Hospitalisation during lockdown—patients' beds-eye views

Kyu Hyun Lee, Bernard Wong, Seif El-Jack, Guy Armstrong, Ruth Newcombe, Li Ma, John Ramos

ABSTRACT

AIMS: The global COVID-19 pandemic and lockdowns have affected the patterns of hospital presentations for non-COVID related illnesses. Apprehension and perceived risk of hospitalisation has been postulated to be a significant deterrent to presentation. This study aims to explore pandemic- and- lockdown-related concerns with regards to hospital admission from a patient's perspective.

METHODS: A cross-sectional study was undertaken in the form of an inpatient questionnaire for patients admitted to a coronary care unit and the cardiology ward during the Level 4 lockdown. The questionnaire included six questions designed to gather patient perception of the impact of lockdown on their hospital presentation.

RESULTS: Out of 91 patients who completed the questionnaire, 41 (45%) were >70 years old. Twenty (22%) patients answered that lockdown delayed or affected their decision to present to hospital. Within this cohort, there was a statistical difference between those aged 70 years and younger, and those over 70 years old (16/50 (32%) versus 4/41 (10%), p=0.011).

CONCLUSIONS: Apprehension and concerns regarding the risk of COVID-19 was prevalent in a significant proportion of patients and affected/delayed their decision to present to hospital. This may partly explain lower rates of presentation during the pandemic.

The novel coronavirus strain and its associated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (subsequently termed COVID-19) spread rapidly, achieving global pandemic status a few months after being first identified.[1] Countries have employed various strategies to combat its spread, including public health measures, managed quarantine facilities, border closures, lockdowns and vaccination.

A relatively isolated island nation of five million persons, New Zealand saw its first case of COVID-19 on 28 February 2020. Within a month, New Zealand adopted a four-level alert system and entered the most stringent, Level 4, which included complete lockdown—closure of all non-essential services, a stay at home order and other public health measures such as social distancing and Quick Response (QR) code tracking.[2] This was paralleled by a tiered hospital alert system that saw non-urgent consultations and elective procedures deferred with instructions to patients, especially the most vulnerable, (age>70 years, those with serious chronic conditions or who are multiply co-morbid) to only seek hospital care for serious symptoms and default to being triaged first by their family doctors (General Practitioners). The first 5-week lockdown successfully eliminated the virus from New Zealand. Through various levels and durations of subsequent lockdown measures, New Zealand experienced only occasional, isolated cases of COVID-19 until August 2021, when it saw its first case of the Delta variant. This led to a second Level 4 lockdown, which lasted for two weeks nationwide, but for five weeks in the greater Auckland Region (population approximately 1.57 million).[3]

In response to the pandemic, New Zealand hospitals' alert responses adopted strict regulations on patient screening and significant limitations on visitation.

Waitematā District Health Board (WDHB) has a catchment of 629,000 and is representative of the greater Auckland, and New Zealand, population.[4] Like elsewhere, our cardiology service experienced falls in admissions due to acute coronary syndromes, heart failure, cardiac arrhythmias or cardiac arrest during the lockdown in 2020.[5]

Multiple hypotheses have been proposed to help explain this phenomenon, including sedentary life-

style during lockdown masking symptoms, limited contact—especially face-to-face appointments with general practitioners—and reduced air pollution.[5] We are not aware of reports of patients' perspectives on reasons for reduced hospitalisation rates. It may be that the reduced admissions relate to patients feeling apprehensive about being in hospital during this time. As cases, including number of hospitalised COVID-19 patients, are broadcast daily on various media channels, patients may perceive hospitals to be locations of high risk that should be avoided.

In the current study, we aimed to explore patient perspectives and potential lockdown-related concerns during their admission to our cardiology department.

Methods

We conducted a cross-sectional study in the form of an anonymous questionnaire provided to all inpatients admitted to the cardiology service at North Shore Hospital in Auckland, New Zealand during the Level 4 lockdown period between 17 August to 21 September 2021. To avoid capturing patients admitted prior to the lockdown, participant recruitment commenced nine days after it started. The survey had questions addressing the patients' experiences during the Level 4 lockdown period, plus free text comments. Only fully completed questionnaires were analysed.

The questions were:

1. Did the current COVID lockdown affect/delay your decision to come into the hospital/Emergency Department?
2. Are you concerned being in the hospital during the current COVID lockdown?
3. Do you think that having visitor restrictions has negatively impacted your hospital stay/experience?
4. Are you concerned that you might contract and pass COVID to your family due to your current hospital admission?
5. Do you feel safe to stay in the hospital and wait for any non-urgent procedures/tests that are usually routinely done for your condition before discharge during COVID lockdown?
6. Is there anything that we could have done differently to provide you with reassurance during this time?

