## **General Psychiatry**

# Suicide in Nigeria: observations from the content analysis of newspapers

Tosin Philip Oyetunji , <sup>1</sup> S M Yasir Arafat , <sup>2</sup> Stephen Oluwaseyi Famori, <sup>3</sup> Timilehin Blessing Akinboyewa, <sup>4</sup> Michael Afolami, <sup>5</sup> Moyo Faith Ajayi, <sup>4</sup> Suiita Kumar Kar <sup>6</sup>

**To cite:** Oyetunji TP, Arafat SMY, Famori SO, *et al.* Suicide in Nigeria: observations from the content analysis of newspapers. *General Psychiatry* 2021;**34**:e100347. doi:10.1136/gpsych-2020-100347

Received 25 July 2020 Revised 23 September 2020 Accepted 01 December 2020



© Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

<sup>1</sup>Department of Human Nutrition, Faculty of Public Health, College of Medicine. University of Ibadan, Ibadan, Oyo, Nigeria <sup>2</sup>Department of Psychiatry, Enam Medical College and Hospital, Savar, Bangladesh <sup>3</sup>Department of Geology, University of Ibadan, Ibadan, Oyo, Nigeria <sup>4</sup>Department of Psychology, Adekunle Aiasin University. Akungba-Akoko, Ondo, Nigeria <sup>5</sup>Department of International Relations, Obafemi Awolowo University, Ile-Ife, Osun, Nigeria <sup>6</sup>Department of Psychiatry, King George's Medical University, Lucknow, U.P, India

#### Correspondence to

Tosin Philip Oyetunji; tosinoyetunji123@gmail.com

#### **ABSTRACT**

**Background** Suicide is a global public health problem and Nigeria is one of the epicentres of suicide in the world. However, there is a dearth of research exploring the epidemiological aspects of suicide in Nigeria.

**Aim** To examine the demographic information and precipitating events for suicides in Nigeria by analysing the contents of newspaper reports of suicide.

**Methods** We searched, collected, and analysed published news reports about suicide from 10 English newspapers in Nigeria. A total of 350 suicide reports were assessed between January 2010 and December 2019 after screening and sorting.

**Results** The mean (SD) age of the reported cases was 36.33 (15.48) years. Majority of the reported cases were male (80.6%), married (51.8%), students (33.6%), living in a semi-urban area (40.3%) and among the age group of 25–34 (25.3%). Hanging (48.6%) and poisoning (32.2%) were the most commonly reported methods of suicide. Financial constraints and marital conflicts were most commonly assumed precipitating factors.

**Conclusion** This study suggests that being male, married, or living in semi-urban areas are associated with suicide in Nigeria. Further community-based studies are warranted to generalise the findings and adopt appropriate preventive strategies.

## INTRODUCTION

Suicide is a global phenomenon having a deep consequence not just to the dying person but also towards the bereaved, the community and society. Despite being preventable, close to a million people die by suicide while the low and middle-income countries account for approximately 80% of the global suicides.<sup>2</sup> Nigeria with a population of over 200 million is one of the epicentres of suicide in the world with a suicide estimate of 17.3 per 100 000, which is higher than the global (10.5 per 100 000) and Africa (12.0 per 100 000) estimates.3 According to global statistics, since 2012 there has been an increase in suicide in the country. Moreover, Nigeria, currently, has been reporting the highest number of depression cases in Africa.<sup>5</sup>

Like in many developing countries, suicide in Nigeria is grossly under-reported and under-documented due to the non-existence of a vital statistics system<sup>6–8</sup> and the sensitive nature of the subject.9 The dearth of data is also shrouded in stigma, and cultural and religious sentiments associated with suicide in Nigeria. Deaths by suicide are perceived as sinful, a taboo and caused by evil forces, so the family are often times stigmatised and denied social opportunities. 10 People prefer to hide the mode of death, declaring suicides as accidental deaths or as homicides. 10 11 Many of the reported cases rely on police and hospital records, neither of which are comprehensive and might have been influenced by the bereaved.<sup>7 10</sup> Suicide is still a crime in Nigeria according to section 327 of the country's Criminal Code.

