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DOI: 10.4103/pjog.pjog_25_22

Profile of women admitted with a history of induced abortion at a tertiary government hospital from 2013 to 2017

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Abstract:

INTRODUCTION: Unsafe abortion is one of the major medical and public health problems in developing countries. However, there is a lack of up-to-date and reliable information on induced abortion distribution and its determinant factors in the country.

OBJECTIVES: This study determined the sociodemographic and clinical profile of women admitted for abortion at a tertiary government hospital in Cebu city from 2013-2017.

METHODS: This study reviewed the charts in medical records of women diagnosed with abortion admitted at a government tertiary hospital from January 2013 to December 2017 with key words "abortion" in the final diagnosis.

RESULTS: The results of this study showed that 86% of patients who had induced abortion discharged improved from this institution, 2 patients died due to medical complications and 12% were discharged against medical advice. Majority of abortions were within early ages of gestation. Primigravidas and primiparas had the highest incidence of induced abortion 20.44% and 27.73% respectively. Of the treatments employed, the major method of abortion employed was mechanical. Majority of induced abortions did not develop septic complications.

CONCLUSION: The trend in admission of induced abortions from 2013 to 2017 showed a downward trend. This decrease in incidence may be attributed to improved access to family planning methods since the Reproductive Health Law was implemented in 2014 and the introduction of the Maternal Perinatal Statistics quarterly conferences headed by Department of Health (DOH) Region 7 and the different DOH-retained hospitals as well as BEMONC/SEMOC facilities in Cebu Province. These statistical events focuses the spotlight on the importance of health education and further improvement in the provision of health care in the local setting. Moreover, further improvement in post abortive care and adequate coverage should be provided to patients with abortion to reduce the incidence of complications and potential mortality.

Keywords:

Contraception, induced abortion, unsafe abortion

Introduction

Unsafe abortion is defined by the World Health Organization as a procedure for terminating an unintended pregnancy carried out either by persons lacking the

necessary skills or in an environment that does not conform to minimal medical standards or both. When women want to limit or postpone childbearing, but contraception is not used or used ineffectively or they are forced into nonconsensual sex, unintended pregnancies occur: some are terminated by induced abortions, whereas others result in unwanted births. Where abortion laws are restricted or safe abortion services are not

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How to cite this article: Vista GA, Madamba HV. Profile of women admitted with a history of induced abortion at a tertiary government hospital from 2013 to 2017. *Philipp J Obstet Gynecol* 2022;46:118-25.

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Submitted: 23-Jun-2022

Revised: 26-Jul-2022

Accepted: 27-Jul-2022

Published: 23-Aug-2022

widely accessible or are of poor quality, women resort to unskilled providers, risking serious consequences to their health and well-being.^[1,2]

It is estimated that of the 210 million pregnancies that occur each year, some 80 million are unintended. In 2008, 21.6 million unsafe abortions were estimated to have occurred, causing the deaths of 47,000 women.^[3] Deaths due to unsafe abortion are mainly caused by severe infections or bleeding resulting from the unsafe abortion procedure or due to organ damage.^[3]

Globally, the proportion of maternal deaths due to unsafe abortion has remained close to 13% since 1990; the global mortality associated with unsafe abortion, therefore, declined at approximately the same rate as the maternal mortality overall. The unsafe abortion mortality ratio (the number of deaths due to unsafe abortion per 100,000 live births) declined from 50 in 1990 to 30 in 2008; for developing countries, the decline was from 60 to 40.^[4-6]

Each year, in the Philippines, hundreds of thousands of women become pregnant without intending to, and many women with unintended pregnancies decide to end them by abortion. Because abortion is legal only to save a woman's life, most procedures are clandestine, and many are carried out in unsafe circumstances. Unsafe abortion can endanger women's reproductive health and lead to serious, often life-threatening complications. Furthermore, unsafe abortions impose a heavy burden on women, their families, and society by virtue of the serious health consequences that often ensue.^[7,8]

Six in ten Filipino women said that they had experienced an unintended pregnancy at some points in their lives. About 1.43 million pregnancies each year, nearly half of all pregnancies in the Philippines, are unintended. A higher proportion of pregnancies are unintended in Metro Manila than in any other major geographic region, and a higher proportion of unintended pregnancies in Metro Manila end in abortion than elsewhere. Some 54% of women who have ended an unintended pregnancy by abortion were not using any family planning method when they conceived. Of those who were practicing contraception, three-fourths were using a traditional method.^[7,9]

