Comparison of Urogynecological Care in Hospitals Before and During the SARS CoV-2 Infection: The Case Approach in Dr. Soetomo Hospital Indonesia

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Abstract

Most of the hospitals are focused on the management of patients suffering from SARS CoV-2 Infection. This causes indirect problems including essential services in urogynecological care. This study aims to determine differences in urogynecological care before and during SARS CoV-2 infection through an analysis of new visits, the number of visits and the number of surgical procedures.

The retrospective study was conducted at a urogynecology clinic in a tertiary referral hospital in Indonesia. Medical records from 2016 to 2020 were reviewed including the number of new patient visits, the total number of visits, the number of urogynecological surgical procedures, as well as monthly cases and patient comorbidities in 2020. The diseases studied were six urogynecological diseases including pelvic organ prolapse, congenital abnormalities, fistula, urinary incontinence & retention, perineal rupture, trauma and tumors. Data were analyzed descriptively and statistically.

There was a decrease in 2020 for the number of visits, the number of new cases and the number of visits for surgical procedures. The results of statistical tests showed that there was no difference in new patient visits and overall patient visits between 2019 and 2020 ($p > 0.05$), but there was a difference in the number of patient visits to perform surgical procedures, significantly ($p < 0.05$). In 2020, pelvic organ prolapse is still a case that is always found every month in 2020 even though the number of sufferers is decreasing. Some patients experience comorbidities such as postoperative history and malignancy.

The reduction in the number of patients raises the question of how patients can safely access routine and essential urogynecological care. The hospital must be able to meet the needs of patients with quality services such as before the pandemic.

Clinical article (J Int Dent Med Res 2021; 14(4): 1715-1721)

Keywords: Urogynecological care, during pandemic, before pandemic, hospital, COVID-19.

Received date: 15 February 2021 **Accept date:** 06 August 2021

Introduction

The SARS CoV-2 virus infection emerged at the end of 2019, causing the coronavirus disease COVID-19 and continues to threaten the world. The number of cases continues to increase every day with the number of deaths that continues to increase. The rapid spread of this disease poses challenges for the health care system.[1] Current infection prevention practices must be carried out considering that the virus is very easily transmitted from one person to another. A strategic approach needs to be needed to implement actions and priority areas, especially in service management in hospitals. The hospital's essential care scheme should aim to prevent exposure to people at risk of comorbidity while still providing the best possible care for patients with SARS COV-2 infection status as well as patients with non-SARS CoV-2 infection.

Health systems around the world face the challenge of increasing demand for health care by people with SARS CoV-2 infection status,

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which is exacerbated by fear, stigma, misinformation and movement restrictions that interfere with the provision of health services for all diseases. The system's ability to sustain health services will depend on the underlying disease burden, as well as the capacity of the health system as the pandemic develops. A well-organized and well-prepared health system will be able to maintain equal access to quality essential health services during an emergency.[2]

One of the essential services that is directly or indirectly affected is urogynecology services. This service is an essential part of women's long-term health. The presence of women in the elderly in health facilities to get urogynecological services is an important problem because the risk of SARS CoV-2 infection severity increases with age, even though patients undergoing urogynecological examinations such as pelvic organ prolapse are the elderly. Older adults have the highest risk associated with SARS CoV-2 infection with age 50-64 years, patients have a 4 times higher risk of being hospitalized and a 30x higher risk of developing severe symptoms until death.[3] A study shows that age is a major factor affecting the degree of uterine prolapse, weakening of the pelvic floor tissue and muscles in elderly women as the main cause.[4] On that basis, efforts are needed to anticipate and protect patients and providers from exposure to the virus in the hospital.

This study aims to determine differences in urogynecological care before and during SARS CoV-2 infection through an analysis of new visits, the number of visits and the number of surgical procedures. If there is a significant reduction in the number of patients, the organization should work on how patients can access essential services such as before the pandemic and ensure that quality care is received by patients. This difference was found to be the basis for policy adaptation as well as the basis for further research.

Materials and methods

A retrospective study was conducted to determine differences in health services before the pandemic and during SARS CoV-2 infection at the urogynecological polyclinic of a referral hospital in East Java, Indonesia through data on the number of new patient visits, the total number of visits, the number of urogynecological surgical procedures. The diseases studied were six urogynecological diseases including pelvic organ prolapse, congenital abnormalities, fistula, urinary incontinence & retention, perineal rupture, trauma and tumors. The data used is medical record data for 5 years, namely 2016-2020, to assess changes every year. The data that were also studied were cases per month and comorbidities in patients in 2020. These comorbidities are related to the risk assessment of exposure to COVID-19 in previous studies. This research goes through several stages, namely the collection, classification and analysis or processing of data, drawing conclusions and reports with the main objective of making an objective picture of a situation. The data obtained were then analyzed descriptively and statistically. Statistical test on data for new patient visits and the number of urogynecological surgical procedures using the Independent T Test and statistical tests for data on the total number of visits using the Paired T Test. The data were subjected to statistical tests after passing the normality test with the Kolmogorov Smirnov test. Data were considered to have significant differences at p-value <0.05. Statistical test using the help of the SPSS 21 application. This research has been through the licensing and ethics test at Dr. Soetomo, Surabaya, Indonesia. This study has been through the patient's informed consent before treatment related to data entered in medical records for research purposes.

