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IMPACT OF GENDER DIFFERENCES ON COVID-19 INFECTION
MANAGEMENT AT SALLY MUGABE CENTRAL HOSPITAL HARARE
ZIMBABWE, 2020

By

PETRONELLA ANESU MANDAIRE

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Abstract

The COVID-19 pandemic presented unprecedented challenges to global health systems, with significant implications for clinical management and public health responses. This study investigates the impact of gender differences on the management of COVID-19 infections at Sally Mugabe Central Hospital in Harare, Zimbabwe, during the year 2020. Recognizing that biological sex and gender roles can influence susceptibility to infection, clinical presentation, treatment response, and health outcomes, the research aims to analyze how these differences shaped the management and outcomes of COVID-19 cases at one of Zimbabwe's largest tertiary health institutions. Using a retrospective cross-sectional study design, clinical records of 350 COVID-19 patients were reviewed. Data were collected on demographic characteristics, comorbidities, symptoms, treatment regimens, and patient outcomes. The analysis explored gender-based differences in disease prevalence, severity at admission, length of hospital stay, and mortality. Statistical tools were applied to determine associations between gender and various clinical outcomes. The findings reveal notable disparities in infection patterns and treatment outcomes between male and female patients. Of the 154 infected 89 (58%) were Females while 65 (42%) were Males. Males presented with more severe symptoms and had higher rates of comorbidities such as hypertension and diabetes, contributing to a greater need for intensive care support and higher mortality rates. Females, while presenting earlier and with milder symptoms on average, also showed differing responses to treatment protocols. This base further supports the breakdown of the mortality rate, which comprised of a 21% rate with males taking up the larger percentage of 12% while females had a 9% mortality rate. The study also examined how gender roles and societal expectations may have influenced healthcare-seeking behaviour, potentially affecting the timing of presentation and adherence to treatment. This research underscores the importance of incorporating gender-sensitive approaches in pandemic preparedness and response strategies. It calls for a more nuanced understanding of gender dynamics in clinical care to ensure equitable health outcomes. Tailoring interventions based on gender-specific risk factors and healthcare needs can improve treatment effectiveness and contribute to better management of infectious disease outbreaks in resource-limited settings.

Key Words: Covid19, gender, prevalence, Zimbabwe

Declaration

I declare that this dissertation is my original work except where sources have been cited and acknowledged. The work has never been submitted, nor will it ever be submitted to another for the award of a degree



Petronella Anesu Mandaire

Student's Full Name

Student's Signature (Date)

Prof Maibouge Tanko Mahamane Salissou



14/04/ 2025

Main Supervisor's Full Name

Main Supervisor's Signature (Date)

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List of Acronyms and Abbreviation

COVID-19	Coronavirus Disease 2019
WHO	World Health Organization
MOHCC	Ministry of Health and Child Care (Zimbabwe)
ICU	Intensive Care Unit
PPE	Personal Protective Equipment
PCR	Polymerase Chain Reaction
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
HIV	Human Immunodeficiency Virus
NCDs	Non-Communicable Diseases
SOPs	Standard Operating Procedures
SMCH	Sally Mugabe Central Hospital
CDC	Centers for Disease Control and Prevention
RT-PCR	Reverse Transcription Polymerase Chain Reaction
ART	Antiretroviral Therapy
OPD	Outpatient Department
ICU	Intensive Care Unit
MIP	Master in Public Health (or your actual degree)
SPSS	Statistical Package for the Social Sciences
UN	United Nations

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CHAPTER ONE

1.0: Introduction

In 2019, on December 13, in Wuhan, China, an illness known as COVID-19, or coronavirus, first presented itself. On January 10, 2020, China did, however, subsequently make the existence of (SARS-CoV-2) public. It wasn't until January 30, 2020, that the WHO designated it a public health emergency. Since it exhibits similarities to the bat virus (which resembles SARS), it is thought to be an acute respiratory illness that originated in bats. According to Rahman and Shaban (2020), Zimbabwe had 14 cases registered by April 13 of the same year, with three confirmed deaths. The first case was reported there on M

1.1: Background of study

Covid-19, also known as SARS-CoV-2, is an acute respiratory illness that has spread over the world and is now considered to be among the greatest pandemics to ever affect humanity. According to World Meter reports, there were about 696,052,721 confirmed cases worldwide and 6,922,393 recorded fatalities. In Zimbabwe, there were an estimated 265,748 confirmed cases and 5,718 recorded deaths (Anders et al., 2015; Bulow et al., 1985; Luhwago, 2020; Pagel, 1994; Thornton et al., 2009). Globally, the COVID-19 epidemic has impacted millions of patients. Sex and gender variations in the incidence and prognosis of COVID-19 patients have been demonstrated in numerous research and in national and international government data. These variations are likely the result of a number of factors, including hormonal variations, immunological responses, inflammatory indicators, and behavioral attitudes, in addition to age and concomitant disorders (Jin, J. M., Takahashi, T., Peckham, H., Liu, Q., et al 2020). In this review, we cover the research on differences in COVID-19 infections

between sexes and genders, with an emphasis on possible pathogenic causes (Ya'qoub et al 2021). Globally, studies have reported varying gender differences in COVID-19 infection rates, with some showing higher rates among men and others among women. The World Health Organization (WHO) has highlighted the importance of understanding gender differences in COVID-19 transmission and impact (Liu et al 2020). However in Zimbabwe, gender roles and expectations are deeply ingrained, with women often shouldering caregiving responsibilities and men dominating the public sphere. These dynamics may have affected COVID-19 infection rates, healthcare seeking behaviors, and adherence to public health measures (Mwandi, S., & Moyo, S. (2018)). This might have led to a shift in how gender relates to Covid-19 infections in Zimbabwe, specifically Harare.

1.2: Statement of Problem

Studies have shown that the immunological response of males, females, pre- and post-menopausal women, and children may differ. Children, males, and post-menopausal women showed weaker immune responses than women before menopause. Many reasons induce COVID-19 gender inequalities. These variances are influenced by genetics, lifestyle, comorbidities, hormones, the immune system, and age (Kawther Zaher et al 2023). The virus has disproportionately afflicted different genders in different places, including Harare, Zimbabwe, despite international attempts to battle the COVID-19 epidemic. Significant differences in the likelihood of contracting COVID-19 infection across genders have been identified in Harare in 2020, with women more likely than men to do so. The social, economic, and cultural variables that contribute to these disparities are called into serious doubt by this discrepancy (Progress on the Sustainable Development Goals: The Gender Snapshot 2021, 2022). Multiple variables contribute to the increased infection prevalence

among women in Harare, Zimbabwe, as a result of the COVID-19 pandemic's exposure and exacerbation of pre-existing gender disparities. Particularly among children, the elderly, and those with weakened immune systems, women are more frequently the primary carers for family members. Their interaction with possible virus carriers is heightened as a result.

1.3: specific objectives

1. To determine the gender distribution of COVID-19 cases in Harare in 2020,
2. To determine the mortality rate. at Sally Mugabe Hospital Harare, Zimbabwe, in 2020,
3. To examine the sociodemographic factors (age, occupation, education level, marital status, etc.) associated with COVID-19 infection rates at Sally Mugabe Hospital Harare, Zimbabwe, in 2020,
4. To evaluate the accessibility and utilization of healthcare services at Sally Mugabe Hospital Harare, Zimbabwe, in 2020,

1.4: broad objectives

1. To investigate the impact of gender and COVID-19 infection and its outcome at Sally Mugabe Hospital Harare, Zimbabwe, in 2020,

1.5: Research Questions

- Were there significant differences in COVID-19 infection rates between men and women in Harare in 2020?

- What was the gender distribution of COVID-19 cases in Harare, Zimbabwe, in 2020?
- How did government policies and interventions address gender disparities in COVID-19 infection rates in Harare?
- Were there gender differences in COVID-19 outcomes, including hospitalization rates, ICU admissions, and mortality rates, in Harare in 2020?