An estimated 473,000 abortions occur annually. One-third of women who experience an unintended pregnancy end it in abortion. Women from all segments of society experience abortion. Women who have had an abortion resemble average Filipino women: the majority are married, Catholic, and poor. They have some high school education and have already had several children. When asked why they sought an abortion, 72% of women cited the economic cost of raising a child; 54% said that

they had enough children; and 57% reported that the pregnancy occurred too soon after their last one.^[9]

Eight in ten women who succeed in ending their pregnancy have health complications, and more than half of these women report having severe complications. The severity of complications varies according to the abortion method women use: some 70% of women who use massage or insertion of a catheter and 44% of those who use misoprostol suffer severe complications, compared with only 13% who undergo dilation and curettage or manual vacuum aspiration. Poor and rural women often lack access to safer methods and providers and thus experience higher rates of severe complications than do their wealthier and urban counterparts. Because of the high cost of postabortion treatment and the condemnatory attitudes of some medical providers, some women who experience complications do not seek care.^[10-12]

Significance of the study

With early age of sexual contact among females of the reproductive age group, there is a need to explore the reasons leading to unsafe abortion practices and to promote public awareness regarding its complications and long-term effects. This study aims to provide local statistics of induced abortion to expedite government implementation of the Responsible Parenthood and Reproductive Health Act of 2012 in the country.

The following will benefit from the results of this study:

- a. Health care providers - to improve patient management of patients with induced abortion
- b. Policy makers – to allocate the appropriate resources and supplies to manage post-abort care
- c. Community workers – to identify the a target patient for awareness campaigns and advocacy activities.

Research question

What is the sociodemographic and clinical profile of women admitted for abortion at a tertiary government hospital from 2013 to 2017?

Objectives

General

To determine the sociodemographic and clinical profile of women admitted for abortion at a tertiary government hospital from 2013 to 2017.

Specific

Specifically, the study aims to ascertain:

1. To determine the proportion of induced abortion over the total obstetric admission
2. To determine the proportion of induced abortions over the total number of abortions
3. To determine the proportion of septic abortions over the total number of induced abortions

4. To determine the trends in admission of induced abortions from 2013 to 2017
5. To determine the sociodemographic characteristics of patients with induced abortions admitted at VSMMC in terms of:
 - a. Age
 - b. Civil status
 - c. Education
 - d. Socioeconomic status
 - e. Religion.
6. To determine the clinical characteristics of patients with induced abortions admitted at VSMMC
 - a. Method of abortion (medical or mechanical)
 - b. Infection (septic or nonseptic)
 - c. Age of gestation (early or late)
 - d. Outcome (dead, alive, home against medical advice)
 - e. Gravidity
 - f. Parity.
7. To determine the treatment patterns
 - a. Medical: Oxytocin and antibiotics
 - b. Surgical: Curettage
 - c. Medical and surgical, exploratory laparotomy, hysterectomy.
8. To determine the association between the maternal and clinical profile and induced abortion.

Methodology

Study design

This was a descriptive cross-sectional study.

Study setting

The study was conducted at VSMMC, a 1200-bedded capacity, government-owned tertiary care facility and referral center, which admits an estimate of 1600 cases of abortion per year under the department of obstetrics and gynecology. In addition to postabortion care, patients are advised family planning, screening for cancer and sexually transmitted infections, as well as vaccination.

Study Period

The study was conducted from January 2013 to December 2017.

Study population

The medical records of women diagnosed with abortion admitted at VSMMC from January 2013 to December 2017 with key words "abortion" in the final diagnosis were reviewed.

Sampling design

This study involved total enumeration of all patients admitted for abortion with "abortion" in the final diagnosis as written in the medical chart, from the period January 2013 to December 2017.

Operational definition of terms

- Abortion: Spontaneous or induced termination of pregnancy before fetal viability and as indicated in the charts with final diagnosis containing the word "abortion"
- Induced abortion: Induced termination of pregnancy before fetal viability and as indicated in the charts with final diagnosis containing the word "abortion" and "induced"
- Septic abortion: Any type of abortion complicated by infection as indicated in the charts with final diagnosis containing the word "abortion" and "septic"
- Nonseptic abortion: Any type of abortion not complicated by infection including as indicated in the charts with final diagnosis containing the word "abortion" and "non-septic"
- Age: Based on the coversheet
- Civil status: Based on the coversheet
- Education: Based on the POGS sheet and clinical history
- Socioeconomic: Category classification based on social worker assessment indicated in the chart.

