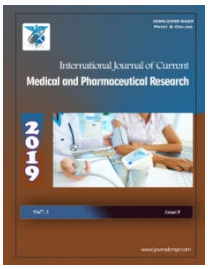
INTERNATIONAL JOURNAL OF CURRENT MEDICAL AND PHARMACEUTICAL RESEARCH
ISSN: 2395-6429, Impact Factor: 4.656
Available Online at www.journalcmpr.com
Volume 5; Issue 09(A); September 2019; Page No. 4516-4520
DOI: http://dx.doi.org/10.24327/23956429.ijcmpr201909734



Research Article

THE PREVALENCE OF SUICIDE, SUICIDE ATTEMPTS AND ASSOCIATED DEMOGRAPHICS IN MALAWI. A 10 MONTHS CROSS-SECTIONAL STUDY

John Kuyokwa[1] and Symon Chiziwa[2]

[1]Malawi College of health sciences, Private bag 396. Blantyre
[2]University of Malawi

ARTICLE INFO

Article History:
Received 15th June, 2019
Received in revised form 7th July, 2019
Accepted 13th August, 2019
Published online 28th September, 2019

Key words:
Prevalence, Suicide, Suicide attempts, Demographics, and Malawi.

ABSTRACT

Background: Suicide is among the causes of mortality worldwide. The epidemiologic knowledge of suicidal behaviours in low-income countries like Malawi remains a challenge as limited studies have been done. The present study sought to add to the epidemiologic literature on prevalence of suicide, suicide attempts and associated demographics in Malawi by examining the demographics associated with completed suicide, and suicide attempts among Malawians. The total population of people in Malawi is 17.6 million.
Methods: A cross-sectional quantitative study was based on case reports of Malawians who completed suicide and attempted suicide. We did a secondary analysis of using a nationally-representative sample extracted from Malawi National Police (2019) available data sets, and Descriptive analyses were performed to check the prevalence and associations between suicide, suicide attempts and age, sex, occupation, district, city, and region, and observed trends of suicide and suicide attempts data. 133 case records were included in the study.
Results: The **national prevalence** of completed suicide and suicidal attempts based on police reported cases was 0.0008%. A total of 133 suicidal cases were reported in a 10 Months period.128 were males and 5 were females representing 96.2% and 3.8% respectively. Suicide; 125 completed suicide and 8 attempted suicide representing 94% and 6% respectively. A total of 125 people across the country completed suicide. ***Gender***;120 male and 5 females committed suicide representing 96%and 4% respectively. Of note, all 8 suicide attempt cases that were reported were males representing 100%.***Age***;most of the people who completed suicide were aged between 21-35, representing 39.2%, followed by those aged between 36-50(24%), then those aged between Less than 20, representing17.6%, followed by those aged51-Above representing 16% and those who had unknown age had the lowest prevalence of 3.2%. ***Occupation;*** the records revealed most people who completed suicide had unknown occupation representing 88%, followed by those who were professionally employed; 3.8%, then those who were Farmers; 3.7%, then those who were Students and Businessmen; 2.3% and 2.1% respectively. ***District***; Lilongwe rural had the highest prevalence of 19.5%, followed by Mzimba (18%), then Mchinji (8.3%) and the rest followed. However, districts like Nsanje, Balaka, Likoma, and Mulanje had not reported any completed suicide and attempted suicide cases. ***City***; Lilongwe reported highest (48.4%), followed by Mzuzu (29.6%) and Blantyre (22.2%) while Zomba had not reported any suicide cases. ***Region***; Central reported the highest (52.8%), followed by northern region (31.2%) and then southern region (16%). In residence **Rural** or **Urban**; most cases were reported from Rural (78.4%) and Urban (21.6%) respectively.
Conclusions: Completed suicide and suicide attempt cases are reported in Malawi and there is need for mitigating intervention measures. These findings have the potential to guide public health interventions geared toward suicide prevention in Malawi, Africa and other similar regions at large. The low prevalence of suicides cases in some districts of Malawi could be due to under reporting of cases.

INTRODUCTION

Malawi is a landlocked country in sub-Saharan Africa. The country shares boundaries with Zambia to the Northwest, Tanzania to the North and Northeast and Mozambique to the East, South and Southwest. Malawi has a population of 17.6 million people. It is divided into three regions: The Northern, Central, and Southern Regions and has 28 districts (Malawi Population Census, 2018).

