
Research Article,

Impact of Lockdown on General Surgery Patients in Mankweng Hospital, Limpopo

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Abstract:

Background: Based on data from the World Health Organisation, it has been shown that Novel Corona virus pandemic disrupts normal activity in whole world. Lockdowns are known to reduce the transmission of virus and enforced almost in the entire world. In South Africa, lockdown measures were imposed from 26th March 2020 and health care services became seriously affected particularly elective surgical operations.

Objectives: Main aim of the study is to estimate the effect of lockdown on the general surgery services in Mankweng hospital.

Method: This is a retrospective cross sectional observational descriptive study. Data for the study include admission, operation & attendance to outpatient clinic collected during a lockdown period of 3 months (April-June 2020) in general surgery and normal period of 3 months (April-June 2019) from Mankweng Hospital Information System.

Result: During the lockdown period April-June 2020, total 291 patients were seen in Surgical Outpatient Department and 122 in Breast Oncology Clinic. There were 197 patients admitted to the hospital and 120 operations performed in theatres. During April-June in 2019, total 442 patients were seen in Surgical Outpatient Department and 152 in Breast Oncology Clinic. There were 500 patients admitted to the hospital and 166 operations performed in theatres. During lockdown elective general surgery operations were reduced noticeably.

Conclusions: Restoration of elective operations should start as soon as Corona virus pandemic slows down and extra elective theatre list ought to be enrolled during weekends to reduce the backlog at least for few months.

Keywords: Lock down, Corona virus, Pandemic

Interoduction:

Novel Corona virus (COVID-19) pandemic has been shown to disrupt normal activity in the whole world. On March 11 in 2020, World Health Organization (WHO) declared COVID-19 a pandemic, pointing to the over 118,000 cases of the coronavirus illness in over 110 countries and territories around the world and the sustained risk of further global spread. ^[1] Lockdowns play a vital role in the reduction of virus transmission ^[2] and they are enforced almost in the entire world.

In South Africa (SA), the national state of disaster was declared and imposed lockdown measures from 26th March 2020, published in government Gazette no. 43107 on 18 March 2020 ^[3] since the first case of COVID-19 was identified on 5th

March 2020. ^[4] Initially, lockdown level 5 was pronounced until the end of April and gradually decreased to level 4 in May, then subsequently to level 3 from June 2020. During the lockdown level 5, people activities and movements were rigorously restricted except for emergency services and shopping of the essential food. In lockdown level 4, some restrictions were withdrawn, social mobility increased and some business activities were re-established. In lockdown level 3, further increased of businesses activities along with more freedom of movements took place.

Health care services became seriously affected particularly the surgical care in many countries with full recognition that surgery must adapt its activities to the pandemic. ^[5,6,7,8] In numerous

countries elective surgical operations were cancelled. Cancellations of scheduled operations are a serious problem with undesirable consequences. It significantly influences patients' health, costs, basic resources, or quality of care. It has an adverse impact on patients and economy including lost days of work, causing health-related anxiety.^[9,10,11] It has also enormous public health implications. During the lockdown, surgical services were reduced almost in all South Africa hospitals in purpose to secure beds and critical care for COVID-19 patients. Outpatient clinics have been scaled down and many elective operations were cancelled. In Mankweng Hospital, department of general surgery reduced most of elective surgical procedures, nonetheless still continued to perform cancer related operations and some other limited elective cases. Main objectives of the study: To estimate the effect of lockdown on the elective general surgery operations and surgical outdoor service.

Methods:

This is a retrospective cohort cross sectional observational descriptive study. Data for study were collected during lockdown period of 3 months (April-June 2020) from the Mankweng Hospital Information System (HIS) for general surgery patients. Mankweng Hospital is a 500-bed tertiary hospital in Limpopo Province, located 30 KM from Polokwane city serving 5.9 million people. The main theatre complex has 4 operating rooms serving general surgery, paediatric surgery, plastic surgery, maxillofacial surgery, orthopaedic surgery and gynaecology. Results were compared with corresponding months from 2019 before COVID-19 pandemic. Categorical variables were expressed as frequency. Data include: the number of admissions, attendance to the surgical outpatient department(SOPD) & Breast oncology clinic (BOC) and numbers of operations performed on general surgery patients at Mankweng Hospital. Inclusion criteria: All patients included those are seen in SOPD, BOC, Admission in surgical ward and operation performed. Exclusion: Patients seen in causality were excluded. Microsoft Excel 2016 is used for data capturing & analysis. The p-value derived from Chi-square test. Ethical approval was obtained from the Pietersburg-Mankweng Research Ethics committee (PMREC 16 September UL 2020/B) and department of health, Limpopo, reference no LP_202010_001.

Results:

During the lockdown period April-June 2020, total 291 patients were seen in the Surgical Outpatient Department (SOPD) and 122 in the Breast Oncology Clinic (BOC). There were 197 patients admitted to the hospital and 120 operations performed in theatres. For comparison, during the same period April-June in 2019, total 442 patients were seen in SOPD and 152 in the BOC. There were 500 patients admitted to the hospital and 166 operations performed in theatres. Detail result is reflected in Table 1.