Method of abortion

- Medical: Use of abortifacient including "misoprostol" or "herbal" as indicated in the medical chart
- Mechanical: Insertion of instrument based on patient's history as indicated in the medical chart.

Age of gestation

- Early: Abortion with 12 weeks and 6 days or less age of gestation and as indicated in the charts with the final diagnosis containing the word "early"
- Late: Abortion with 13 weeks age of gestation or more and as indicated in the charts with the final diagnosis containing the word "late"
- Outcomes: The final disposition of a patient admitted for abortion, whether the discharged improved, died, or home against medical advice.

Data collection

Before conducting the study, permission to conduct the research was obtained from the medical director, from the data protection officer and from the head of the medical records section. The research proposal was submitted for technical review to the VSMMC Technical Review Committee of the Research Division. It was also submitted to the Vicente Sotto Memorial Medical Center Ethics Review Committee for ethical review. The data collection commenced once technical and ethical approval was obtained.

The data collection involved a chart review at the medical records collating the total number of patients admitted for incomplete abortion from 2013 to 2017. A data extraction tool was used to collate data from each chart.

Flow: 5-year statistics of abortion among patients admitted from 2013 to 2017 at VSMMC

- A. Sociodemographic data
- B. Clinical characteristics
- C. Treatment
- D. Outcomes

Data processing analysis

All data obtained in this study were encoded and tabulated in Microsoft Excel. The data were analyzed using the Statistical Package for the Social Sciences software (SSPC) (Build 1.0.0.1275).

Frequency, distributions, and percentage were used to present proportions of abortions, induced abortions, and septic-induced abortions, as well as trends in admission of abortion patients. Data on sociodemographic characteristics, clinical characteristics, treatment, and outcomes were presented in tables and charts. Chi-square of association was used to determine the association between age, parity, and outcomes of induced abortions.

Ethical considerations

The study proper commenced after technical and ethical approval from the VSMMC Research and Ethics Review Committee was granted. The data gathered from the study were held confidential. The data gathered were kept in a password-protected computer and were used for research purposes. Patient identities were protected and anonymized.

Results

After all available charts were retrospectively reviewed, the data were tabulated, analyzed, and interpreted to answer the objective of this study, which was to determine the sociodemographic and clinical profile of women admitted for abortion at a tertiary government hospital from 2013 to 2017. During the course of data collection, only 274 charts were retrieved, out of the 566 tagged as induced abortion. The other charts were not available physically since there were no scanned copies in the hospital database.

Sociodemographic characteristics

Majority of the study participants Roman Catholic (97%), of legal age, and range from 19 to 34 years old. Participants were mostly single and belonged to the unemployed or dependent sector of the population. Adolescents and patients over 35 years old contributed to 25% on the total number of induced abortions. These data are summarized in Table 1.

Clinical characteristics and treatment

Almost all of the abortions were done mechanically and had outcomes as nonseptic. More than fifty percent

Table 1: Sociodemographic characteristics of patients with induced abortions

Characteristic	Frequency (%)
Age	
≤ 18 years old	30 (10.94)
19-34	204 (74.45)
≥ 35	40 (14.59)
Civil status	
Single	182 (66.42)
Married	66 (24.09)
Widow	5 (1.82)
Cohabitation	20 (7.29)
Others	1 (0.36)
Socioeconomic status	
Dependent/unemployed	192 (70.07)
Employed	80 (29.19)
Casual	1 (0.36)
Others	1 (0.36)
Religion	
Catholic	267 (97.44)
Christian	2 (0.72)
Protestant	1 (0.36)
Seventh-day Adventist	4 (1.46)
Muslim	1 (0.36)

Demographic profile of patients with induced abortion (n=274)

Table 2: Clinical characteristics of patients with induced abortion

Characteristic	Frequency (%)
Method of abortion	
Medical	3 (1.09)
Mechanical	263 (95.98)
Medical and mechanical	7 (2.56)
Others	1 (0.36)
Infection	
Septic	60 (21.89)
Nonseptic	210 (76.64)
Others	4 (1.46)
Age of gestation	
Early	156 (56.93)
Late	113 (41.24)
Others	4 (1.46)
Outcome	
Alive	238 (86.86)
Dead	2 (0.72)
Home against medical advice	34 (12.40)
Others	0
Gravidity	
1-3	178 (63.50)
4-6	74 (7.66)
>7	22 (2.19)
Parity	
0-3	225 (27.73)
4-6	41 (5.84)
7-9	9 (1.82)

Clinical characteristics of patients with induced abortion (n=274)

of these patients aborted early in their pregnancy and most into their 1st to 3rd pregnancies. Almost 90% were

discharged alive and well, whereas the remaining 12% went home against medical advice.