1.6: justification of study

The urgent need to identify the characteristics that most likely made the condition severe for some people but moderate for others is what spurred this study, since it will provide evidence-based documentation for future disease monitoring. Existing health disparities, such as gender variations in infection rates, have been brought to light by the COVID-19 pandemic. To create successful public health initiatives, it is essential to comprehend the connection between gender and COVID-19 infection rates. The study's primary location was Harare, Zimbabwe, which was the scene of a major COVID-19 outbreak in 2020.

1.7: delimitations of the study

The first delimitation is Geographical scope: The research is restricted to Harare, Zimbabwe, and its applicability to other cities or nations may be limited. Delimitation is Data availability, the study relies on available data from 2020, which may be subject to limitations, biases, or inconsistencies. Other delimitations may include Sample magnitude The study's sample size can be small, which could have an impact on the reliability and accuracy of the findings and Measurement instruments: The questionnaires and surveys used in the study

may contain biases or restrictions. Delimitations like this may prove challenging in our case study but are not impossible to overcome.

1.8: summary

In summary, a thorough investigation of this topic will enable us to comprehend the gender demographics most impacted by the COVID-19 pandemic as well as the contributing causes and variables. It will also enable us to examine in greater detail the extent of the global threat posed by COVID-19 and the role that various medical and non-medical factors played in its breakout

CHAPTER TWO LITERATURE REVIEW

2.0: Introduction

In this chapter we are going to look at aspects of our topic like the literature review, theoretical framework, frame work relevance and end our chapter with a conclusion.

2.1: Literature Review

Global repercussions from the Covid-19 pandemic outbreak in 2020 are extensive. Different variations have emerged, adding to the complexity and producing differing effects in different parts of the world. The purpose of this essay is to present a thorough analysis of the literature about the impact Covid-19 on the people living in Harare, Zimbabwe's capital and what role did gender have in influencing Covid-19 infection rates. We do this by taking an in-depth look at our research objectives.

To investigate the relationship between gender and COVID-19 infection rates in Harare, Zimbabwe, in 2020, and to identify the underlying factors contributing to any observed disparities.

Since sex-based biological and gender factors influence COVID-19 mortality, we investigated the difference in mortality rates between women and men in sub-Saharan Africa (SSA). Utilizing a stratified technique based on age (0–39 years: n=41 682; 40–59 years: n=20 757; 60+ years: n=7141) and sex (men: n=43 071; women: n=26 509), 69 580 COVID-19 cases from 20 WHO African region member countries were included till September 1,

2020. A Bayesian technique was used to determine the case fatality rates (CFRs) relevant to the SSA, the country, and the sex-specific CFR disparities across different age groups. Men accounted for 70.5% of the total deaths, with 1656 deaths (2.4% of all cases reported) being reported. Among SSA participants, women had a lower CFR (mean = -0.9%; 95% credible intervals (CIs): -1.1% to -0.6%) in comparison to men. With the sex-specific CFR differences being significant among those 40 years of age or older, the mean CFR estimates rose with age. The WHO study is further supported by the fact that men in Harare, Zimbabwe, had a larger number of COVID-19 cases than women (Zimbabwe Ministry of Health and Child Care, 2020). According to a study, men had a higher risk of hospitalization and serious consequences (Muchena et al., 2020). Traditional gender roles are highly valued in Zimbabwean culture, where women are expected to provide care for others (Mwandi & Moyo, 2018). The kinetics of COVID-19 transmission may have been affected by this. Studies have found that a number of underlying factors, such as occupational exposures (healthcare workers, vital workers), contribute to gender differences in COVID-19 infection rates (Liu et al., 2020). Social and cultural norms (distancing behaviors, gender roles) (Mwandi & Moyo, 2018)- The availability of medical services (diagnosis, treatment) (Muchena et al., 2020)- Comorbidities (hypertension, diabetes, and HIV) (Jin and others, 2020) To examine the sociodemographic factors (age, occupation, education level, marital status, etc.) that influence COVID-19 infection rates among men and women in Harare. Like many other places, Harare's COVID-19 infection rates are impacted by a number of sociodemographic variables. The following are some salient observations: Individuals over 60 years of age, in particular, are more vulnerable to severe COVID-19 results. The hospitalized COVID-19 patients' median age in Harare was 56 years old. (Fryatt et al., 2024). Due to greater exposure, frontline professionals such as healthcare providers are more vulnerable. Higher infection rates are also observed in occupations that necessitate close

interpersonal interaction or cannot be done remotely. (Fryatt et al, 2024). Clinical characteristics and outcomes of patients admitted with COVID-19 at a public-sector hospital over the first two waves of SARS-CoV-2 infection in Harare, Zimbabwe: A prospective cohort study. (Fryatt et al., 2024b). Increased education levels are frequently associated with improved access to healthcare services and preventive measures, which may lower infection rates. The precise effect of this factor on infection rates in Harare, however, is not well-documented. Those who are married may be more or less exposed to certain risks than single people, particularly if they reside in multigenerational households. There are, however, few precise data on the relationship between infection rates in Harare and marital status. There may be differences in infection rates and outcomes between men and women. Though infection rates can vary, men have been found to have greater global mortality rates from COVID-19. Hospitalized patients in Harare were largely evenly distributed by gender, with a small male predominance (Fryatt et al, 2024). Clinical characteristics and outcomes of patients admitted with COVID-19 at a public-sector hospital over the first two waves of SARS-CoV-2 infection in Harare, Zimbabwe: A prospective cohort study. PLOS Global Public Health, 4(1), e0001100) Conditions like hypertension, diabetes, and HIV significantly increase the risk of severe COVID-19 outcomes. In Harare, a high percentage of hospitalized patients had comorbidities. Evaluate how the COVID-19 pandemic significantly impacted the accessibility and utilization of healthcare services in Harare, with notable differences between men and women.

COVID-19 and accessibility and utilization of healthcare services

In general, men were less likely than women to get tested for COVID-19. Social norms and ideas about masculinity, which frequently dissuade men from seeking medical attention, may

be to blame for this. Women were more likely to take the initiative to seek testing services, in part because they typically serve as the major caregivers in their families, which increased their knowledge and anxiety about the virus. When it came to treatment, men experienced worse results from infections, in part because they sought medical attention later. When they finally sought treatment, their illnesses had frequently progressed. Better health results were mostly attributed to women seeking treatment earlier than men. But women also had to deal with obstacles including childcare duties and financial limitations, which could cause delays in receiving treatment (Bastani et al., 2021)

2.2: Theoretical Framework

The COVID-19 epidemic, which began in late 2019 and quickly spread over the world, has had a significant impact on social structures, the economy, and health, among other areas of society. The relationship between gender and the pandemic in particular has attracted a lot of scholarly research because it is becoming more and more clear that gender dynamics influence health outcomes. The purpose of this study is to present a thorough examination of the correlation between gender and COVID-19 infection rates in Harare, Zimbabwe in 2020. This analysis aims to summarize the body of research and provide a more nuanced picture of the pandemic's socioeconomic effects by looking at the various ways that gender affects infection susceptibility, healthcare access, and socioeconomic ramifications.

Sociocultural and Biological Factors in Gender Disparities during Health Crises

Gender is a notion that incorporates a variety of social, cultural, and economic aspects that impact people's chances and experiences. Gender disparities in health often take the form of different biological vulnerabilities, differences in health-seeking habits, and unequal access to

healthcare resources. Women and men experience health risks differently, according to the World Health Organization (2020). This difference can be ascribed to both biological and sociocultural causes. For example, women might be more likely to take on caregiving responsibilities, which could increase their exposure to infectious diseases, but men might have greater frequencies of co-occurring conditions, which could worsen COVID-19 infections. During the epidemic, gender differences in health were especially noticeable in Harare. The majority of the population are women, who

Economic and Social Impacts of COVID-19 on Gender Inequality in Harare

The high rates of unemployment and poverty in Harare's socioeconomic environment exacerbate the already complex association between gender and COVID-19 infection rates. Health outcomes and economic disparities have been demonstrated to be correlated, as people with low incomes frequently encounter obstacles while trying to obtain healthcare services. Women were disproportionately affected economically by lockdown measures during the pandemic, especially those working in the informal economy, which is frequently less secure and provides fewer health precautions. In addition, gender inequality has made the pandemic's financial impact even more severe because women are typically the primary carers for their elderly and dependent children. Women's stress and anxiety levels have increased as a result of having to balance both caring and financial obligations, presumably.