Research evidence on suicidal behaviour in Nigeria document the use of chemicals, self-cutting, burning with kerosene, hanging and firearms as methods of suicide. 12-14 Several other methods arose as persons who engage in suicide are sometimes ambivalent and some are impulsive responses to psychological stressors. Factors attributed to suicide are personal risk factors including financial constraints, family history of suicide, loss of loved ones, mental illness, physical illness, substance abuse and so on. 15-17

In Nigeria, the suicide phenomenon remains under-explored, and there has been insufficient attention to the content analysis of Nigerian news portals on the demography, methods and risk factors for suicide in Nigeria. This study aimed at assessing the demography, methods and risk factors for suicide in Nigeria by analysing the content of news portal reports of suicide.

#### **METHODS**

This retrospective cross-sectional study uses data from 10 selected indigenous online media platforms in Nigeria. For selection, a list of 10 online news portals was generated and reviewed independently for content



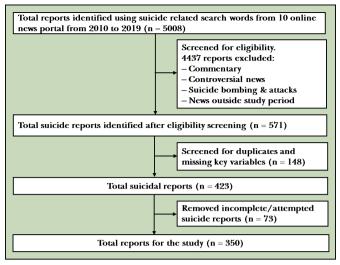


Figure 1 Flowchart showing study sample selection.

reliability. Criteria for selection include coverage and awards, and each of the platforms has over a million coverage estimates. Due to the absence of full non-English news portals in Nigeria, during the review, consideration was given to portals with a separate section for indigenous language news and those with translation. Online portals selected include The Daily Post, The Daily Trust, The Guardian, The Vanguard, The Punch, The Nigeria Tribune, The Premium Times, The Nation, The Channels news and The New Naija (LegitNg).

All suicide reports were screened from the platforms between January 2010 and December 2019 using 'suicide, self-harm, hanging, sniper, jumping in front of train/car, fall from height, gun fire, and drowning' as search terms by the research team. Google was also used to compliment the platform search for exhaustive inclusion. The suicide news was reviewed to summarise sociodemographic profile (date, age, gender, marital status, habitat) and suicide behaviour (methods, risk factors and types).

All data were reviewed from the publicly available reports, so the study involves no human contact or engagement. The data were recorded and entered into an Excel sheet. Data were sorted carefully for duplicates using date, month, age, location and methods. Out of 571 data entered, 221 data were excluded from our analyses due to duplication and inconsistency with selection criteria (figure 1). Similar methods have been used in other studies. <sup>18</sup> <sup>19</sup>

#### **Inclusion criteria**

This study only included news of completed suicides for Nigerian citizens across the geographical region and available on the 10 selected online news platforms.

#### **Exclusion criteria**

News outside our study period, attempted suicide, controversial news, commentary, novel extract, suicide bombing and attacks were excluded.

#### Statistical analysis

Analyses were done using Microsoft Excel 2019 version and SPSS V.22 for data coding and entry. Descriptive statistics, such as mean, SD and frequency, was performed. Inferential statistics was done using  $\chi^2$  and ANOVA for association across gender and suicide methods. For ordinal data, Kruskal-Wallis test was used to demonstrate difference in ranked variables. Level of significance was set at p value <0.05.

#### **RESULTS**

A total of 350 suicide reports were identified between January 2010 and December 2019 after screening and sorting from the 10 online newspapers (figure 1). The mean (SD) age of the reported cases was 36.33 (15.48) and mostly among the age group of 25–34 (25.3%). Most of the reported cases were male (80.6%), married (51.8%) and living within a semi-urban area (40.3%).

Most of the suicide reports were found among those in the middle-income category (51.1%) and highest among students (33.6%). Nigeria is divided into six regions with the North West having the largest population. According to the extracted completed suicide reports, the highest media report rate was 0.27 per 100 000 population in the South West region followed by North Central (0.22 per 100 000), South East (0.21 per 100 000), South-South (0.19 per 100 000), North West (0.07 per 100 000) and North East (0.04 per 100 000) (table 1).