In Malawi, more people live in rural areas represented as 14,780,385(84%) than those living in urban centers represented as 2,783,364(16%). Economically, most people in rural areas live below a US dollar per day (Malawi Population Census, 2018). Suicide is not given due attention as apublic health problem in Malawi as there is no national suicide surveillance system in the country. Although previous studies have been conducted on suicidal behaviour in several countries, data on the suicide prevalence in Malawi is scanty and limited.

BRIEF LITERATURE REVIEW

Suicide is among the top causes of mortality worldwide. According to Ross, Kolves, Kunde, & De Leo(2018) study based on World Health Organization (WHO) World Mental Health (WMH) Surveys (conducted 2001-2007), in which 108,705 adults from 21 countries were interviewed using the WHO Composite International Diagnostic Interview. The

Corresponding author:* **John Kuyokwa
Malawi college of health sciences, Private bag 396. Blantyre

survey assessed suicidal behaviours and potential risk factors across multiple domains, including socio-demographic characteristics they found that twelve-month prevalence estimates of suicide ideation, plans, and attempts are 2.0%, 0.6%, and 0.3%, respectively, for developed countries and 2.1%, 0.7%, and 0.4%, respectively, for developing countries. The study further found the risk factors for suicidal behaviours in both developed and developing countries include female sex, younger age, lower education and income, unmarried status, unemployment, parent psychopathology, and childhood adversities. Similarly,Shah, Ahmed, & Arafat, (2017) study on demography and risk factors of suicide in Bangladesh found that people who committed suicide were aged between 11-70 years. Study further found that 61% of the reported cases were below 30 years of age, 58% were female, 24% were students, 17% were house makers, 61% were from rural background, and 45% were married. Hanging was found to be the commonest method (82.29%); marital and familial discord remained a noticeable risk factor (34.32%). Family members and neighbours noticed 103 cases, and only 3 cases were found to have suicide notes.Arafat, Mali, & Akter, (2018) study in Bangladesh also found a mean age of suicide reports of 23.84 (±11.42) years, ranging from 10-85 years. The study revealed that seventy percent of the reported cases were less than 30 years of age, 60.1% were female, 37.7% were student, 48.6% from rural background, and about 51% were unmarried. Hanging was found as the commonest method (60.9%) and affair related issues remained as a noticeable risk factor (14.25%). About 8% of the respondents were found to have suicide notes and suicides were found higher in night & spring. Sun & Zhang (2016) found that the planned suicide attempts were associated with higher education, hopelessness, and previous suicide act. The study further found unplanned suicide attempt tends to be facilitated using pesticideat home.

Although, a study in the west of Iran by Poorolajal, Rostami, Mahjub, & Esmailnasab(2015) found the Odds Ratio(OR) estimate of completed suicide of 2.53 (95% CI: 1.94, 3.31) in men compared to women. Compared to married people, the OR estimate of completed suicide was 1.41 (95% CI: 1.15, 1.72) in single people, 1.92 (95% CI: 1.15, 3.23) in widowed people, and 1.97 (1.32, 2.95) in divorced people. The lower the educational level associated with the higher the risk of completed suicide. Compared to school/college students, the risk of completed suicide was higher among housewives, employed people or employees, and retirees. The study further found that majority of the suicides about 90.05% occurred at home. Taking medications was the most common way about 69.13% of a suicide attempt. A study by Shaikh, Lloyd, Acquah, Celedonia & M (2016) on suicide attempts and behavioural correlates among a nationally representative sample of school-attending adolescents in the Republic of Malawi found that suicide attempters had significantly higher odds of being anxious, being physically bullied, having sustained a serious injury and having a greater number of lifetime sexual partners at the multivariate level. The study further found that alcohol use at an early age and within the past 30 days was also associated with suicide attempts. While, a study in senior and junior high school and college students in eight cities of China by Gao *et al*.,(2010) found that 2.2 percent of the respondents reported that they had experienced attempted suicide during the previous year. Scores on high anxiety (OR = 2.61, 95%, CI: 1.64 - 4.16), high depression (OR = 2.05, 95%, CI: 1.35 - 3.10), suicide idea (OR = 14.21, 95%, CI: 9.88 - 20.43), suicide plan (OR = 3.50, 95% CI: 2.59 - 4.73) were revealed as common risk factors. The differences of the study findings could due to differences in study setting and target population.

Kim *et al*.,(2015) comparative study on the suicide methods used in attempted suicides with those used in completed suicides and to examine the factors associated with each phenomenon found that drug poisoning and cutting were the most common suicidal behaviours with/without injuries, but they were the least frequent method of completed suicides. In contrast, hanging and jumping from a height were less common among failed suicide attempts but resulted in a higher percentage of fatalities. Being male, age, and area of residence were associated with pesticide poisoning, whereas previous suicide attempts were associated with cutting, pesticide poisoning, and gassing. However, little is known about the underlying causes of completed suicide and suicide attempts in Malawi.