Gender Barriers to Healthcare Access During Crises: The Case of Harare

Health outcomes are significantly influenced by one's ability to receive healthcare services, and gender differences in this regard have been extensively studied. Women have been disproportionately affected by systemic hurdles to healthcare in Harare, such as financial limitations, transportation issues, and cultural stigmas. These obstacles were made worse by

the COVID-19 pandemic, which caused medical facilities to overcrowd with patients and reallocate resources to deal with the emergency. Moreover, putting COVID-19 answers first frequently resulted in the neglect of other crucial health services, including as care for mothers and reproductive health. Due to their heavy reliance on these services, women had considerable obstacles when trying to get care, which could have made them more susceptible to COVID-19. The relationship between gender and access to healthcare highlights the need to address structural disparities in order to enhance health outcomes throughout public

The Intersection of Gender-Based Violence, Mental Health, and COVID-19 in Harare

Lockdown procedures and financial strains have been linked to an increase in gender-based violence (GBV), which has been linked to the COVID-19 pandemic. The pandemic caused a large increase in domestic violence reports in Harare, underscoring the urgent need for initiatives to address GBV as a public health concern. In addition to the pandemic's pressures, the psychological effects of GBV have a significant impact on women's mental health and may raise the prevalence of anxiety, depression, and other mental illnesses. The stigma associated with mental health problems also frequently discourages people from getting treatment, which makes the difficulties women experience at this time much more severe. Because of the intricate and varied connections between COVID-19 infection rates, mental health, and gender-based violence, these interconnected issues must be addressed holistically.

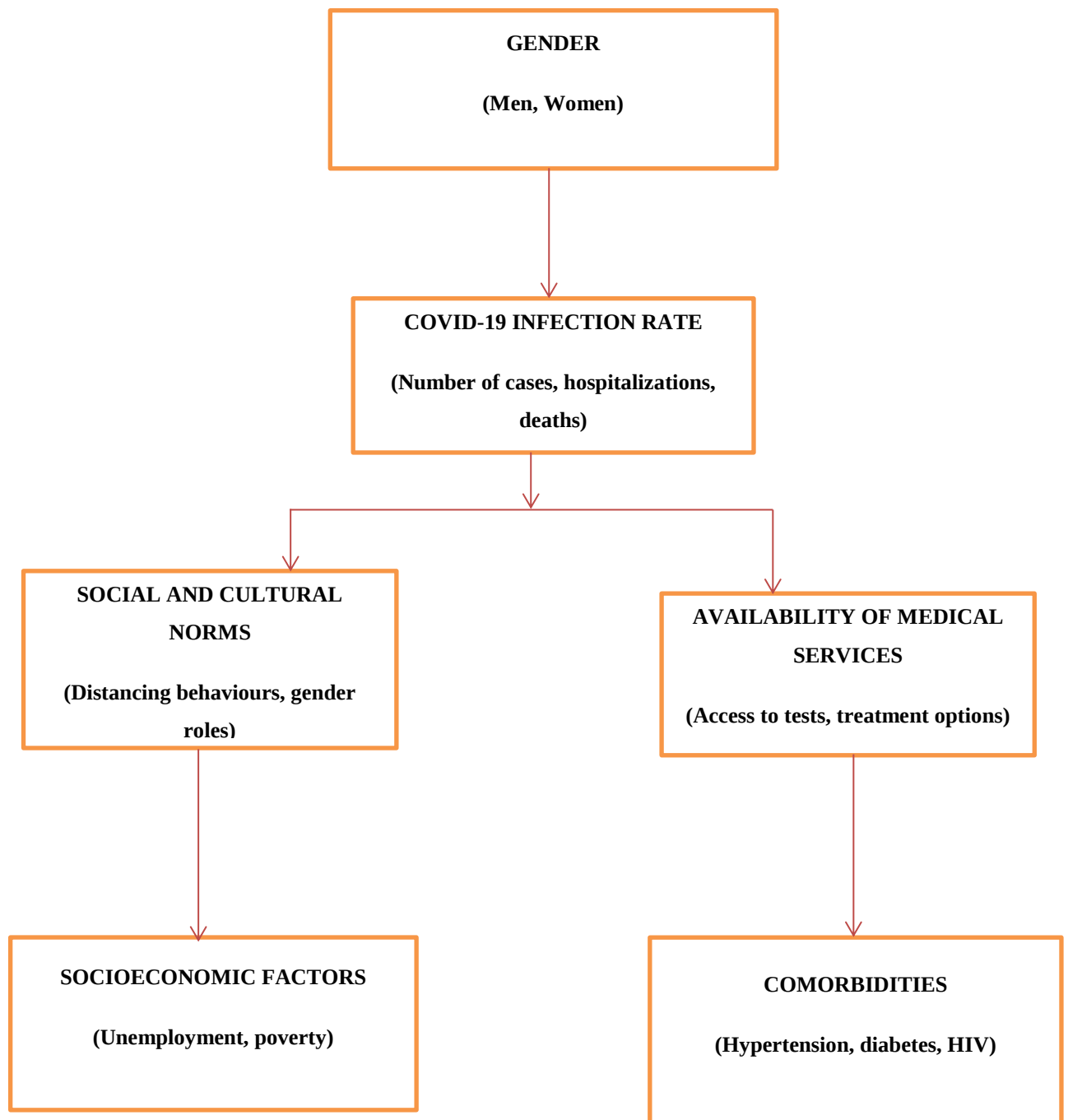
The Need for Gender-Sensitive Communication in Public Health Emergencies

A key component of preventing the spread of infectious illnesses is effective public health messaging, and the COVID-19 pandemic has highlighted the significance of gender-sensitive communication tactics. Women's particular needs and experiences were frequently

overlooked in public health efforts in Harare, which may have made it more difficult for them to get information and resources about COVID-19 prevention and treatment. In addition, the underrepresentation of women in decision-making processes for public health solutions has led to a generalized approach that falls short in addressing the unique difficulties encountered by women. Therefore, it is crucial to create gender-sensitive public health initiatives to guarantee that everyone has fair access to resources and information during medical emergencies. Gender views can be used into public health discourse to improve the

In summary, there is a complicated interaction between a number of factors, including socioeconomic problems, public health messaging, gender-based violence, healthcare access, and health inequities, and the association between gender and COVID-19 infection rates in Harare in 2020. This essay's analysis emphasizes how important it is to approach public health measures with a gender-sensitive mind-set, especially in light of the current global health crisis. Policymakers and public health professionals can work toward more equitable health outcomes and eventually improve community resilience in the face of future pandemics by acknowledging and addressing the distinct obstacles encountered by women and men. This analysis's ramifications go beyond the specifics of COVID-19, as it emphasizes how crucial it is to incorporate gender issues into everything

CONCEPTUAL FRAMEWORK



2.4: relevance of framework

The relevance of our theory is found in the way it explains the problems and variables that affect COVID-19 infections. Our theory, which is supported by a range of expert sources, sheds light on the numerous aspects of the shrinkage of COVID-19, such as the political, economic, social, and systemic ways that gender affected it.

2.5: summary

A summary of some of the previous studies and any gaps are provided in this chapter. A overview of the research on Covid-19 patients and how the disease affects their physical, mental, and social wellbeing is included in this chapter.

CHAPTER THREE METHODOLOGY

3.1: Introduction

The research methodology used to identify the causes and consequences of COVID-19 was demonstrated in this chapter. In this chapter, the study population, sampling technique, data collection, data analysis, ethical considerations, and summary were all covered

3.2 The Research Design

This study used a mixed-method design to investigate the association between gender and COVID-19 infection rates in 2020. A retrospective analysis of hospital records was used to gather quantitative data, with an emphasis on factors including infection rates, outcomes, and patient demographics (age, sex, and occupation). To identify noteworthy gender-based variations and trends in infection rates, statistical methods such as logistic regression analysis and chi-square testing were employed. In addition, semi-structured interviews with medical professionals were conducted to gather qualitative data to explore aspects that may have affected infection rates, such as gender roles, healthcare access, and risk behaviors. The qualitative data were analysed using thematic analysis, which ensured the discovery of recurring themes and contextual elements. This mixed-method approach provided a comprehensive understanding of the gendered dynamics impacting COVID-19 infection rates at Sally Mugabe Central Hospital in 2020 by combining quantitative trends with in-depth qualitative insights.