According to newspaper reports, more men than women died by suicide between 2010 and 2019 whereas by age younger women commit suicide more than men did (t=4.130, p<0.001). In occupation, suicides were reported to be higher among students compared with other professions ( $\chi^2$ =18.188, p=0.006). According to the ten online newspaper reviews, unknown risk factors, financial constraints and marital conflicts were the most assumed risk factors. Gender showed a significant difference with assumed risk factors for the suicides  $(\chi^2=18.188, p=0.006)$ , among which suicide due to financial constraints and psychiatric illness were the most commonly reported reasons among men in the reports. From the media reports, there was a significant difference with place of suicides and gender ( $\chi^2$ =13.252, p=0.021). Suicides at home, school and bridges were reported more among women while workplace and community centres were reported more among men. Table 2 shows the demographic pattern of suicides with gender from 2019 to 2020.

Based on the extracted suicide report, the most common reported suicides were hanging (48.6%) and poisoning (32.2%). Age had a significant difference on the reported choice of methods where poisoning was common among the younger age group (F=12.006, p<0.001). A significant difference was found between gender and method of suicides; men tended to complete suicides using hanging and other forms, while poisoning was reported more among women compared with men



**Table 1** Demographic variables of suicides mentioned in 10 Nigeria online news portals (n=350)

Variable	N	Percentage (%)
Age in years (n=300)		
0–14	9	3.0
15–24	65	21.7
25–34	76	25.3
35–44	72	24.0
45–64	52	17.3
65 and above	26	8.7
Sex (n=350)		
Male	282	80.6
Female	68	19.4
Marital status (n=338)		
Married	175	51.8
Unmarried	152	45.0
Separated/divorced	11	3.3
Habitat (n=330)		
Urban		39.7
Semi-urban		40.3
Rural		20.0
Social class (n=319)		
High	48	15.0
Average	168	51.1
Low	108	33.9
Occupation (n=292)		
Student	98	33.6
Business	38	13.0
Artisan	29	9.9
Civil servant	27	9.2
Others	100	34.2
Region* (n=350)		
North Central	66	18.9
North East	12	3.4
North West	38	10.9
South East	48	13.7
South-South	56	16.0
South West	130	37.1

\*Population size: North West (48 942 307), South West (46 706 662), North Central (29 252 408), South-South (28 829 288), North East (26 263 866), South East (21 955 414). Source: Wikipedia 2020 (available at https://en.wikipedia.org/wiki/List\_of\_Nigerian\_states\_by\_population).

( $\chi^2$ =7.792, p=0.020). This study found a significant association between marital status and method of suicides; hanging and other methods were the assumed methods among the married subjects while poisoning was the most reported method among the unmarried. A significant association between habitat and suicide was observed; the common methods of suicide completion (hanging and

poisoning) were reported more in the semi-urban areas while electric shock, jumping in front of a vehicle/train, burning, fall from height, gunfire, cutting, and drowning were commonly noted in urban areas ( $\chi^2=12.081$ , p=0.017). Social status was not found to be associated with mode of suicide. However, poisoning was reported more among low social classes while hanging was more prevalent among the middle class ( $\chi^2$ =4.019, p=0.403). A significant difference was also observed between the choice of method with the regions of Nigeria. In all suicide cases, hanging and poisoning were most commonly reported methods in the North East and North Central regions compared with other regions ( $\chi^2$ =22.547, p=0.013). A significant difference between risk factors and suicide methods was highlighted. Persons with financial constraints chose to hang themselves while those with marital conflict prefered to poison themselves compared with other methods. Place of attempt showed a significant difference in methods of suicide; death by hanging was more commonly reported at community centers, whereas death by poisoning was more commonly seen at school and in the home ( $\chi^2$ =47.432, p<0.001) (table 3).