Table 1: General surgical activities, during the lockdown period 2020 and corresponding the same period of 2019

Period	April-June 2020 (Lockdown period)			April-June 2019 (Normal activities period)			P-value
	April 2020 Level 5	May 2020 Level 4	June 2020 Level 3	April 2019	May 2019	June 2019	
Admissions	65	55	77	155	171	174	0.270
Surgical outpatient department (SOPD)	56	103	132	200	131	111	<0.001
Breast Oncology Clinic (BOC)	29	34	59	44	57	51	0.044
Theatre operations	37	38	45	48	55	63	0.934

Discussion:

COVID-19 significantly impacted health services for non-communicable diseases^[12] in many countries. In South Africa health system is under-resourced and many people depend only on public hospital for their health care needs, therefore it makes situation even more severe.

Analysing our completed data from the COVID-19 period of 3 months from April-June 2020 with the same period in 2019, the number of patients attended the SOPD was reduced by 34% and the BOC by 20%. Admissions to the hospital dropped by 60% and numbers of operations reduced by 28% during this 3 months of lockdown period.

Numbers of admissions to hospital, attendance to clinics and operations in theatres reduce massively in April 2020, revealed the direct effect of lockdown level 5. When comparing month by month, the number of SOPD patients during lockdown reduced by 72% for April and 21% in May. However, there was an increase of 19% in June 2020 during lockdown level 3. As for Breast Oncology clinic, the number reduced by 34 % during the lockdown level 5 and 40% in level 4.

Nevertheless, there was an increase of 16% in level 3 of the lockdown in compare to normal period of 2019. Total number of operation during lockdown reduced by 23% in April, 31% in May and 29% in June in compare to normal period of 2019.

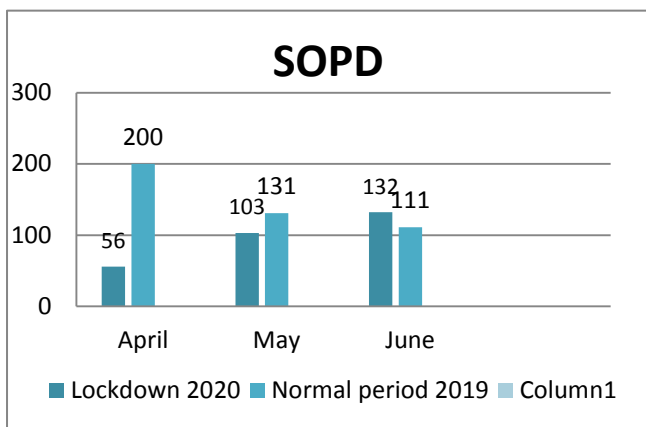


Figure 1: SOPD during lockdown period 2020 & Normal period 2019

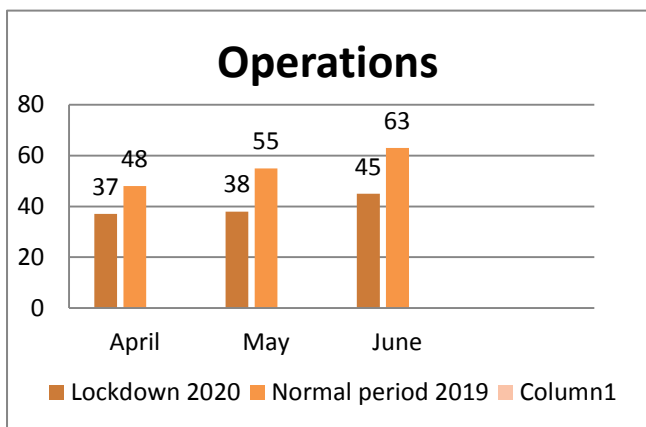


Figure 2: Operations during lockdown period 2020 & Normal period 2019

In this study it has shown that gradually reduced lockdown levels were followed by progressively increased numbers of visits to SOPD (figure I) but numbers of operations still remain reduced in comparison to 2019 (figure II). During 3 months of lockdown period fewer operations were done contrasting with the same period in 2019.

Prolonged lockdown restrictions would further increase waiting elective operations lists. Delaying the elective surgery decreases the quality of the patient's life. People, who suffer the most, are those of low income depending entirely on the public health services. In some cases, such setbacks in elective operations results in very undesirable clinical outcomes, particularly in cancer patients, where local and distant metastases may progress. Some of them may develop acute conditions and end up with emergency appearance

in the hospital. In Mankweng Hospital, some of the patients already waited for their operation for a long time even before of the COVID-19 lockdown. Now, with this pandemic they have to wait much longer for operations.

The damage caused by coronavirus pandemic must be repaired. It would take several months in SA to work on accumulated backlogs in waiting lists of elective surgery. All surgical disciplines are affected and must improve their effectiveness by increasing the number of operations as soon as pandemic is over. This is a colossal task to overcome. It is a paramount imperative to increase theatres capacity, expanding space and time. It will be difficult for some institution, where surgical disciplines are already overwhelmed in their normal routine work. Some solution could be done by increasing theatre space particularly during weekend.

There might be concern that operations done over the weekends have a higher mortality than done during the weekdays. The weekends affecting mortality are well documented in the literature, but there is a controversy on this subject, as some authors reported higher mortality,^[13-20] while other did not.^[21,22] Study done in Limpopo, performing low risk elective operations on Saturdays had showed effectiveness of such approach.^[23]

Conclusions:

During 3 month of lockdown elective general surgery operations were reduced noticeably. Restoration of elective operation should start as soon as Corona virus pandemic slows down and extra elective theatre list should be enrolled during weekends to reduce the backlog at least for few months.

Conflict of interest: None declared.

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