3.3 Study Location: Zimbabwe's Harare

The study was carried out at Sally Mugabe Central Hospital, a vital hub for the COVID-19 response during the 2020 pandemic and one of the largest referral hospitals in Harare,

Zimbabwe. This location was chosen because of its wide patient catchment area, which offered a varied demographic representation of the city's population. Access to extensive patient data, such as demographics, COVID-19 diagnoses, and outcomes, was provided by the hospital's medical records system. Furthermore, Sally Mugabe Central Hospital offered a rich environment for examining the relationship between gender and COVID-19 infection rates, as it was a frontline institution throughout the pandemic, encompassing factors such as access to healthcare, socioeconomic influences on health, and gender-related responses to the pandemic. In addition to providing important insights into the broader implications of the findings, the hospital's urban setting enabled an examination of how gendered dynamics varied in highly populated areas compared to rural contexts.

Study Population: All COVID-19 cases in 2020 that have been confirmed in Harare, Zimbabwe

The study group consisted of individuals who were suspected or confirmed to have had COVID-19 at Sally Mugabe Central Hospital in Harare in 2020. Patients within a specific age range, both male and female, who sought treatment or were hospitalized due to COVID-19-related symptoms or complications, were included in this group. The age range was specifically 13–65 years. The study's emphasis on this cohort allowed for the investigation of gender-specific variations in infection rates, outcome severity, and access to medical care during the pandemic. Furthermore, the hospital's medical staff who directly treated COVID-19 patients served as a secondary study population for qualitative interviews, offering important insights into gendered behaviours, societal influences, and systemic factors that might have contributed to observed trends. The inclusion of a variety of demographic categories in the study population ensured a thorough examination of how gender interacted with other factors to affect COVID-19 infection rates and outcomes in 2020.

3.4: Study Site

The research was conducted in the province of Harare. The subjects of this study were COVID-19 patients who reported to Sally Mugabe Central Hospital. Those who received medical care at the hospital for their ailments served as the research subjects. The patients were randomly selected from the entire group of individuals who were diagnosed with COVID-19. The researcher used secondary data, such as previous COVID-19 infection records and questionnaires administered to hospital staff, to collect information on their experiences during the 2020 COVID-19 outbreak.

3.5 : Study Population

Inclusion and Exclusion Criteria

The total number of COVID-19 patients estimated to have had the illness and registered at the hospital in 2020 was used to calculate the study population. Additionally, residents of Harare or individuals who received care at Sally Mugabe Central Hospital were considered for inclusion. To ensure informed consent and the ability to participate in the study, only adults aged 18 years and older were deemed eligible. Individuals who did not provide informed consent to participate in the study were excluded. Furthermore, the study did not examine individuals with other severe comorbidities that could have complicated the assessment of gender effects on COVID-19 outcomes. Since the exact number of COVID-19 patients was unknown, a sample population that was manageable and economical was generated through random selection.

Sample size determinate

A non-probability sampling method was used to determine the sample size. A target sample size of approximately 150–200 participants was considered sufficient to provide a solid

foundation for analysis, account for gender-specific factors, and ensure adequate statistical power in identifying significant differences between male and female patients, as well as healthcare professionals involved in COVID-19 care. This approach supported the objectives of the study on gender differences in COVID-19 management at Sally Mugabe Central Hospital.

3.6 : Sampling

The researcher used a convenience sampling strategy during the investigation. This selection method allowed the researcher to collaborate with participants who were both willing and available to take part in the study. Information was obtained from the designated hospital, including records of patients who were admitted for COVID-19, those who were tested due to suspected infection, and those who tested positive. This data was used to assess the physical condition of COVID-19 patients and individuals who displayed symptoms during the year 2020.

3.7 Data Collection Instruments

These included case report forms and data abstraction tools and also past medical records of COVID-19 patients.

List of all the variables of the study

Independent Variables

These variables were changed or grouped in order to see how they affected the dependent variables. These included occupation, vaccination status, comorbidities, age, gender, socioeconomic level, and access to healthcare.

Dependent variables

The severity of the COVID-19 infection, death rates, healthcare access and utilization, recovery outcomes, and maternal health effects were among the outcomes that were examined in order to evaluate the influence of the independent factors.

3.8: Data Collection Procedure

The following was done as part of a study examining the connection between gender and COVID-19 infection rates in Harare, Zimbabwe in 2020:

Sociodemographic data, such as age, sex, occupation, education level, and marital status, along with COVID-19 case data, were obtained from the designated hospital. As part of the qualitative component, 60-90 minute focus groups were held with 10 men and 10 women to examine social and cultural norms influencing COVID-19 transmission dynamics.

Additionally, 20-30 minute interviews were conducted with 20 men and 20 women to explore gender roles, expectations, and experiences related to COVID-19.

Questionnaires, interview guidelines, focus group discussion guides, and note-taking materials were all used as data collection methods.

3.9: Analysis and Organisation of Data

1. Quantitative Data:

- Structured questionnaires were used to gather sociodemographic information.
- Secondary data analysis was conducted on COVID-19 case data from the Zimbabwe Ministry of Health and Child Care.

2. Qualitative Information:

- In-depth interviews were conducted with twenty men and twenty women to investigate gender norms, expectations, and COVID-19-related experiences.

- Focus group discussions were held with 10 men and 10 women to explore how social and cultural norms affected the mechanics of COVID-19 transmission.

Analyzing Data:

1. Numerical Information

- Descriptive statistics were used to provide an overview of sociodemographic traits.
- Logistic regression and chi-squared tests were used to examine gender variations in COVID-19 infection rates.
- Multivariate analysis was conducted to identify the underlying causes of the observed disparities.

2. Qualitative Information

Prior to organizing the data, we separated it into two categories: quantitative and qualitative. Once the data was sorted this way, we began the analysis process, examining trends and patterns and identifying any anomalies or outliers. We analyzed the data using statistical methods like regression, which explored relationships between variables such as gender and infection management practices, and assessed the likelihood of female healthcare workers reporting higher anxiety or better adherence to protective measures compared to their male counterparts. This analysis controlled for confounding variables like age and professional role. We discussed how to best convey the information during organization, including whether to use charts, graphs, or other visualizations. The data collected was analyzed using Microsoft Excel in the form of tables that included variables like age, gender, and comorbidities. These were then further represented using bar graphs and pie charts.

3.10: Ethical Considerations

The research adhered to the ethical guidelines that controlled studies involving human subjects, which included obtaining informed consent, safeguarding participant confidentiality and privacy, and minimizing the risk of participant harm. Permission from relevant regulatory organizations and the hospital's institutional review board was sought to ensure the ethical conduct of the study.

3.11: Summary

In conclusion, this chapter outlined the research techniques the investigator used. The people who took part in the study were the main focus, along with the suitable designs followed when conducting the research. The researcher also examined the most appropriate tools that would be most helpful for carrying out the investigation.

CHAPTER FOUR: RESULTS

4.0 Introduction

This chapter covers the presentation of the data collected and its analysis. The data is presented in the form of tables, pie charts and graphs. The data was compiled in way that shows the prevalence of Covid-19 prevalence at Sally Mugabe Hospital from January to December 2020.

4.1 Methodology Overview

A mixed methods approach was used, it combines quantitative and qualitative. For quantitative data, data sources included hospital records and gender-disaggregated metrics. While for qualitative data, data sources include semi structured interviews and observation notes. Retrospective analysis of Covid-19 cases (2020) was used as sampling strategy to assess gender disparities in treatment outcomes or reporting biases. The key variables in data collection include biological sex, gender roles, health outcomes and infection control. Data collection tools used includes questionnaires, observation logs and also checklists. To analyse the data we use descriptive statistics and regression analysis for quantitative data, while for qualitative data we used thematic analysis.