More than half of the study participants had the abortion at an early gestational age. Moreover, the most readily implemented method of abortion is through mechanical means with 21.89% developing complications [Table 2]. Patients admitted for induced abortion were managed both medically and surgically. A huge portion of the participants who suffered from septic and nonseptic complications belonged to the 19-34 year old age group and there was no significance in the association between the age group and incidence of complications.

Outcomes

From 2013 to 2017, records showed that there were a total of 8,475 patients admitted for abortion in this institution over 64,886 total obstetric admissions. Of these, 566 abortions were induced with a total of 129 cases of septic-induced abortions. Moreover, there was an average of 1695 (SD = 131) abortions yearly, where the mean of induced abortions was 113 (SD = 45) and average of 26 (SD = 14) mothers had septic abortion [Table 3].

In terms of the proportion of mothers, the year 2013 recorded the highest percentage (16.98%) of abortion relative to the number of obstetric admissions in the tertiary hospital. The least, however, was recorded in 2017 with only 11.34% out of the highest number of obstetric admissions of 14,350 [Table 4].

Moreover, in terms of induced abortions, the same pattern was observed where 2013 recorded the highest percentage (9.23%) of induced abortion relative to the number of abortions. The least also was recorded in 2017 with only 3.75% induced abortions. However, this was the year with the highest septic abortions registering 27.87% of the total induced abortions on this period. The least proportion of cases of mothers who had septic abortion was recorded in 2016 with only 13.25%.

Table 5 presents the calculated abortion rate representing the number of abortions occurring in a specified reference period (e.g., one year) per 1000 women of reproductive age (15–44 or 15–49) as formulated by Bertrand and Tsui in 1995. The number of women of reproductive age was derived based on the guidelines of the Department of Health (DOH)-Field Health Service Information System.

It can be surmised that year 2013 had the highest abortion rate of 5.55 women per 1000 women in the locality. This year also recorded the highest rate with approximately a woman in every 1000 women suffered from induced abortion. On the average, there were 5 per 1000 mothers (SD = 0.44) per year in 5 years who suffered from abortion. Similarly, the statistics show that an average of almost 2 women out of 1000 women suffered from induced abortion in this span of time period.

A downward sloping trend was observed among the number of induced abortions during a five-year period.

Table 3: Abortion and related statistics from 2013-2017

Year	Number of obstetric admissions	Number of abortions	Number of induced abortions	Number of septic abortion	Number of nonseptic abortion
2013	11,169	1897	175	45	130
2014	13,674	1569	140	34	106
2015	12,568	1631	107	22	85
2016	13,125	1750	83	11	72
2017	14,350	1628	61	17	44
Total	64,886	8475	566	129	437
Average	12,977	1695	113	26	87
SD	1207	131	45	14	33

SD: Standard deviation

Table 4: Proportion of abortion, induced abortion, and septic abortions from 2013-2017

Year	Number of obstetric admissions	Percentage of abortions	Percentage of induced abortions	Percentage of septic abortion
2013	11,169	16.98	9.23	25.71
2014	13,674	11.47	8.92	24.29
2015	12,568	12.98	6.56	20.56
2016	13,125	13.33	4.74	13.25
2017	14,350	11.34	3.75	27.87
Total	64,886	13.06	6.68	22.79
Average	12,977	13.22	6.64	22.34
SD	1207	2.28	2.44	5.73

SD: Standard deviation

Furthermore, it is interesting to know if these trend is statistically significant as highlighted in Table 6.

Table 6 shows that only the reduction of abortion rates from 2014 to 2015 was considered as nonsignificant. The rest of the induced abortions for consecutive years were significantly decreased at $P = 0.05$. This means that there is enough statistical evidence to prove that the decrease in the abortion rates between two periods is large enough to be considered significant [Tables 7-9].