Statistical Analysis

Categorical variables are presented as absolute numbers, percentage of the study population or a specific subset. Comparisons between groups were made using Pearson's chi-square test for categorical variables. Two-sided p-values <0.05 were considered statistically significant. The IBM SPSS Statistics for Windows, Version 25.0. (IBM Corp. Armonk, NY, USA) was used for statistical analysis.

Results

Ninety-one of 95 patients agreed to participate in the study and returned completed questionnaires. Fifty-six (62%) were male, with 41 (45%) patients greater than 70 years old. A majority (67 patients, 74%) identified ethnically as New Zealand European (Table 1).

Answers to each of the questions are displayed in Table 2; 20 (22%) of participants reported that the lockdown delayed or affected their decision to present to hospital, and 28 (31%) of patients were concerned about being in hospital during lockdown. After admission, 34 (38%) of participants felt their hospital stay was negatively impacted due to visitor restrictions, and 28 (31%) were concerned about contracting COVID-19 during hospitalisation and passing it onto their social bubble at home. Once admitted, the majority (73 patients, 80%) were willing to remain in hospital for routine tests/procedures prior to discharge. Overall, only 8 (9%) patients felt that improvements could be made to better reassure them during the admission. There were no significant differences in responses according to sex and the ethnic distribution, which was too limited to draw any conclusions.

Delays in presentations were more likely to occur in younger patients: 16 of 50 (32%) aged ≤70 years compared to 4 of 41 (10%) aged >70 years (p=0.011).

Thirty patients provided additional free comments. Eight were complementary of the care they received, 4 specifically "felt safe", 10 had comments on improving the patient's experience of which 3 requested more information on COVID-19. The word "scared" was mentioned once, and 2 other patients indicated concern of hospital-acquired infections. Two expressed concern about lack of family support, especially with choices of treatment.

Table 1: Patient demographics including a) sex, b) age group, and c) ethnicity.

Gender	Male	56
	Female	35
Age group	20–29	2
	30–50	13
	51–70	35
	71–90	40
	91–110	1
Ethnicity	NZ European	67
	NZ Māori	5
	African	1
	Asian	7
	Middle Eastern	1
	Pacific Island	6
	Other	4

Table 2: Question responses.

Question	Yes (%)	No (%)
Did the current COVID lockdown affect/ delay your decision to come into the hospital/Emergency Department?	20 (22%)	71 (78%)
Are you concerned being in the hospital during the current COVID-19 lockdown?	28 (31%)	63 (69%)
Do you think that having visitor restrictions has negatively impacted your hospital stay/experience?	34 (37%)	57 (63%)
Are you concerned that you might contract and pass COVID to your family due to your current hospital admission?	28 (31%)	63 (69%)
Do you feel safe to stay in the hospital and wait for any non-urgent procedures/ tests that are usually routinely done for your condition before discharge during COVID lockdown?	73 (80%)	18 (20%)
Is there anything that we could have done differently to provide you with reassurance during this time?	8 (9%)	83 (91%)

Discussion

The most alarming finding from our study was that 22% of participants acknowledged that their presentation was affected or delayed by the COVID-19 pandemic. This figure is likely to be an underestimate as it excluded those who ultimately never came into hospital. This previously postulated patient-level apprehension of seeking medical attention seems to be real when explaining reductions in non-COVID-related admissions during the pandemic. Especially that patients with minor symptoms are likely to avoid the perceived risk of coming to hospital. This is clinically significant, as there are obvious health risks when patients do not present in timely manner, with delayed treatment leading to poorer outcomes.[6] Interestingly, a significantly higher proportion of patients aged ≤70 years reported delayed presentation to hospital compared to those >70 years (32% vs 10%, p=0.011), contrary to the public health message advising older people to stay home. This suggests there may be an age-related difference in perception of risk, which can lead to adverse clinical outcomes for younger patients who are generally less vulnerable to COVID-19 than older patients.

Almost a third of patients had concerns of contracting COVID-19 themselves or passing it onto their family. In a US based analysis, Nallabelle et al. suggested that the risk of contracting COVID-19 when admitted with a non-COVID-related illness was significantly lower than the risk in the general population, with an odds ratio of 24.1, attributed to strict patient screening, use of personal protective equipment and other infection control measures in the hospital setting.[7] However, patients' behaviour would be more influenced by social media and news outlets than by peer-reviewed scientific literature. It is interesting that some patients in this group did not feel COVID-19 delayed their presentation nonetheless it still affected their perception of the risk of coming to hospital.