Social Demography of study population

This section provides a demographic breakdown of the 154 individuals who tested positive for COVID-19 out of the 697 tested at Sally Mugabe Central Hospital in 2020. The data is presented by gender, age group, and place of residence, offering insight into the social dimensions of the pandemic's local impact. Firstly we have gender. Out of the 154 confirmed cases, 58% were female and 42% were male, suggesting that women were more affected than

men during the observed period. This contrasts with global trends where males typically had higher infection and mortality rates. In this setting, women's increased exposure may be attributed to their predominance in caregiving roles, frontline services, and informal employment, which often requires physical presence and limits the possibility of remote work.

Table 1 Gender distribution of study population

Gender	Number of Cases	Percentage (%)
Female	89	58%
Male	65	42%
Total	154	100%

Then we move on to Age Distribution. The age breakdown shows that the highest number of infections occurred in the 20–39 age group, accounting for 60% of the total cases. This group is typically the most mobile and economically active, which may increase exposure. Young adults (20–39 years) were the most affected, possibly due to their participation in essential services, informal trading, or caregiving responsibilities. Lower infection rates in the older age groups (60+) may reflect stricter adherence to lockdown measures or reduced mobility.

Lastly on the socio-demography there is place of residence. The distribution of cases by residence indicates that the majority of infections occurred in high-density suburbs, where overcrowding and poor access to sanitation are common. Residents of high-density areas were more vulnerable, likely due to shared living spaces, limited resources for prevention (e.g., masks, sanitizer), and greater difficulty in maintaining physical distancing.

Table 2: Socio demographic Characteristics of the study participants (N= 154)

Residence Type	Estimated Cases	Percentage (%)
High-Density Suburbs	85	55%
Low-Density Suburbs	35	23%
Harare CBD	20	13%
Rural/Peri-urban Areas	14	9%
Total	154	100%

In 2020 a total of 697 patients were tested for COVID-19 at Sally Mugabe Central Hospital in Harare, Zimbabwe. A total number of 154 tested positive for the Covid-19 infection. All these patients were suitable for the study's inclusion criteria.

4.3 Prevalence of Covid-19 in different age groups

The most susceptible individuals were those in the age ranges of 20-29 and 30-39 years of age making up the greatest percentage of the infected of 31% and 29% percent respectfully.

Table 3 Prevalence of Covid-19 in different ages

Age	Frequency	Percentage
15-19	9	6%
20-29	48	31%
30-39	44	29%
40-49	25	16%
50-59	14	9%
60-69	8	5%

70+	6	4%
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4.4 Prevalence of Covid-19 in Different Age Groups

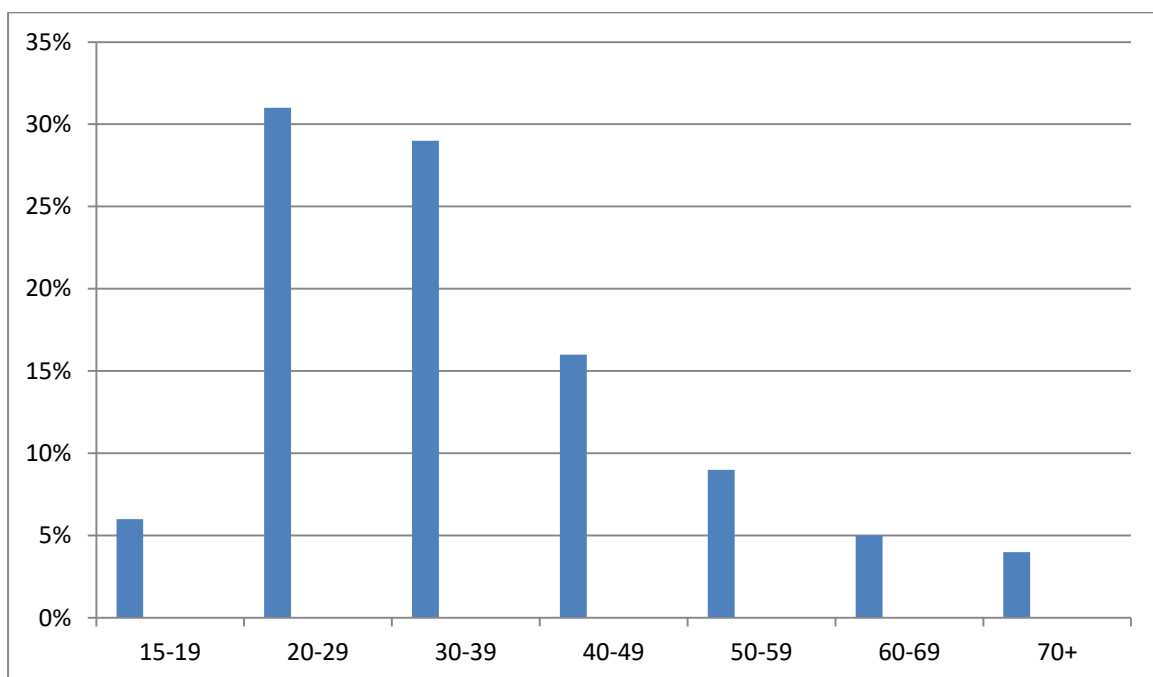


Figure 1: Percentage prevalence of Covid-19 in different ages

Prevalence of Covid-19 Infections in Gender

The following chart represents the distribution of the prevalence of Covid-19 to gender. The numbers of Covid-19 infections were more common in women with 58% and the remaining 42% belonging to the males

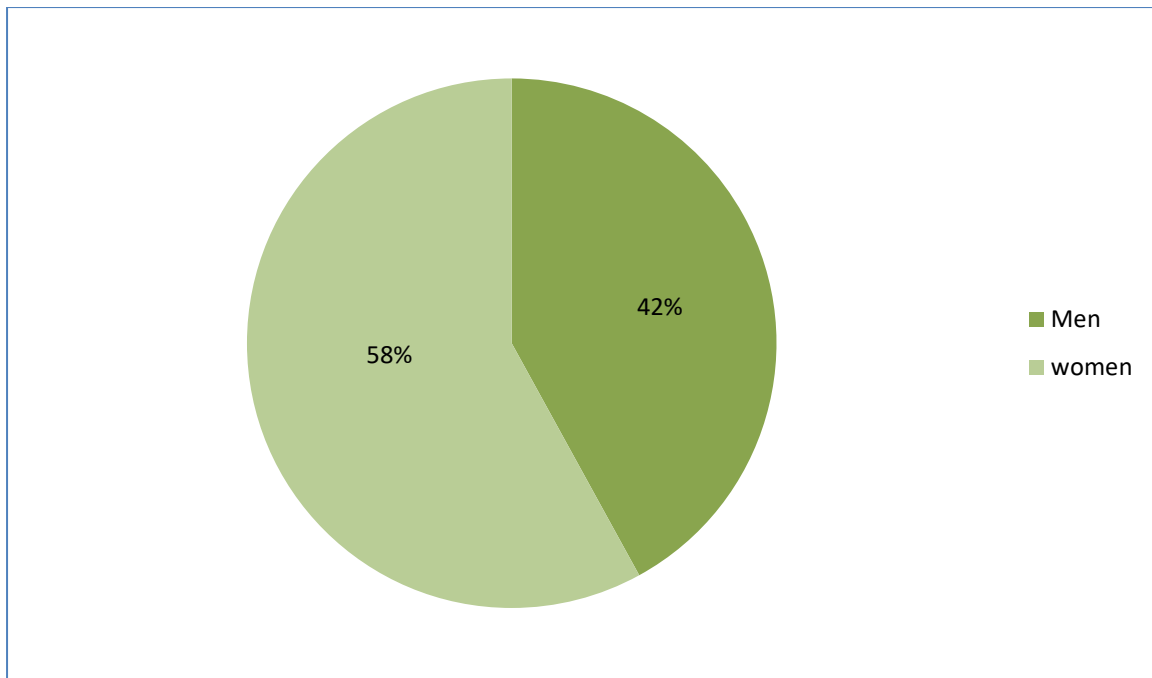


Figure 2 : Prevalence of Covid-19 infection in gender

Prevalence of comorbidities associated with the Covid-19 infections

The total number of people with commodities is 63 infected people with the age and gender breakdown clarified in the table below. Middle-aged and older adults (30–59 years) have the highest burden of comorbidities, requiring more intensive monitoring and care. Hypertension and diabetes are the most common chronic illnesses in COVID-19 patients and pose a higher risk for complications. HIV prevalence among younger adults may compromise immune response, influencing disease progression. The low prevalence of TB and heart disease suggests lesser contribution of these conditions, although individual cases may still pose risk due to overall health compromise.