RESULTS

Prevalence of suicide, suicide attempts and demographics

The national prevalence of completed suicide and suicidal attempts based on police reported cases was 0.0008% in Malawi. A total of 133 suicidal cases were reported in a 10 Months period, out of a national total population of 17.6 million. The prevalence of suicide in Malawi has shown to be varied based on the district, city and region. Study further found that 125 people across the country completed suicide and 8 attempted suicide representing 94% and 6% respectively. The study involved 128 males and 5 female suicide reports representing 96.2% and 3.8% respectively.

Gender; 120 male and 5 females completed suicide representing 96%and 4% respectively. Of note, all 8 cases representing 100% of suicidal attempts were made by males. The study findings were similar to what was found in the west of Iran by Poorolajal, Rostami, Mahjub, & Esmailnasab(2015) as they also found that being a man is a risk of completing suicide with an Odds Ratio(OR) estimate of completed suicide of 2.53 (95% CI: 1.94, 3.31) in men compared to women. The study further found that majority of the suicides about 90.05% occurred at home. Taking medications/chemicals especially use of pesticides was the most common way of about 69.13% of a suicide attempt. The table 1 show the details.

Table 1

Gender-suicide	Frequency	Percentages
Male	120	96%
Female	5	4%
Totals	**125**	**100%**

Marital Status

Study revealed that most of people who committed suicide had their marital status unknown, this could be missing in the data set used, followed by those who were single, the possible reason could be "no responsibility" married people have to consider their spouses and children" and then married ones, represented as 72.2%,15% and 12.8% respectively. The study findings were similar to what was found in the west of Iran by Poorolajal, Rostami, Mahjub, & Esmailnasab(2015) as they found that more single people were at risk of completed suicide with OR estimate of completed suicide of 1.92 (95% CI: 1.15, 3.23) compared to married people, the OR estimate of completed suicide was 1.41 (95% CI: 1.15, 1.72), in

widowed people, and 1.97 (1.32, 2.95) in divorced people. The table 2 below show the details.

Table 2

Marital Status	Frequency	Percentages
Married	17	12.8%
Single	20	15%
Unknown	96	72.2%
Totals	133	100%

On age, suicidal cases ranged from 9 - 75 years, the study found that most of the people who committed suicide were aged between 21-35 years, representing (39.2%), these are young adults who are struggling to become independent, are in serious relationships and are struggling to get the needed education. This was followed by those aged between 36-50(24%), then those aged less than 20, representing17.6%, followed by those aged 51-Above representing 16% and those who had unknown age had the lowest prevalence of 3.2%.The study found that all (100%) who attempted suicide were aged less than 50 years and were 8.Similarly, Shah, Ahmed, & Arafat, (2017) study on demography and risk factors of suicide in Bangladesh found the age range of 11-70 years of people who committed suicide. Study further found that 61% of the reported cases were below 30 years of age. Similarly, Shaikh, Lloyd, Acquah, Celedonia & M (2016) study on suicide attempts and behavioural correlates among a nationally representative sample of school-attending adolescents in the Republic of Malawi found that "suicide attempters" had significantly higher odds of being anxious, being physically bullied, having sustained a serious injury and having a greater number of lifetime sexual partners at the multivariate level. The study further found that alcohol use at an early age and within the past 30 days was also associated with suicide attempts. However, in this study aged was not associated with these variables. The table 3& 4 show the details.

Table 3

Suicide prevalence	Northern Region		Central Region		Southern Region	
Age	Freq	%	Freq	%	Freq	%
Less than 20	5	13.5%	11	16.2%	6	30%
21-35	13	35.1%	29	42.6%	7	35%
36-50	10	27.1%	14	20.6%	6	30%
51- above	8	21.6%	11	16.2%	1	5%
Unknown	1	2.7%	3	4.4%	0	0%
Totals	37	100%	68	100%	20	100%

Table 3, shows that in Central region had highest percentages of completed suicide cases of about 42.6% and most who completed suicide were aged between 21-35 years. The reason may be due to Chikamwini cultural system as added pressures on men. Northern region was second as it had a prevalence of 35.1% of completed suicide cases, also most of them aged between 21-35 years. The reasons may be pressure to succeed, lobola and education pressure as they are limited job opportunities in the region. The table further shows that in Southern region had also high prevalence of completed suicide cases of about 35%, also most of them were aged between 21-35 years. The reasons may be economic and land pressures. The reasons suggested arejust speculative factors hence they need to be investigated.