# DISCUSSION

### Main findings

As an underexplored phenomenon, this study aimed to assess suicide events in Nigeria by retrospectively looking into variables derived from online news portal reports. According to this study, a total of 350 suicide reports from 10 news portals were identified between January 2010 and December 2019. The mean age of the cases of suicide was 36.33 (15.48) with 50% below the age of 34, which signifies an early loss of productive lives. This rate of early loss is confirmed in a study about suicide in Turkey, where they found that people aged 15-34 had the highest suicide rate.<sup>20</sup> In Bangladesh, such early suicide has also been reported before the age of 30 years. 18 21 From our study, we found evidence that people above the age of 34 are equally likely to die by suicide as people below 34 years. This confirms a study in America, where people aged 45 to 59 had the highest suicide rate in 2010 as compared with suicide among those between 15 and 25.22

Previous studies have revealed that suicide mortality rates vary by age group, gender and regions. Consistent with previous research and in accordance with the Global Burden of Disease (2016) report data, men had higher rates of suicide across regions and countries at all time points, and for all age groups except for among those aged 15 to 19.24 Our study found that the majority of completed suicide cases were males (80.6%) and a greater percentage (79.6%) of all suicide reports in the country were also males. This reveals that males are more likely to die by suicide than their female counterparts. Male predominance can be explained by a few factors which include ignoring the need to seek help for mental health. Men are also less likely to seek and accept help or treatment. However, an opposite gender distribution was

Variables	Total	Male (n=282)	Female (n=68)	Statistics	P value
Age in years—mean (SD)	35.62 (15.51)	38.13 (14.15)	29.13 (18.36)	t=4.130	<0.001
Marital status (n=338)	33.62 (13.31)	36.13 (14.13)	29.13 (16.30)	$\chi^2 = 4.126$	0.127
Married	175 (51.8)	147 (54.4)	28 (41.2)	χ =4.120	0.127
Unmarried	252 (45.0)	114 (42.2)	38 (55.9)		
Separated/divorced	11 (3.3)	9 (3.3)	2 (2.9)		
Habitat (n=330)	11 (3.3)	9 (3.3)	2 (2.9)	$\chi^2 = 4.071$	0.131
Urban	131 (39.7)	104 (39.0)	27 (42.9)	χ =4.071	0.131
Semi-urban	131 (39.7)	114 (42.7)	19 (30.2)		
Rural	66 (20.0)	49 (18.4)	17 (27.0)		
Social class (n=319)	00 (20.0)	49 (10.4)	17 (27.0)	$\chi^2 = 1.264$	0.531
, ,	10 (1E O)	27 (14 2)	11 (10 2)	χ =1.204	0.551
High	48 (15.0)	37 (14.3)	11 (18.3)		
Average	163 (51.1)	131 (50.6)	32 (53.3)		
Low	108 (33.9)	91 (35.1)	17 (28.3)	w <sup>2</sup> _06 F07	<0.001
Occupation (n=292)	00 (00 0)	00 (07 0)	05 (50 0)	$\chi^2$ =26.537	<0.001
Student	98 (33.6)	63 (27.2)	35 (58.3)		
Business	38 (13.0)	29 (12.5)	9 (15.0)		
Artisan	29 (9.9)	23 (9.9)	6 (10.0)		
Civil servant	27 (9.2)	25 (10.8)	2 (3.3)		
Others	15 (5.9)	15 (7.5)	0 (0.0)	2	0.477
Region (n=350)	()	4:		$\chi^2 = 7.645$	0.177
North Central	66 (18.9)	50 (17.7)	16 (23.5)		
North East	12 (3.4)	11 (3.9)	1 (1.5)		
North West	38 (10.9)	27 (9.6)	11 (16.2)		
South East	48 (13.7)	43 (15.2)	5 (7.4)		
South-South	56 (16.0)	43 (15.2)	13 (19.1)		
South West	130 (37.1)	108 (38.3)	22 (32.4)		
Risk factors (n=316)				$\chi^2$ =18.188	0.006
Unknown	93 (29.4)	73 (29.1)	20 (30.8)		
Financial constraint	55 (17.4)	53 (21.1)	2 (3.1)		
Marital/relationship discord	29 (9.2)	20 (8.0)	9 (13.8)		
Familial disharmony	28 (8.9)	17 (6.8)	11 (16.9)		
Depression	16 (5.1)	12 (4.8)	4 (6.2)		
Psychiatric illness	14 (4.4)	12 (4.8)	2 (3.1)		
Others	81 (25.6)	64 (25.5)	17 (26.2)		
Place of attempt (n=342)				$\chi^2$ =13.252	0.021
Home	205 (59.9)	156 (56.7)	49 (73.1)		
School	21 (6.1)	15 (5.5)	6 (9.0)		
Workplace	17 (5.0)	16 (5.8)	1 (1.5)		
Social/community centre (worship centre, stadium, showhouse etc)	16 (4.7)	13 (4.7)	3 (4.5)		
Bridge	11 (3.2)	8 (2.9)	3 (4.5)		
Others	72 (21.1)	67 (24.2)	5 (7.5)		