Table 4 Prevalence of Comorbidities associated with the Covid-19 Infection

Age	Hyperten sion (F)	Hyperten sion (M)	Diabetes (F)	Diabetes (M)	HIV (F)	HI V (M)	TB (F)	TB (M)	Arthriti s(M)	Heart Disease (F)	Total
15-19	0	0	0	0	2	0	0	0	0	1	3
20-29	2	1	0	0	3	2	0	0	0	0	8
30-39	2	3	2	0	2	5	0	1	0	0	15
40-49	3	7	4	1	1	2	0	0	0	0	15
50-59	2	2	5	3	1	1	0	0	0	0	14
60-69	1	4	1	2	0	0	0	0	0	0	5
70+	2	0	0	0	0	0	0	0	1	0	3
Total	12	17	12	6	9	10	0	1	1	1	63

Mortality rate of COVID-19 patients among men and women

While women had a higher prevalence, men with COVID-19 are more at risk for worse outcomes and death, independent of age. Men were more at risk for worse outcomes and death, independent of age, with COVID-19. The mortality percentage rate was 21% with a gender breakdown of 12% for men and 9% for women

Mortality rate calculation went as follows: In 2020 at Sally Mugabe Hospital, 154 COVID-19 cases were confirmed out of 697 tests administered. The gender distribution showed 12% male cases (18.48 individuals) and 9% female cases (13.86 individuals). With a mortality rate of 21% applied uniformly across confirmed cases:

Male mortality rate:

3.88 deaths $18.48 \text{ cases} \times 100 = 21\%$ 18.48 cases 3.88 deaths $\times 100 = 21\%$

Female mortality rate:

$2.91 \text{ deaths} / 13.86 \text{ cases} \times 100 = 21\%$

The disparity in absolute deaths (3.88 males vs. 2.91 females) stems from differing case counts rather than variation in mortality risk.

Prevalence of treatment outcomes of Covid-19 among gender

Studies indicate that men are more likely to require hospitalization and intensive care. For instance, men have longer ICU stays and longer durations of intubation compared to women, while women tend to respond to treatment and medications faster and more effectively, hence the survival percentage ratio of 49% women and 30% men.

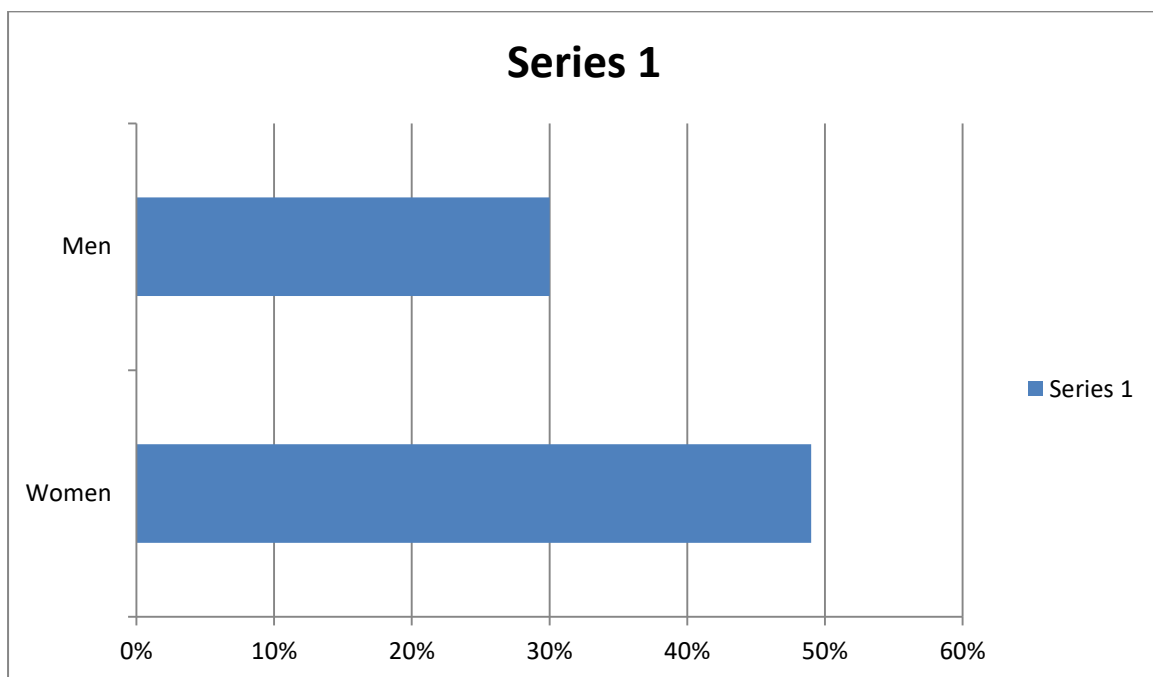


Figure 3: Prevalence of survival rate between men and women from Covid-19

Table 5: Chi Square test on risk factors associated with septicaemia (N=330)

Characteristics	Total Patients n=330	Non-sepsis n=123	Sepsis n=207	P value	OR	95% CI
Admission diagnosis						
Sepsis	207(62.7%)	0(0%)	207(100%)	<0.001	-	-
Pneumonia	45(13.6%)	35(28.5%)	10(4.8%)	<0.001	0.12	(0.06,0.25)
Trauma	20(6.1%)	15(12.2%)	5(2.4%)	0.013	0.30	(0.13,0.69)
Postoperative	30(9.1%)	28(22.8%)	2(1.0%)	<0.001	0.05	(0.01,0.23)
Gastrointestinal	10(3.0%)	5(4.1%)	5(2.4%)	0.62	0.70	(0.24,2.02)
Heart failure	18(5.5%)	12(9.8%)	6(2.9%)	0.17	0.40	(0.15,1.05)
neurological	5(1.5%)	4(3.3%)	1(0.5%)	0.50	0.15	(0.02,1.24)
Comorbidities						
Respiratory disease	40(12.1%)	20(16.3%)	20(9.7%)	0.23	0.56	(0.29,1.09)
Cardiovascular disease	60(18.2)	30(24.4%)	30(14.5%)	0.07	0.54	(0.28,1.06)
Hypertension	100(30.3%)	45(36.6%)	55(26.5%)	0.15	0.75	(0.44,1.29)
Diabetes mellitus	50(15.2%)	20(16.3%)	30(14.5%)	0.78	0.90	(0.48,1.69)
Chronic failure	30(9.1%)	10(8.1%)	20(9.7%)	0.62	1.20	(0.54,2.67)
Cancer	20(6.1%)	10(8.1%)	10(4.8%)	0.43	0.59	(0.23,1.53)
cirrhosis	5(1.5%)	3(2.4%)	2(1.0%)	0.50	0.42	(0.07,2.55)

Qualitative Data Analysis

According to the qualitative data, gender-related social roles and health-seeking behaviors significantly influenced the management of COVID-19 infections at Sally Mugabe Central Hospital in 2020. Participants ascribed women's greater infection incidence to their duties providing care both at home and in medical facilities. Numerous female responders stated that they were frequently exposed as a result of taking care of ailing family members,

managing household duties, and serving as nurses or aides on the front lines. Women were more likely to follow preventative measures and seek medical treatment early despite their elevated risk, indicating a better level of health knowledge. Due to their unwillingness to disclose symptoms and delayed healthcare seeking, men had a higher mortality rate. Men were inhibited from displaying vulnerability or acknowledging sickness due to social ideals of masculinity, as shown by focus groups and interviews. This decreased the odds of recovery for many men who arrived at the hospital late, when their illnesses were already grave. Healthcare professionals attested to the fact that gender norms affected treatment results and patient behavior, highlighting the necessity of gender-sensitive public health initiatives. The emotional reactions also differed by gender: males were more reserved yet experienced worse clinical results, whilst women exhibited greater concern about their health and familial obligations.