Table 4

Suicide (Attempt) prevalence	Northern Region		Central Region		Southern Region	
Age	Freq	%	Freq	%	Freq	%
Less than 20	1	33.3%	0	0%	0	0%
21-35	0	0%	3	100%	2	100%
36-50	2	66.7%	0	0%	0	0%
51- above	0	0%	0	0%	0	0%
Unknown	0	0%	0	0%	0	0%
Totals	3	100%	3	100%	2	100%

Table 4, shows that Northern and Central region had the same prevalence of suicide attempters (3v3) and followed by Southern region which had 2 suicide attempters.

Occupation; the suicide records revealed most people who committed suicide had unknown occupation about 88%, followed by those who were professionally employed; 3.8%, then those who were Farmers; 3.7%, then those who were Students and Businessmen; 2.3% and 2.1% respectively. Similarly, a study in the west of Iran by Poorolajal, Rostami, Mahjub, & Esmailnasab(2015) found that lower the educational level associated with the higher the risk of completed suicide. Compared to school/college students, the risk of completed suicide was higher among housewives, employed people or employees, and retirees. Taking medications was the most common way about 69.13% of a suicide attempt. The table 5 show the details

Table 5

Occupation	Frequency	Percentages
Farmer	5	3.7%
Business	3	2.1%
Unknown	117	88%
Professionally employed	5	3.8%
Student	3	2.3%
Totals	133	100%

Table 5 shows that unknown occupation had high percentages of suicide attempters about 100% were aged between 21-35 years.

General prevalence of committed suicide and suicidal attempt cases per region

The study found that central region had the highest prevalence of suicide of 52.8%, followed by northern region which was 31.2% and southern region had few cases about 16%. The table 6show the details.

Table 6

Regional Suicide prevalence		Percentage
Northern	39	31.2%
Central	66	52.8%
Southern	20	16%
Totals	125	100%

The study found that central region had the highest prevalence of suicide attempts of 50%, followed by northern region and southern region which had 25% respectively. The table 7 show the details.

Table 7

Regional Suicide Attempts prevalence		Percentage
Northern	2	25%
Central	4	50%
Southern	2	25%
Totals	8	100%

District; Lilongwe had the highest prevalence of 19.5%, followed by Mzimba (18%), and Mchinji (8.3%). However, districts like Nsanje, Balaka, Likoma, and Mulanje had not reported any suicide and attempted suicide cases. The table 8,9 and 10 below show the details.

Table 8

Northern Region	Frequency of suicide attempts	Frequency of Suicide cases	Totals
Chitipa	1	1	2
Karonga	0	2	2
Rumphi	0	10	10
Mzimba	1	23	24
Nkhatabay	0	3	3
Likoma	0	0	0
Totals	2	39	41

Table 9

Central Region			
Kasungu	0	3	3
Mchinji	1	10	11
Dowa	0	9	9
Lilongwe	1	25	26
Salima	0	3	3
Nkhotakota	1	1	2
Ntchisi	1	4	5
Dedza	0	7	7
Ntcheu	0	4	4
Totals	4	66	70

Table 10

Southern Region			
Balaka	0	0	0
Machinga	0	1	1
Zomba	1	1	2
Blantyre	0	8	8
Neno	0	3	3
Mwanza	0	2	2
Chikwawa	1	0	1
Nsanje	0	0	0
Thyolo	0	2	2
Mulanje	0	0	0
Phalombe	0	1	1
Chiradzulu	0	1	1
Mangochi	0	1	1
Totals	2	20	22

City

The study found that different cities in Malawi have different prevalence. Lilongwe reported highest (48.4%), followed by Mzuzu (29.6%) and Blantyre (22.2%) while Zomba had not reported any suicide cases. A similar study among students in eight cities of China byGao *et al*.,(2010) found that 2.2 percent of the respondents reported that they had experienced attempted suicide during the previous year. Scores on high anxiety (OR = 2.61, 95%, CI: 1.64 - 4.16), high depression (OR = 2.05, 95%, CI: 1.35 - 3.10), suicide idea (OR = 14.21, 95%, CI: 9.88 - 20.43), suicide plan (OR = 3.50, 95%CI: 2.59 - 4.73) were revealed as common risk factors. However, in Malawi little is known about psychological problems associated with suicide. The table 11& 12show the details.

Rural or Urban residence

The study found that most cases were reported from Rural (78.4%) and Urban (21.6%) respectively. However, a similar study byArafat, Mali, & Akter, (2018)in Bangladesh found a lower percentage of48.6% were from rural background and suicides were found higher in night & spring. The table 13 & 14 show the details.