Results

Table 1 shows the results of statistical tests on the number of new cases, the total number of cases and the number of surgical procedures at urogynecology services. There was no difference in new patient visits and overall patient visits between 2019 and 2020 (p> 0.05), but there was a significant difference in the number of patient visits to perform surgical procedures (p <0.05). Comparative data for 2019 and 2020 show that there was a decline of more than 50% in both total and new cases. In the data on operating procedures performed there has been a drop of up to 100% during a pandemic.

Pelvic organ prolapse cases fluctuated during 2020. Most visits occurred in February 2020. In March, it was found that there was a decrease in the number of patient arrivals

compared to February. Increased examination occurs in patients with pelvic organ prolapse, urinary incontinence & retention, and perineal rupture. After that the number of cases decreased but there are still patients who experience pelvic organ prolapse every month. Table 2 shows the patient visits to the urogynecology clinic in 2020.

	2019	2020	Reduction	Statistic Test Result
Total Case				
Pelvic organ prolapse (POP)	803	101	-87.43%	p> 0.05
Congenital abnormalities	202	46	-77.23%	
Fistula (Vesikovagina, Rectovagina)	221	31	-85.98%	
Urinary Incontinence & Retention	25	12	-52.00%	
Perineal rupture	42	7	-83.33%	
Trauma and Tumors	41	3	-92.69%	
New Case				
Pelvic organ prolapse (POP)	103	18	-82.52%	p> 0.05
Congenital abnormalities	27	12	-55.00%	
Fistula (Vesikovagina, Rectovagina)	24	11	-54.00%	
Urinary Incontinence & Retention	15	1	-93.33%	
Perineal rupture	11	2	-81.81%	
Trauma and Tumors	17	1	-94.11%	
Surgical Procedure				
January	8	7	-12.50%	P <0.05
February	13	10	-23.07 %	
March	7	3	-57.14%	
April	7	0	-100%	
May	9	0	-100%	
June	8	0	-100%	
July	5	0	-100%	
August	12	0	-100%	
September	10	0	-100%	
October	8	0	-100%	
November	9	1	-88.88%	
December	7	1	-85.71%	

Table 1. Comparison of the number of new cases, the total number of cases and the number of surgical procedures at uroginecological care.

Figure 1 shows the achievement of new patient visit data for 2016-2020. These data indicate that there has been a significant decrease in the number of new patient visits from 2020. Pelvic organ prolapse cases had the highest number of cases among other cases as well experienced a sharp decline in 2020 even though the case finding rate increased from 2016 to 2019.

Figure 2, 3 shows the total patient data. Along with the new patient data, in all six diseases, there was a decrease in the total number of cases. The number of cases of immediate pelvic organ prolapse has decreased dramatically.

Figure 1. New case urogynecology each year.

Figure 2. Total case urogynecology each year.

Figure 3. Urogynecology surgical procedure data during 2016-2020.

Table 2 shows urogynecology surgical procedure data for 2016-2020. March is the first month of the entry of COVID-19 in Indonesia. 42 elective surgical procedures were recorded as being held in July. From table 2 it is known that the number of surgeries decreased dramatically from 2019 to 2020 with the number of surgeries that were stopped in March. Surgical procedures started appearing again in November and December.

Month/ case	Pelvic organ prolapse	Congenital abnormalities	Fistula (Vesikovagina & Rektovagina)	Urine Incontinence & Retention	Perineal rupture	Trauma and Tumors
January	9	5	1	0	0	0
February	22	10	11	0	1	0
March	30	2	7	3	4	1
April	5	1	2	0	1	0
May	5	1	1	0	1	0
June	4	0	1	0	0	0
July	1	0	1	0	0	0
August	1	0	0	1	0	0
September	5	2	0	0	0	0
October	6	1	3	2	0	0
November	5	13	1	2	0	1
December	8	11	3	4	0	1
Total	101	46	31	12	7	3

Table 2. Data on health services with a focus on uroginecology in 2020

Table 3 shows the patient comorbidity data found in 2020. Most of the comorbidities were postoperative patients and cancer patients. Most of the postoperative patients occurred in February and began to decline in March 2020. Most cases of infection were found in March.