<u> </u>						Sychiat		
Table 3 Cross-tabulation with demographic characteristics and methods of suicide								
Variables	Total	Hanging (n=160)	Poisoning (n=106)	Others* (n=63)	Statistics	P value		
Age in years (mean (SD))	36.11 (15.51)	38.94 (16.93)	29.80 (12.22)	39.62 (13.33)	F=12.006	<0.001		
Gender (n=329)					$\chi^2 = 7.792$	0.020		
Male	262 (79.6)	133 (50.8)	75 (28.6)	54 (20.6)				
Female	67 (20.4)	27 (40.3)	31 (46.3)	9 (13.4)				
Marital status (n=318)					$\chi^2 = 12.033$	0.017		
Married	164 (51.6)	88 (57.5)	40 (38.5)	36 (59.0)				
Unmarried	144 (45.3)	59 (38.6)	61 (58.7)	24 (39.3)				
Separated/divorced	10 (3.1)	6 (3.9)	3 (2.9)	1 (1.6)				
Habitat (n=330)					$\chi^2 = 12.081$	0.017		
Urban	124 (40.0)	51 (41.1)	38 (30.6)	35 (28.2)				
Semi-urban	127 (41.0)	71 (55.9)	40 (31.5)	16 (12.6)				
Rural	59 (19.0)	34 (57.6)	15 (25.4)	10 (16.9)				
Social class (n=300)	( /	(/	, ,	( /	$\chi^2 = 4.019$	0.403		
High	44 (14.7)	22 (50.0)	12 (27.3)	10 (22.7)	χ			
Average	156 (52.0)	71 (45.5)	51 (32.7)	34 (21.8)				
Low	100 (33.3)	53 (53.0)	34 (34.0)	13 (13.0)				
Occupation (n=273)	100 (00.0)	00 (00.0)	04 (04.0)	10 (10.0)	$\chi^2 = 36.022$	<0.001		
Student	96 (35.2)	37 (38.5)	51 (53.1)	8 (8.3)	λ =00.022	(0.001		
Business	34 (12.5)	20 (58.8)	8 (23.5)	6 (17.6)				
Artisan	25 (9.2)	18 (72.0)	5 (20.0)	2 (8.0)				
Civil servant	26 (9.5)	14 (53.8)	4 (15.4)	8 (30.8)				
Others								
	92 (33.7)	39 (42.4)	27 (29.3)	26 (28.3)	2 00 547	0.010		
Region (n=329)	00 (40 0)	04 (00 0)	04 (50.0)	10 (10 1)	$\chi^2 = 22.547$	0.013		
North Central	62 (18.8)	21 (33.9)	31 (50.0)	10 (16.1)				
North East	12 (3.6)	8 (66.7)	2 (16.7)	2 (16.7)				
North West	37 (11.2)	15 (40.5)	12 (32.4)	10 (27.0)				
South East	48 (14.6)	31 (64.6)	12 (25.0)	5 (10.4)				
South-South	52 (15.8)	26 (50.0)	19 (36.5)	7 (13.5)				
South West	118 (35.9)	59 (50.0)	30 (25.4)	29 (24.6)				
Risk factors (n=296)					$\chi^2 = 37.429$	<0.001		
Unknown	84 (28.4)	47 (56.0)	15 (17.9)	22 (26.2)				
Financial constraint	49 (16.6)	30 (61.2)	14 (28.6)	5 (10.2)				
Marital/relationship discord	27 (9.1)	7 (25.9)	19 (70.4)	1 (3.7)				
Familial disharmony	28 (9.5)	8 (28.6)	14 (50.0)	6 (21.4)				
Depression	15 (5.1)	8 (53.3)	5 (33.3)	2 (13.3)				
Others	79 (26.7)	34 (43.0)	30 (38.0)	15 (19.0)				
Place of attempt (n=322)					$\chi^2 = 47.432$	<0.001		
Home	197 (61.2)	94 (47.7)	79 (40.1)	24 (12.2)				
School	19 (5.9)	9 (47.4)	8 (42.1)	2 (10.5)				
Workplace	14 (4.3)	7 (50.0)	1 (7.1)	6 (42.9)				
Community centre (centre, stadium, showhouse etc)	13 (4.0)	10 (76.9)	2 (15.4)	1 (7.7)				
Bridge	10 (3.1)	3 (30.0)	1 (10.0)	6 (60.0)				
Others	69 (21.4)	35 (50.7)	10 (14.5)	24 (38.8)				

