon dioxide leakage and smoke from the use of energy devices. Despite the lack of evidence to support this, modifications in surgical practice have been recommended and include the use of smoke evacuators, minimizing energy device use, and wearing enhanced PPE.^[8,10]

Perhaps due to perceived limitations of risk reduction equipment in operating rooms, majority of the respondents prefer performing laparotomy over laparoscopy. Protocols for MIGS surgery were drastically changed when surgery was allowed to resume. On July 6, 2020, the PSGE released

statements to guide in patient selection, preoperative preparation, conduct of MIGS surgeries, and postoperative care during the pandemic.^[17] Recommended screening includes RT-PCR testing prior to surgery for both nonemergent and emergent cases. For emergent cases where RT-PCR testing cannot be done due to time constraints, endoscopy is not the route of choice. Perioperative preparations include the use of appropriate level of PPE with recommendations on timing of entry and exit of personnel. Prevention of droplet and aerosol transmission and minimizing energy device use should be observed during operative procedures. Hysteroscopic procedures on an outpatient basis are likewise encouraged. For postoperative follow-up, the use of telemedicine is advised. As the understanding of the virus and its transmission are still evolving, present recommendations may change when more data are available.

Conclusion

The current study provides baseline information on the practice of MIGS among Filipino gynecologic endoscopists amid the COVID-19 pandemic. Following the downward trend of MIGS practice among PSGE Fellows, the pandemic likewise disrupted clinical and surgical practice with postponements and cancellations. Most have also turned to telemedicine practice across all regions.

Majority of PSGE Fellows have been gradually returning to surgical practice as the community quarantine levels have de-escalated. However, the risks for further COVID-19 pandemic surges remain. As PSGE Fellows return to practice, they must continue to take precautionary measures and screening procedures to reduce the risk of severe acute respiratory syndrome coronavirus-2 transmission to patients, clinicians, and staff. It is important to continue to monitor the return to elective surgeries and clinical practice.

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Conflicts of interest

There are no conflicts of interest.

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