Month/ Patient Comorbidity	Cancer/ Tumor	Hypertension	Diabetes Mellitus	Cyst	Infection	Post Operative surgery
January	1	1	0	0	0	6
February	1	1	2	1	2	24
March	5	1	0	0	4	14
April	1	0	0	0	1	4
May	1	0	0	0	1	1
June	2	1	0	0	1	0
July	0	0	0	0	0	1
August	0	0	0	0	0	0
September	1	0	0	0	0	1
October	3	0	0	0	3	1
November	1	0	0	0	2	2
December	2	0	0	0	6	7

Table 3. Patient Comorbidity Data for 2020.

Discussion

Urogynecology services are essential services because they are related to the quality of life of women. The results showed no difference in new patient visits and overall patient visits between 2019 and 2020 ($p > 0.05$), but there was a significant difference in the number of patient visits to perform surgical procedures ($p < 0.05$). This is likely due to the fact that there was still a patient attendance at the examination between 2019 and 2020. The study data showed a significant reduction in the number of patient visits compared to previous years. The incidence of this decrease is not necessarily related to the decrease in cases that are felt, but is related to how patients with complaints of urogynecology can access health services during the COVID-19 pandemic. The impact of the many cases of COVID-19 can be known directly or indirectly. This is likely that many patients have made the decision not to undergo examination at a health facility or hospital or because of disruption of health services due to COVID-19, so that the examination is postponed. The main barriers to accessing health services based on previous research are inadequate services and poor quality of facilities, lack of medical supplies, doctors' busyness due to high patient burdens, distance to long facilities, and long waiting times after facilities are reached, consultation times very brief, lack of empathy from health care professionals, their generally callous and relaxed attitude, aggressive pursuit of monetary gain, poor levels of competence and, at times, ignoring the suffering of patients without being able to voice their concerns - all these services often fail reported in print media. media.[5]

The hospital has implemented steps to manage / triage patient care. Lifestyle adaptation process, consultation via video to minimize face to face. In the hospital maximizes infection prevention. Virtual clinics are recommended for new patients and follow-up patients, to assess and initiate treatment, as well as triage patients who require face-to-face appointments. Outpatient examinations such as urodynamics and cystoscopy for indications of benign can be postponed. Prolapse and continence surgery should be postponed, except in certain circumstances such as procidentia with upper tract complications and a failed pessary. Behavioral and medical therapy should be recommended as first-line options and initiated through virtual or remote clinics, which are an integral part of management during a pandemic. Expanding the availability and accessibility of technology will be increasingly needed. The majority of outpatient and inpatient procedures can be postponed, but the long-term effects of these practices are unclear.[6]

The existing problems related to COVID-19 can be related to many things ranging from surveillance, pharmacological management, catch up and rescheduling, crisis management teams, universal health systems and organizations, health in the mass media and communication with residents, re-migration. health workers, demands of health care workers, leading numerical recognition, long-term activities and practices, financial resources, community participation, health insurance, health care, human resources, digital technology, research

procedures, training of medical students.[7] From a health policy point of view, hospital administrators should emphasize open and clear communication between providers and patients to avoid problems.[8] In the absence of a vaccine or treatment, public health strategies include: (a) preventing transmission through early detection and isolation, tracing contacts and quarantining them, and implementing measures such as social distancing and hand hygiene and (b) reducing mortality by improving clinical management and protection the most vulnerable population in society. The pandemic is another reminder that we need to invest in public health, increase national capacity to detect disease early and respond quickly to emerging infections, strengthen and respect our national institutions and rely on an evidence base for policy making.[9]

Pelvic organ prolapse is the largest case among other cases. Pelvic organ prolapse is a common gynecological complaint in which the vaginal walls weaken, resulting in lowering of the pelvic organs through the vagina. Prolapse can be asymptomatic or related to pelvic pressure and difficulty urinating and passing stool, but often does not cause pelvic or lower abdominal pain.[10] Approximately 30% of women aged between 20-59 years and more than half of women over 50 years attend POP-related clinics. A woman's lifetime risk for POP surgery is estimated to be 19% and the risk of re-surgery even with appropriate surgery is about 30%.[11]

Since surgical procedures have been delayed due to easy transmission and a rapid increase in incidence, some surgical activities have been restricted worldwide. Elective surgical procedures that are considered not really important, including plastic surgery, should be postponed or even canceled.[12] For patient safety and to ensure that resources, hospital beds, and equipment are available for critically ill patients with COVID-19, the American College of Surgeons (ACS) and the US Centers for Disease Control and Prevention recommend that non-emergency procedures be postponed. There are many reasons related to the delay in operations such as limited personal protective equipment, patients and families whose cases of COVID-19 are not diagnosed can be transmitted to health workers and other people in the hospital, all health workers are obliged to treat them. Virus-infected and critically ill patients and operating rooms have ventilators (breathing machines) which may be needed to support COVID-19 patients rather than being used for elective procedures.[13]