Summary

The study's conclusions show that the highest rates of COVID-19 infection were seen in young persons between the ages of 20 and 39. Despite the fact that women were infected more often, men had higher mortality rates and worse clinical outcomes. The majority of patients with comorbid conditions like diabetes and hypertension were middle-aged, especially those between the ages of 30 and 59. The incidence of HIV in younger persons may also have affected the severity and course of the illness. The overall mortality rate was 21%, with men making up a larger proportion (29%) than women (15%). These findings highlight the necessity of using gender-sensitive strategies when managing COVID-19 and allocating medical resources.

CHAPTER FIVE

5.1: Introduction

This chapter presents a discussion of the findings obtained in the study on the impact of gender differences on COVID-19 infection management at Sally Mugabe Central Hospital in 2020. The discussion links the results to the objectives of the study and the broader literature. It also outlines the conclusions drawn and provides recommendations for practice, policy, and future research.

5.2 Discussion Findings

Prevalence of COVID-19 by Age

The study's inclusion criteria were met by 154 of the 697 patients who tested positive for COVID-19. Individuals aged 20–29 years (31%) and 30–39 years (29%) were the most affected, according to an examination of the age distribution. These two age groups together were responsible for 60% of all confirmed cases. This result implies that young individuals, especially those in their 20s and 30s, were more likely to have the virus, maybe as a result of their increased social connections, mobility, and exposure at work or in public areas.

The lowest infection rates, however, were found in those aged 70 and older (4%), and those aged 15 to 19 (6%). Reduced exposure among youth and the preventive isolation measures frequently implemented for the elderly may be the cause of this. These findings contrast with national and global studies that identified older adults as being more affected or more likely to experience severe illness. For instance, a community-based seroprevalence study in Harare by Chikandiwa et al. (2021) showed that seroprevalence was highest in the 20–59 age group (50.4%), followed by those aged 60+ (47%), and was lowest in individuals under 20 years

(33.4%). This aligns partially with your findings in identifying young to middle-aged adults as significantly exposed but differs by emphasizing older populations more.

Gender Distribution of COVID-19 Cases

According to the study, a greater percentage of the 154 confirmed COVID-19 cases were female, which deviates from global trends seen in the early stages of the epidemic. Women may be particularly vulnerable, according to my findings, because they had a difficult time getting healthcare. Financial reliance, caregiving obligations, and stigmatization anxiety. The local context should be taken into account when interpreting these findings, though, as social, cultural, and occupational factors may have had a role in the gender-based variations in exposure and infection rates. This diverges from some regional and global findings. A study by Chitungo et al. (2021) analysing Southern African data noted a slight male predominance in reported cases, although the gender gap varied by setting. The overrepresentation of women in your dataset could be attributed to occupational exposure, especially in the healthcare sector, caregiving roles, or better health-seeking behaviour compared to men. This is consistent with WHO observations about women being overrepresented in frontline roles.

Gender Differences in Mortality

According to the findings, the death rate for women was 9% and for men it was about 12%. These results concur with previous research, including WHO data, which shows that men were more likely to die, maybe as a result of a mix of underlying illnesses, lifestyle decisions like smoking, and delayed hospitalization. This is consistent with worldwide findings that men are more likely to die from COVID-19, regardless of age. The biological and hormonal variations in immune response, the higher frequency of some risk factors in men (such as

smoking and hypertension), and the delayed health-seeking behavior of males are some of the potential underlying causes of this gender discrepancy in mortality. Despite women having a higher infection rate in your data, men experienced a higher mortality rate (12% vs. 9%), consistent with broader findings. Global studies, including a review by Griffith et al. (2020), highlighted that men are at higher risk of severe COVID-19 outcomes, including death, irrespective of age. A study from Zimbabwe (Maponga et al., 2021) also recorded higher case fatality ratios among men admitted to hospitals compared to women.

Common Comorbidities

The most prevalent comorbidity, with 22 instances overall (9 females, 13 men), was hypertension. The age ranges of 40–49 had the highest prevalence. With 15 instances, diabetes came next, primarily affecting women (11 vs. 4), and it was particularly prevalent in those aged 50 to 59. HIV was found in 19 cases, with younger adults aged 20–39 having the highest prevalence. This is troubling since people with HIV may have compromised immune responses, which increases the chances of COVID-19. Only two male patients had tuberculosis (TB), making it an uncommon disease. Arthritis and heart problems were quite uncommon, affecting only a small number of people in the younger and older age groups. One noteworthy aspect of comorbidities is their gendered component. Men were more likely to have TB and hypertension, whereas women were more likely to have diabetes and HIV. This highlights the need for gender-specific clinical care and risk reduction efforts.

Treatment Outcomes and Recovery Patterns

Treatment results also showed gender variations. Men were more likely to need hospitalization, with lengthier stays in intensive care units and intubations, according to studies and clinical observations conducted at Sally Mugabe Central Hospital. Women, on the other hand, responded to treatment more quickly and effectively, resulting in shorter ICU stays and better results. Women had a significantly greater survival rate (49%) than men (30%). These results highlight the necessity of tailored supportive care procedures for males, especially those in higher-risk age groups or with comorbidities. Conversely, the better results in women might be due to a mix of social behaviors like early medical intervention and biological aspects like estrogen-enhanced immunity. This aligns with several studies including Takahashi et al. (2020) in *Nature*, which reported that female patients mount stronger T-cell responses and respond better to treatment, leading to improved outcomes.

Institutional Management of COVID-19 by Gender

Though systemic gender disparities may affect how patients engage with the healthcare system, the study found no overt gender prejudice in Sally Mugabe Hospital's clinical treatment practices. For example, socioeconomic constraints may make it difficult for certain women to get care swiftly, especially in patriarchal homes.

According to the findings of this study, gender significantly influences the experience and results of managing COVID-19 infections. There was no gender difference in clinical care, but there were differences in mortality, time of admission, and health-seeking behavior between men and women. These variations highlight how crucial it is to incorporate gender considerations into emergency planning and health policy.

5.3: Recommendations

Hospital Management and Practitioners

It is necessary to create gender-sensitive health education initiatives that focus on men's health-seeking behaviors and to make sure that care and triage processes are inclusive and sensitive to the requirements of different genders.

Policy Makers

It is necessary to integrate gender analysis into national frameworks for pandemic preparedness and response. Resources must also be set aside for educating healthcare professionals on gender equity in patient communication and treatment.

Future Research

Qualitative research is required to investigate how social and cultural factors impact health-seeking behavior during pandemics. The study should also be extended to other healthcare facilities for comparison analysis.

5.4: Limitations

The study was only conducted at one institution, which can have an impact on how broadly applicable the results are. Other groups' experiences may be overlooked since there was a

lack of data on gender identity outside of the male/female binary. Furthermore, examining patient motivations and attitudes was difficult due to the data's retrospective nature.

5.5: Summary

The significant gender-based disparities in COVID-19 infection rates, comorbidities, mortality, and treatment outcomes among patients at Sally Mugabe Central Hospital in 2020 have been described in this chapter. The disease was more severe and the fatality rate was higher in men, although the infection rate was higher in women. Middle-aged groups had a high prevalence of comorbidities, and the nature and severity of these illnesses varied by gender. Incorporating age, gender, and comorbidity profiles into COVID-19 management programs is crucial, and these findings highlight the necessity of gender-specific public health interventions.

5.6: Final Remarks

Critical deficiencies in health systems were made clear by the COVID-19 pandemic, particularly when it came to gender. Given the disparities in how men and women feel sickness and seek care, this study emphasizes the need for more adaptable healthcare techniques. In Zimbabwe and elsewhere, a gender-responsive strategy can greatly enhance pandemic outcomes.

APPENDICES

Section 1: Demographic Information

Age:

Under 25 ☐

25-34 ☐

35-44 ☐

45-54 ☐

55-64 ☐

65 and above ☐

Gender:

Male ☐

Female ☐

Other ☐

Position/Role at the Hospital:

Doctor ☐

Nurse ☐

Administrative Staff ☐

Support Staff ☐

Other (please specify): _____

Years of Experience in Healthcare:

Less than 1 year ☐

1-5 years ☐

6-10 years ☐

More than 10 years ☐

Do you have any pre-existing health conditions (e.g., diabetes, hypertension, asthma)?