It can be revealed that since the P value of association through the Chi-square test is computed to be 0.212 which is not less than the level of significance at 0.05, the study suggested that there is no significant association between age intervals and the propensity of a mother to have septic abortion.

Discussion

Findings from the descriptive analysis indicate a downward trend in terms of the rates of abortion and induced abortion in the five-year study period. Despite the decrease in the total number of induced abortions, a statistically significant decrease was only observed during 2016 to 2017 [Figure 1]. The year 2016 marked the introduction of the Maternal-perinatal statistics spearheaded by VSMMC in collaboration with the DOH Region 7 to the different government hospitals in the province of Cebu. The Quarterly Maternal-perinatal

statistics review is a quarterly event spearheaded by VSMMC and the DOH Region 7 which involves the different public hospitals in the region. This involves all stake-holders such as the provincial hospitals, city hospitals, DOH-retained hospitals, and its Apex Hospital (VSMMC). Its aim is to reduce the overall maternal-perinatal morbidity and mortality in the region. This forum discusses pertinent cases referred from peripheral hospitals to the apex hospital, the initial assessment and management, and the course of hospital stay up to discharge. It also discusses the census of the different hospitals with regard to proper channeling of referrals to decongest the apex hospital of low-risk pregnancies including abortion cases which could be managed in peripheral hospitals. DOH is tapped if there is a need to augment manpower and hospital supplies of referring hospitals in order for them to cater said patients.

Local abortion rates were highest during 2013 with 5.55 abortions per 1000 women of reproductive age. This figure, however, is low compared to the global abortion rate from 2010 to 2014 with 25 per 1000 unmarried women and 36 per 1000 married women. Abortion rates in Asia were also high with 23 per 1000 unmarried women and 38 per 1000 married women.^[3,13,14]

The predominant age group who experienced induced abortion belonged to the 19–34-year-old bracket, mostly single, and were unemployed or dependents. Our study corroborates findings of other studies that abortions are common in this age group.^[15] Through these findings, a specific demographic is can now be prioritized in terms of access to health services to

Table 5: Abortion rate per 1000 women of reproductive age (15-49 years old)

Year	Number of women of reproductive age	Abortion rate* (per 1000 women of reproductive age)	Induced abortion rate* (per 1000 women of reproductive age)
2013	341,666	5.55	0.51
2014	343,314	4.57	0.41
2015	348,252	4.68	0.31
2016	353,208	4.95	0.23
2017	367,691	4.43	0.17
Total	1,754,131	4.83	1.63
Average	350,826	4.84	0.33
SD	10,453	0.44	0.14

*Abortion Rate = $\frac{\text{Number of abortions}}{\text{Total mid - year population of women 15 - 44}} \times 1000$
(Bertrand and Tsui, 1995). SD: Standard deviation

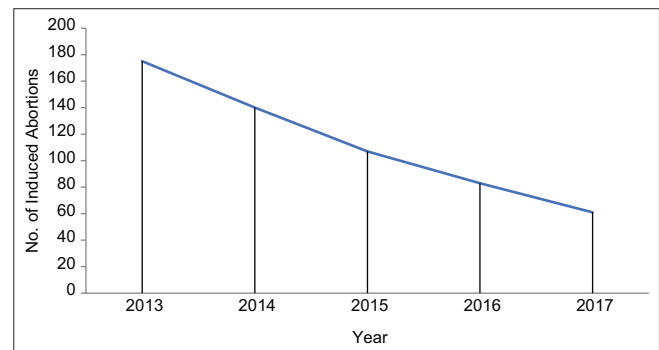


Figure 1: The trend line of induced abortions over the 5-year period

Table 6: Change of incidence rates of induced abortion from 2013-2017

Year	Number of obstetric admissions	Number of induced abortions	Yearly gap	Induced abortion rate	Rate of change	Significance of change (P)
2013	11,169	175	-	0.51	-	-
2014	13,674	140	-35	0.41	-0.20	<0.00*
2015	12,568	107	-33	0.31	-0.24	0.15
2016	13,125	83	-24	0.23	-0.26	0.04*
2017	14,350	61	-22	0.17	-0.26	0.02*

*Difference is significant at 0.05 level of significance, Negative rate means that trend is decreasing

Table 7: Treatment patterns of patients admitted for induced abortion (n=274)