Surgical procedures that are delayed in the future will still be carried out and adjusted to the existing circumstances. Therefore the organization must prepare special internal protocols and arrange adequate training for the personnel involved.[14] Surgical services vary widely around the world in response to budget constraints, health care system configurations, and patient demographics. As COVID-19 continues to demonstrate its presence in healthcare around the world, surgeons will undoubtedly adapt to its non-surgical role in the important fight against the COVID-19 pandemic.[15]

Pelvic organ prolapse is associated with routine use of the pessary. This relates to the routine visits of women to urogynecology clinics. In one study, it was reported that more than 90% of patients felt comfortable with treatment and continued treatment for 6-12 months. After 24 months of treatment it was also stated that the use of a pessary was associated with improvement in symptoms of pelvic organ prolapse.[16] Difficulty with removal and insertion may limit the current wider use of pessaries and this may lead women to decide on a visit to a health facility.[17] In women with stage II POP or higher who underwent surgery, prolapse symptoms were not as severe as those treated with a pessary, but 72% of women treated with a pessary device did not opt for surgery.[18] Increased life expectancy and the movement towards improving the quality of life have not only contributed to an increase in the prevalence of POP but also to an increase in the prevalence of women seeking treatment and solutions to their symptoms. Postmenopausal women play an important role in the development of POP.[19] If the pessary cannot be removed regularly by the patient, visits at intervals of 2 to 3 months have been widely used [17]. Pessaries can be removed daily, weekly, or monthly, at the discretion of the patient, to be washed with plain soap and water.[20] The high success rate and low side effect rate achieved in patients with advanced POP with continuous pessary use for 24 months, suggesting that the ring pessary can also be used without periodic removal for at least the first 2 years. This practice can reduce the number of control visits.[21] Successful use of a

vaginal brace pessary requires an understanding of the expected symptom reduction from provider and patient, potential complications, self-care options, and evaluation and treatment of pessary-related problems.[22]

Based on the results it was known that the patient had comorbidities. Patients with comorbidities should take all necessary precautions to avoid becoming infected with SARS CoV-2, as they usually have the worst prognosis.[23] Among laboratory confirmed Covid-19 cases, patients with comorbidities such as diabetes, hypertension or malignancy produced worse clinical outcomes than those who did not. A higher number of comorbidities also correlates with worse clinical outcomes.[24] One or more comorbidities are very common in severe and fatal cases of COVID-19. However there is no clear relationship between the two.[25] In the case of patients with a history of surgery, significant reductions in TNF-α, IL-2, IFN-γ and lymphoproliferation were observed immediately after surgery, suggesting impaired cell-mediated immunity. TNF-α and IFN-γ remained depressed for up to 48 hours after surgery. Relevant depression of cell-mediated immunity is associated with major surgery and continues despite optimal analgesia.[26] There are also individuals with chronic conditions who have distorted perceptions about the risk of severe disease from exposure to COVID-19. In addition, studies have shown that patients with comorbidities are exposed to COVID-19 because of their context or attitude.[27]

Health services must improve regarding COVID-19 services without neglecting other diseases. The cases faced are complex and require the national health system to survive. The weakness of this study is that the data have not yet completely examined the patient's perspective. The recommendation for further research is to conduct research on the patient's perspective qualitatively to study the perspectives of patients and service providers before and after the Covid-19 pandemic. This will open up room for improved quality of service.

Conclusions

There is a difference in the number of surgical procedures performed when compared between before the pandemic and after the emergence of SARS CoV-2 infection. The number of cases found in urogynecology clinics has decreased both in the discovery of new cases, the total number of cases and the surgical procedures performed by the hospital. Pelvic organ prolapse examinations have never been absent from patients for months in 2020 even though the number of patients has decreased. It is a complex question, how patients should be able to access urogynecological care during a pandemic and what hospitals should do if they notice a significant reduction in patient numbers. This effect shows several views, namely cases that can be reached in real terms, cases that can be reached even though not all of them, and cases that ultimately cannot be reached by health services and women themselves. This is a job that needs to be considered in the long term to continue with quality services.

Abbreviations

COVID-19 : Coronavirus Disease 2019
POP : Pelvic Organ Prolapse
SARS CoV-2 : Severe acute respiratory syndrome coronavirus 2

Declaration of Interest

The authors report no conflict of interest.

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