<sup>\*</sup>Others-electric shock 1 (0.3), jump in front of vehicle/train 2 (0.6), burning 5 (1.4), fall 9 (2.7), gunfire 10 (3.0), cutting 21 (6.2), drowning 23 (6.6).

reported in Bangladesh where suicide reports were more among females than males, hence, there is a different gender ratio across the South-Asian countries.  $^6$  18 20 26

Comparing the demographic profile with the methods of suicide, it was observed that the hanging and poisoning methods of suicide were more prevalent across most of the variables. Hanging, in particular, was found to be predominant among males, married and separated people, people living in rural, semi-urban and urban areas, people across the social classes, other occupations apart from students and people living in every other region apart from North Central. In addition, completed suicide cases from most of the unknown risk factors, and the known factors including financial constraint, depression and others were by hanging, and the majority of completed suicides by hanging were done at home. These further validate the increasing global trend of use of hanging for suicide. 21 26 Mars and colleagues 27 found that hanging was the predominant method in Ethiopia, Ghana, Senegal, South Africa and Uganda. Other methods, including poisoning and firearms, were found to be predominant in Cameroon, Egypt, Malawi and Tanzania. However, poisoning was reportedly predominant among such variables as being female, unmarried, students and people in North Central. A high percentage of completed suicide by poisoning cases was caused by marital and relationship discord and familial disharmony.

With respect to the risk factors, aside from about 28% of the cases whose risk factors were either unknown or not mentioned, financial constraints (20.1%), marital/ relationship discord (10.4%) and familial disharmony (9.5%) made the top three risk factors in succession. For marital status, the study revealed that married people are more likely to die by suicide than unmarried, divorced or separated people. Establishing a link between some suicide variables and marital status, it can be deduced that many married people have such financial challenges that could lead them to die by suicide especially by hanging and in their homes. Similar risk factors have been reported in a similar socioeconomic contexts such as in Bangladesh where marital discord, familial disharmony and sexual harassment are reported as prominent risk factors. 18 21 26 There have also been reports of other risk factors for suicide and suicide attempts in Africa including physical health problems, psychiatric disorder or symptoms, drug and alcohol use/abuse, interpersonal and social difficulties, and socioeconomic problems.<sup>27</sup>

It was revealed from our studies that Nigerian news portals do not sensitise their readers and the entire public to the risk factors and preventive strategies of suicide. Suicide is a preventable phenomenon. For instance, the Korean government has developed a National Mental Health plan, Suicide Prevention Centre and prevention education projects for the young, and also introduced media guidance to reduce inappropriate reporting and to promote awareness of the protective role of the media. <sup>28</sup> Despite the preventive tendency for suicide, governments and policy-makers have remained apathetic

about prioritising preventative interventions especially among vulnerable populations. The country is yet to develop, implement and evaluate a comprehensive and sustainable multisectoral suicide prevention plan, for the populace as a whole and for vulnerable persons in particular, as recommended by WHO.<sup>29</sup>