Characteristic (n=274)	n (%)
Treatment patterns	
Medical	1 (0.36)
Surgical	1 (0.36)
Medical and surgical	248 (90.51)
Observation	4 (0)
Others	9 (3)

Table 8: Complication and age bracket cross tabulation

	Age bracket			Total
	≤ 18 years old	≥ 35	19-34	
Complication				
Septic	3	5	51	59
Nonseptic	26	23	161	210
Total	29	28	212	269

Table 9: The significance of association between the complication and age bracket

	Chi-square tests		
	Value	df	Asymptomatic significance (two-sided)
Pearson's Chi-square	3.104a	2	0.212
Likelihood ratio	3.519	2	0.172
n of valid cases	269		

minimize or prevent unintended pregnancies, thereby decreasing abortions.

With regard to outcome, only two succumbed to complications of abortion. Data from this study highlight that abortions were predominantly treated mechanically with only 21.89% of the study population developing septic complications, which is high when compared to a study done by Skreelakshmi in India, showing an incidence rate of 6.78%. Moreover, majority of women in this study were married and were belonged below the poverty line.^[10] Other similar studies seem to have lower rates of septic abortions when compared to our study.^[16,17]

Finally, there is no significant association between age intervals and the propensity of a mother to have septic abortion. Numerous studies have been shown that increasing maternal age is associated with abortion; however, there are limited data on whether increasing age predisposes to septic complications.^[18,19]

Conclusion

The trend in admission of induced abortions from 2013 to 2017 showed a downward trend. This decrease in incidence may be correlated with the improved access to family planning methods since the Reproductive Health Law was implemented in 2014 and the introduction of

the Maternal Perinatal Statistics quarterly conferences headed by DOH Region 7 and the different DOH-retained hospitals as well as BEMONC/SEMOC facilities in Cebu Province.

Demographically, most patients with induced abortions were Roman Catholic, of legal age (19-34 years old), mostly single, and majority belonged to the unemployed or dependent sector of the population.

Unintended pregnancy is a major cause of abortion in the Philippines. The findings in this study highlight the importance of viable family planning methods and further improvement in the provision of health care in Level I or II hospitals in Cebu province. This study can provide insights to generate and strengthen existing preventive health measures to the vulnerable population identified. In addition, these can be presented to the health-care stakeholders most especially in the government sector and address this issue at the most crucial level of health care which is at the grassroots level.

Moreover, abortion cases can be managed in lower level of care. The study showed that a mean abortion per year is 1695 admitted in VSMC. This high burden of abortion rate should prompt the local government to improve the manpower, training, equipment, and supplies needed to address post-abortion care.

Scope and limitation

This study is limited to chart review of the scanned/physical copy of the charts available at the medical records of Vicente Sotto Memorial Medical Center. This study only utilized total enumeration as its sampling method.

Recommendations

For the local health-care providers, of the nine hospitals of DOH, abortion is one of the top three obstetrics and gynecology cases in 2012 and 2013. In fact, Vicente Sotto Memorial Medical Center was reported to have the highest recorded cases in 2013 with 1915.^[20] As an identified apex hospital by the Central Visayas Health Referral System, VSMC should be managing high-risk pregnancies and those requiring care. Incomplete abortion is not a high-risk pregnancy. These cases can be admitted and managed by Level I or II hospital. To enable these peripheral hospitals to manage such patients, additional manpower, training, equipment, and supplies are needed to address postabortal care.

A prospective qualitative study involving the quality of life of post-abortion patients is recommended.

Acknowledgment

This research paper becomes a reality with the kind support and help of many individuals. I would like to

extend my sincere thanks to all of them. Foremost, I want to offer this endeavor to our GOD Almighty for the wisdom, strength, peace of mind, and good health to finish this paper. I would also like to express my gratitude to my coauthor, Dr. Helen V. Madamba, for her guidance and supervision in the completion of this research. I would also like to thank Dr. Junjie Zuasula for imparting his knowledge and expertise in this study. I would also like to thank my statistician, Sir Mark Borres, for sharing his knowledge and technical know-how. I would also like to thank the distinguished members of the technical committee headed by Dr. Narciso Tapia for the approval of my work and VSMCMC Ethics Review Board for the considerate endorsement and approval of this study. My thanks and appreciation also go to my colleagues and people who have willingly helped me out with their abilities.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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