Table 11

Suicide cases based on City of Residence	Frequency	Percentage
Mzuzu	8	29.6%
Lilongwe	13	48.4%
Zomba	0	0%
Blantyre	6	22.2%
City Totals	27	100%

Table 12

Suicide Attempt cases based on City of Residence	Frequency	Percentage
Mzuzu	0	0%
Lilongwe	0	0%
Zomba	1	100%
Blantyre	0	0
City Totals	1	100%

Table 13

Prevalence of suicide cases based on Residence	Frequency	Percentage
Rural(All Districts +Rural setup of districts which are also cities)	98	78.4%
Urban(City)	27	21.6%
Totals	125	100%

Table 13 shows that the highest prevalence of the people who completed suicide were from rural areas represented as (78.4%) while those from Urban had lower prevalence of (21.6%) respectively.

Table 14

Prevalence of suicide Attempt cases based on Residence	Frequency	Percentage
Rural(All Districts +Rural setup of districts which are also cities)	7	87.5%
Urban(City)	1	12.5%
Totals	8	100%

Table 14 shows that the highest prevalence of the people who attempted suicide were from rural areas represented as (87.5%) while those from Urban had lower prevalence of (12.5%) respectively.

CONCLUSIONS AND RECOMMENDATIONS

These findings have the potential to guide public health interventions geared toward suicide prevention in Malawi, Africa and other, similar regions, as well as providing a guide for future epidemiologic studies on suicidal behaviour in similar income countries. The study found the risk factors for suicidal behaviours in Malawi include male sex, younger age, being in rural area, unknown marital status, and unemployment. The male high prevalence of suicide could be due to social-economic expectation, as culturally men are expected to provide everything for the family, so with economic problems the country is facing it very difficult for men to survive. However, this is a speculation; there is need to conduct a specific study in order to find out why this high prevalence of suicide among men. There is also need to identify strategies or things that are used by people to complete suicide and attempt suicide. When and where complete suicide and attempt suicide occur is important to know in order to address the problem. There is also need to find out if psychological problems and psychoactive substance use that are associated with and when complete suicide and attempt suicide occur in Malawi.

Acknowledgements

Thanks to Malawi Police Service for the data set and the office of Inspector General of Police for technical assistance of providing data on suicide and suicide attempts among Malawians.

References

Arafat, S. M. Y., Mali, B., & Akter, H. (2018). Demography and risk factors of suicidal behavior in Bangladesh: A retrospective online news content analysis. *Asian J Psychiatr, 36*, 96-99.

Gao, R., Tao, F. B., Hu, C. L., Su, P. Y., Hao, J. H., & Wan, Y. H. (2010). Impact of psychosocial factors on suicide attempts in high school and college students, data from eight cities of China. *Zhonghua Liu Xing Bing Xue Za Zhi, 31*(1), 9-13.

Shah, M. M. A., Ahmed, S., & Arafat, S. M. Y. (2017). Demography and Risk Factors of Suicide in Bangladesh: A Six-Month Paper Content Analysis. *Psychiatry J, 3047025*(10), 10.

Shaikh, M. A., Lloyd, J., Acquah, E., Celedonia, K. L., & M, L. W. (2016). Suicide attempts and behavioral correlates among a nationally representative sample of school-attending adolescents in the Republic of Malawi. *BMC Public Health, 16*(1), 016-3509.

Sun, L., & Zhang, J. (2016). Medically Serious Suicide Attempters With or Without Plan in Rural China. [Comparative Study]. J Nerv Ment Dis, 204(11), 851-854.

Malawi PHC (2018). Malawi Population and Housing Census Report Zomba, Malawi, National Statistical Office (NSO) and *www.nsomalawi.mw.*

Poorolajal, J., Rostami, M., Mahjub, H., & Esmailnasab, N. (2015). Completed suicide and associated risk factors: a six-year population based survey. [Research Support, Non-U S Gov't]. *Arch Iran Med, 18*(1), 39-43.

Ross, V., Kolves, K., Kunde, L., & De Leo, D. (2018). Parents' Experiences of Suicide-Bereavement: A Qualitative Study at 6 and 12 Months after Loss. *Int J Environ Res Public Health, 15*(4).

How to cite this article:

John Kuyokwa and Symon Chiziwa (2019) 'The Prevalence of Suicide, Suicide Attempts and Associated Demographics In malawi. A 10 months cross-sectional study', *International Journal of Current Medical and Pharmaceutical Research,* 05(09), pp 4516-4520.

****