#### **Limitations**

Suicide in Nigeria remains an understudied social issue. To the authors' best knowledge, this study represents the first comprehensive review of top and leading Nigerian news portals, for a 10-year period, on their style of suicide reporting. For this study, 10 online news portals within the period of 2010 and 2019 were scrutinised; hence, the study findings may be perceived as uncritical to the true picture of suicidal variables and their reporting by news portals, but they will trigger further research and contribute to the body of knowledge about suicide in Nigeria. Data were collected and scrutinised from online news portals; hence, the source of data is not strictly scientific. To understand how risk factors may be connected to suicidal behaviour, qualitative studies are needed to understand the complexity of suicidal behaviour and the sociocultural context in which these happen. Cautious interpretation is needed to generalise the results, and further larger-scale studies would help to fill up the huge information gap on suicide research in Nigeria.

#### **Implications**

This study focused on some patterns and factors responsible for suicide in Nigeria. The findings from the data revealed that socioeconomic factors are a major justification for suicide while married folks, artisans and students, and especially males had the highest number of suicides in the data collected between January 2010 and December 2019. Aside from the government's intervention, schools need to be involved in mental health to reduce the suicide rate among students.

**Correction notice** This article has been corrected since it first published. The provenance and peer review statement has been included.

Twitter S M Yasir Arafat @SMYArafat

Contributors TPO, SMYA and SKK conceptualised the research. TPO, OSF, MA and FMA worked on data collection. TPO, SMYA and SKK analysed data. TPO, TBA, MA and FMA wrote the initial manuscript. SMYA and SKK perused and revised the initial draft. Final draft was approved by all the authors.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available on reasonable request.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/.



#### **ORCID** iDs

Tosin Philip Oyetunji http://orcid.org/0000-0001-8341-7036 S M Yasir Arafat http://orcid.org/0000-0003-0521-5708 Sujita Kumar Kar http://orcid.org/0000-0003-1107-3021

#### **REFERENCES**

- 1 Jacob KS. Suicide prevention in low- and middle-income countries: part perceptions, partial solutions. Br J Psychiatry 2017;211:264–5.
- World Health Organization. Suicide, 2019a. Available: https://www. who.int/news-room/fact-sheets/detail/suicide [Accessed 7 Apr 2020].
- 3 World Health Organization. Suicide in the world: global health estimates. Geneva: World Health Organization, 2019b: 1–33.
- World Health Organization. World health statistics 2018. World Health Organization, 2018. Available: http://apps.who.int/iris/bitstream/handle/10665/255336/9789241565486-eng.pdf;jsessionid=7A6C 46D234B30AA610C4C3D250677E64?sequence=1 [Accessed 2020-07-04]
- 5 World Health Organisation. *Depression and other common mental disorders: global health estimates*. Geneva: World Health Organization, 2017. https://www.who.int/mental\_health/management/depression/prevalence\_global\_health\_estimates/en/
- 6 World Health Organization. Preventing suicide: a global imperative, 2014. Available: https://www.who.int/publications/i/item/preventingsuicide-a-global-imperative [Accessed 16 Jul 2020].
- 7 Alabi O, Alabi A, Ayinde O, et al. Suicide and suicidal behavior in Nigeria: a review. Psychiatry Journal 2014;37:1–6.
- 8 Gureje O, Alem A. Hidden science? A glimpse at some work in Africa. World Psychiatry 2004;3:178–81.
- 9 Panyayong B, Tantirangsee N, Bogoian RRD, et al. Psychiatric disorders associated with intimate partner violence and sexual violence in Thai women: a result from the Thai national mental health survey. Gen Psychiatr 2018;31:e000008.
- 10 Ohayi SR. "Doctor, please don't say he died by suicide": exploring the burden of suicide survivorship in a developing country. Egypt J Forensic Sci 2019;9:3–9.
- 11 Islam MN, Islam MN. Pattern of unnatural death in a city mortuary: a 10-year retrospective study. Leg Med 2003;5 Suppl 1:S354–6.
- 12 Onotai LO, Ibekwe U. The pattern of cut throat injuries in the University of Port-Harcourt Teaching Hospital, Portharcourt. Niger J Med 2010:19:264–6.
- 13 Legbo JN, Ntia IO, Opara WEK, et al. Severe burn trauma from deliberate self-harm: the Sokoto experience. Niger Postgrad Med J 2008;15:164–7.