Mental wellbeing is a major contributor to the experience of any patient admitted to hospital. This is often shaped by the level of support a patient has beyond the clinical care. Limited or prohibited visits by family members was viewed as a problem by 38% of our patients even though only 9% disagreed with the lockdown restriction protocols. This may reflect a level of apprehension that "justifies all measures" to mitigate COVID-19 risk.

Despite the delayed presentation in some patients and the ongoing concern by a few others, most patients (80%) were happy to remain in hospital to complete their investigations and treatment. In the free comments, a handful stated that they felt safe in hospital. This reflects that patients' perceptions of their heart-risk relative to their in-hospital COVID-19 risk changed after admission. Once in hospital, they became more comfortable staying on to complete their treatment and investigations.

Limitations

There are several limitations to our study. The number of participants is small and not ethnically diverse, which may be important when trying to extrapolate these findings to other groups who may hold different healthcare beliefs. We studied patients from the cardiology ward and coronary care unit, which have a narrow subset of conditions, namely acute coronary syndrome, heart failure and severe cardiac arrhythmias. These tend to have more acute and urgent presentations which may have favoured more patients seeking hospital care. There are inherent biases in the study because it only surveyed inpatients, omitting those who avoided hospital admission. We did not record reasons from those inpatients who declined to participate, but the written nature of the questions and answers would have been a barrier to those with limited literacy and those with English as a second language.

Conclusion

A significant proportion of cardiology inpatients expressed apprehension about seeking medical attention or hospitalisation in the setting of the COVID-19 pandemic, which may partly explain lower rates of admissions of non-COVID-related illnesses. Once in hospital, patients were mostly happy to stay until their cardiac condition was managed. This suggests that a positive in-hospital experience reduced their concerns about the COVID-related risks of hospitalisation.

COMPETING INTERESTS
Nil.

ACKNOWLEDGEMENTS
The authors acknowledge the assistance of our cardiology in-service team in deploying and conducting the survey. More importantly we acknowledge their dedication and care during difficult times both for patients and healthcare workers.

AUTHOR INFORMATION
Kyu Hyun Lee: Cardiology Trainee, Department of Cardiology, Waiteamatā District Health Board, Auckland.
Bernard Wong: Interventional Cardiology Fellow, Prince of Wales Hospital, Hong Kong.
Seif El-Jack: Cardiologist, Department of Cardiology, Waiteamatā District Health Board, Auckland.
Guy Armstrong: Cardiologist, Department of Cardiology, Waiteamatā District Health Board, Auckland.
Ruth Newcombe: Senior Medical Radiation Technologist, Department of Cardiology, Waiteamatā District Health Board, Auckland.
Li Ma: Charge Nurse Manager, Department of Cardiology, Waiteamatā District Health Board, Auckland.
John Ramos: Clinical Nurse Educator, Department of Cardiology, Waiteamatā District Health Board, Auckland.

CORRESPONDING AUTHOR
Kyu Hyun Lee: Cardiovascular Unit, North Shore Hospital, 124 Shakespeare Road, Takapuna, Auckland 0620. kyu_hyun@hotmail.com.

URL
www.nzma.org.nz/journal-articles/hospitalisation-during-lockdown-patients-beds-eye-views-open-access

REFERENCES
1. World Health Organization. Coronavirus disease (COVID-19) outbreak. (https://www.who.int/covid-19). Accessed 15 October 2021.
2. New Zealand Government. Unite Against COVID-19. (https://www.covid19.govt.nz). [Accessed 15 October 2021].
3. Stats NZ. 2018 Census data. (https://stats.govt.nz).
4. Ministry of Health data, 2020/2021. (https://health.govt.nz).
5. Wong B, El-jack S, Armstrong G. Pandemic control: getting to the heart of unintended consequences. N Z Med J. 2020;133:153-156.
6. Swanson N, Montalescot G, Eagle KA, et al. Delay to angiography and outcomes following presentation with high-risk, non-ST-elevation acute coronary syndromes: results from the Global Registry of Acute Coronary Events. Heart. 2009;95:211-215.
7. Nalleballe K, Siddamreddy S, Kovvuru S, et al. Risk of coronavirus disease 2019 (COVID-19) from hospital admission during the pandemic. Infect Control Hosp Epidemiol. 2021;42:1285-1286.