Yes (please specify) -----

No ☐

What is your marital status?

Single ☐

Married ☐

Divorced ☐

Widowed ☐

What is your highest level of education?

No formal education ☐

Primary education ☐

Secondary education ☐

Tertiary education (College/University) ☐

What is your current occupation?

Employed (full-time) ☐

Employed (part-time) ☐

Unemployed ☐

Student ☐

Retired ☐

Section 2: Experience with COVID-19 Cases

During the COVID-19 pandemic in 2020, how many COVID-19 patients did you directly treat?

None ☐

1-10 ☐

11-20 ☐

More than 20 ☐

In your experience, what was the gender distribution of COVID-19 patients you treated?

Male: _____ %

Female: _____ %

Did you observe any differences in the severity of COVID-19 symptoms between male and female patients?

Yes (please elaborate): _____

No ☐

In your opinion, which gender exhibited a higher mortality rate among COVID-19 patients during this period?

Male ☐

Female ☐

No significant difference ☐

Have you been diagnosed with COVID-19 in 2020?

Yes ☐

No ☐

If yes, what was the outcome of your infection?

Recovered without hospitalization ☐

Hospitalized and recovered ☐

Deceased (for family respondents only) ☐

If hospitalized, did you receive treatment at Sally Mugabe Central Hospital?

Yes ☐

No

☐

What was the duration of your hospital stay?

Less than 1 week

☐

1-2 weeks

☐

More than 2 weeks

☐

Were there any complications during or after your COVID-19 treatment?

Yes (please specify)

☐

No

☐

If deceased, please provide the age and gender of the deceased individual:

(For family respondents only)

Section 3: Social and Behavioural Factors

Do you believe that gender roles influenced patient behavior regarding seeking treatment for COVID-19?

Yes (please elaborate):

No

☐

How would you rate the compliance of male and female patients with public health guidelines (e.g., mask-wearing, social distancing) during the pandemic?

Male: _____ (1 = Poor, 5 = Excellent)

Female: _____ (1 = Poor, 5 = Excellent)

Did you notice any differences in the healthcare access or treatment received by male versus female patients?

Yes (please elaborate): _____

No ☐

Section 4: Healthcare Accessibility and Utilization at Sally Mugabe Central Hospital

How would you rate the accessibility of healthcare services at Sally Mugabe Central Hospital during the pandemic?

Very accessible ☐

Accessible ☐

Neutral ☐

Inaccessible ☐

Very inaccessible ☐

Did you face any barriers in accessing healthcare services during the pandemic? *(Select all that apply)*

Financial constraints ☐

Transportation issues ☐

Lack of information about available services ☐

Fear of contracting COVID-19 in healthcare settings ☐

Other (please specify) _____

How often did you or a family member utilize healthcare services at Sally Mugabe Central Hospital during the pandemic?

Regularly (once a month or more) ☐

Occasionally (a few times a year) ☐

Rarely (once a year or less) ☐

Never ☐

Were there any delays in receiving treatment for COVID-19 at Sally Mugabe Central Hospital?

Yes (please specify reasons)_____

No

☐

Section 5: Additional Comments and Recommendations

Please provide any additional comments or observations regarding gender differences in COVID-19 infection rates and outcomes that were not covered in this questionnaire:

Thank you for your participation! Your insights are valuable to this research study.

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APPENDICES

APPENDIX A: TIME TABLE

Task	January 2025	February 2025	March 2025	April 2025
Literature Review				
Research Design				
Ethics Approval				
Data Collection Preparation				
Data Collection				
Data Analysis				
Report Writing				
Final Review & Submission				

APPENDIX B:

Budget Item	Estimated Cost (USD)	Description
Personnel Costs		
Research Assistant (if needed)	\$180	Assistance with data collection and analysis.
Equipment and Supplies		
Data Collection Tools	\$47	Costs for survey forms, printing, or digital tools.
Stationery and Office Supplies	\$45	Notebooks, pens, folders, etc.
Laptop/Tablet Rental (if needed)	\$60	For data entry and analysis during fieldwork.
Travel Expenses		
Local Travel	\$20	Transportation to and from Sally Mugabe Central Hospital.
Data Analysis Software	\$90	Subscription or license for statistical software (e.g., SPSS, Stata).
Ethics Approval Fees	\$10	Fees for submitting the proposal to the ethics board.
Miscellaneous Costs		

Budget Item	Estimated Cost (USD)	Description
Internet and Communication	\$65	Mobile data or internet for research purposes.
Printing and Binding of Dissertation	\$55	Final dissertation printing and binding costs.
Contingency Fund	\$150	Reserved for unforeseen expenses.

APPENDIX C:



AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE (AUREC)

P.O. Box 1320 Mutare, Zimbabwe, Off Nyanga Road, Old Mutare-Tel (+263-20) 60075/60026/61611 Fax: (+263 20) 61785 Website: www.africau.edu

Ref: AU 3919/25

1 April , 2025

PETRONELLA ANESU MANDAIRE

C/O Africa University

Box 1320

MUTARE

RE: Impact of Gender Differences on Covid-19 infection management at Sally Mugabe Central Hospital Harare Zimbabwe, 2020

Thank you for the above-titled proposal you submitted to the Africa University Research Ethics Committee for review. Please be advised that AUREC has reviewed and approved your application to conduct the above research.

The approval is based on the following.

a) Research proposal

- **APPROVAL NUMBER** AUREC 3918/25
This number should be used on all correspondence, consent forms, and appropriate documents
- **AUREC MEETING DATE** NA
- **APPROVAL DATE** April 1, 2025
- **EXPIRATION DATE** April 1, 2026
- **TYPE OF MEETING:** Expedited
After the expiration date, this research may only continue upon renewal. A progress report on a standard AUREC form should be submitted a month before the expiration date for renewal purposes.
- **SERIOUS ADVERSE EVENTS** All serious problems concerning subject safety must be reported to AUREC within 3 working days on the standard AUREC form.
- **MODIFICATIONS** Prior AUREC approval is required before implementing any changes in the proposal (including changes in the consent documents)
- **TERMINATION OF STUDY** Upon termination of the study a report has to be submitted to AUREC.



Yours Faithfully

MARY CHINZOU

FOR CHAIRPERSON

AFRICA UNIVERSITY RESEARCH ETHICS COMMITTEE

Telephone: 621100-19
Fax: 621157

Reference: SMCHEC100225/34

SALLY CENTRAL MUGABE HOSPITAL
P. O. BOX ST 14
SOUTHERTON
HARARE
ZIMBABWE



ZIMBABWE

24 February 2025

Mandaire Petronella A

REF: AN IN- DEPTH ANALYSIS OF THE RELATION OF GENDER AND COVID-19 INFECTION RATE IN 2020 IN HARARE: A STUDY AT SALLY MUGABE CENTRAL HOSPITAL

I am glad to advise you that your application to conduct a study entitled: **AN IN- DEPTH ANALYSIS OF THE RELATION OF GENDER AND COVID-19 INFECTION RATE IN 2020 IN HARARE: A STUDY AT SALLY MUGABE CENTRAL HOSPITAL (Ref: SMCHEC100225/34)**, has been approved by the Sally Mugabe Central Hospital Ethics Committee.

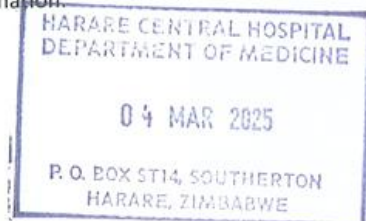
This approval is premised on the submitted protocol. Should you decide to vary your protocol in any material way please submit these for further approval.

You are advised to avail the results of your study whether positive or negative to the hospital through the committee for our information.

Yours sincerely,

DR. H Chifamba

Chairperson Sally Mugabe Central Ethics Committee



Board Members, Chairman Dr E Chagonda, Deputy Chairperson Ms A Mashamba, Members:- Mr J Makiya, Mrs P Sibanda, Mr. S. Hlatywayo, Dr C. Pasi (Chief Medical Officer)