- 14 Nwosu SO, Odesanmi WO. Pattern of suicides in Ile-Ife, Nigeria. West Afr J Med 2001;20:259–62.
- 15 Gureje O, Kola L, Uwakwe R, et al. The profile and risks of suicidal behaviours in the Nigerian survey of mental health and well-being. Psychol Med 2007;37:821–30.
- 16 Uwakwe R, Gureje O. The relationship of comorbidity of mental and substance use disorders with suicidal behaviors in the Nigerian survey of mental health and wellbeing. Soc Psychiatry Psychiatr Epidemiol 2011;46:173–80.
- 17 Omigbodun OO, Adejumo OA, Babalola OO. Suicide attempt by hanging in preadolescent children: a case series. West Afr J Med 2008;27:259–62.
- 18 Arafat SMY, Mali B, Akter H. Demography and risk factors of suicidal behavior in Bangladesh: a retrospective online news content analysis. Asian J Psychiatr 2018;36:96–9.
- analysis. Asian J Psychiatr 2018;36:96–9.
  Niederkrotenthaler T, Voracek M, Herberth A, et al. Role of media reports in completed and prevented suicide: Werther V. Papageno effects. Br J Psychiatry 2010;197:234–43.
- 20 Aktaş SG, Kantar YM. A study of suicide mortality in turkey (2002–2011). Journal of EU Research in Business 2016.
- 21 Shah MMA, Ahmed S, Arafat SMY. Demography and risk factors of suicide in Bangladesh: a six-month paper content analysis. *Psychiatry J* 2017;2017:1–5.
- 22 Baker SP, Hu G, Wilcox HC, et al. Increase in suicide by hanging/ suffocation in the U.S., 2000–2010. Am J Prev Med 2013;44:146–9.
- 23 Mustafa Demir. Who commits suicide most? Suicide by gender and age. State University of New York at Plattsburgh, USA, 2018. Available: https://medcraveonline.com/FRCIJ/FRCIJ-06-00250.pdf
- 24 Naghavi M, Global Burden of Disease Self-Harm Collaborators. Global, regional, and national burden of suicide mortality 1990 to 2016: systematic analysis for the global burden of disease study 2016. BMJ 2019;364:194.
- 25 Murphy GE. Why women are less likely than men to commit suicide. Compr Psychiatry 1998;39:165–75.
- 26 Yasir Arafat SM, Arafat SMY. Current challenges of suicide and future directions of management in Bangladesh: a systematic review. Global Psychiatry 2019;2:09–20.
- 27 Mars B, Burrows S, Hjelmeland H, et al. Suicidal behaviour across the African continent: a review of the literature. BMC Public Health 2014;14:1–14.
- 28 Liu J. Need to establish a new adolescent suicide prevention programme in South Korea. Gen Psychiatr 2020;33:e100200.
- 29 Ogundipe S. Nigeria: Suicide Nigeria Lacks National Prevention Strategy. Vanguard News, 2019. Available: https://www.vanguardngr. com/2019/12/suicide-nigeria-lacks-national-prevention-strategy/ [Accessed 17 Jul 2020].



Tosin Philip Oyetunji is a researcher in the College of Medicine, Faculty of Public Health, University of Ibadan, Nigeria. He has worked for over six years in operational research for the implementation programs for institutions, national agencies, and Non-Governmental Organisations (NGOs); alongside a strong desire to be involved in health research. His main research interests include social behavior, mental health, population health and epidemiology.