Original Research

A cross-sectional survey amongst young adults in Nigeria on their personal experience of injury and violence

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Abstract

Introduction: Injuries and violence are increasingly being recognized as a major public health problem that greatly impacts young people with potentially far-reaching consequences for their physical, reproductive and mental health. Despite the rising incidence, there is still a prominent level of under-reporting.

Objectives: To report the experiences of unintentional injury and violent incidents and their gender variations amongst young adults in Bayelsa state

Methods: A cross-sectional study was conducted amongst 209 randomly selected young adults. Using a self-administered questionnaire adapted from the WHO STEP-wise Manual on Non-communicable Disease, data on socio-demographic characteristics and experiences with violence and injury were obtained.

Results: Mean age was 25.7 years; 51.7% were females. In the 12 months preceding the study, about 1 in 3 respondents had an unintentional injury that required medical attention and 21.5% had been involved in a road traffic accident (RTA). Most threats were from close relatives and friends. A little over 3 in 5 (64.4%) respondents reported physical abuse, 25.8% had experienced sexual abuse in childhood and 24.4% experienced sexual abuse as adults; this was higher in females than males (27.8% vs. 20.7%). Non-RTA injuries were significantly higher ($\chi 2=3.58$; $p=0.04$) in females. Except RTA injuries/violence, more females than males experienced physical/sexual violence; but with no significant difference ($p>0.05$).

Conclusions & Recommendations: A large number of young adults experience varied forms of injury and violence in the course of life during childhood and adulthood. Females experience these more than males highlighting the need for a gender-responsive approach in addressing this public health problem.

Keywords: *injury; violence; young adults; Southern Nigeria*

Introduction

Globally, injuries account for 1 in 11 deaths daily: taking the lives of more than 14 000 people each day. According to reports, injuries lead to the death of a person somewhere in the world every six seconds (1-2). Thus, injuries and violence are a growing public health problem and have become significant contributors to morbidity, disability, mortality and economic loss (2-3). Over the years, it has been observed that injuries generally have been a neglected public health problem of epidemic proportion (2). Mortality from injuries is commoner among young persons aged 15-44 years with a male preponderance (1). Indeed, young adults as they transition from childhood to full status of independence as adults are often described as the healthiest section of the population. They account for one-third of the world population and are often overlooked in planning and programming for their health (4).

Injuries can be grouped based on intent, mechanism and place of occurrence. Intent refers to the motive behind the injury and as such injuries are classified as being 'intentional' if deliberate; 'unintentional' if accidental and 'undetermined' if the intent cannot be ascertained (5). Injuries with intent are usually termed as 'violent'. For certain injuries, the underlying intent may sometimes be difficult to establish. Based on the mechanism of occurrence, the causal factor may describe the injury, for example a traffic injury, poison, fire or other related factors. The place of occurrence of the injury for instance, at home (domestic), school, road, workplace, etc. can be used to classify the injury (6).

Unintentional injuries are the fifth leading cause of death globally and the leading cause of death for those under 35 years of age (2-3, 7). Mostly these injuries result from RTA, poisoning, falls, drowning, fire, snakebite and burns. Falls and road traffic injuries are the commonest unintentional injuries and are amongst the top leading causes of injury-related deaths with the former being commoner in the elderly age-groups (2-3, 8). In low- and middle-income countries (LMIC), road traffic injuries are now the leading cause of death among people aged 15-29 years. Young males are almost three times as likely to die in a road traffic crash as young females (9-11) and the burden is disproportionately borne by pedestrians, cyclists and motor drivers (11-12). A population-based study in Nigeria reports that 54% of RTIs were caused by motorcycle crashes (10). Other forms of unintentional injuries such as falls, burns and poisonings amongst others have lower death rates in LMIC.

Intentional injuries result from deliberate activities that may be physical, sexual or psychological in nature including assaults, bullying, human bites, gunshots, etc. Such violent injuries include homicide, child abuse, youth violence, sexual violence, intimate partner violence and suicide. The World Report on Violence and Health (WRVH) defined violence as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (13).

Globally, over one billion children aged 2-17 years were victims of some form of violence and a majority of these often went unreported (14). The United Nations Children's Fund (UNICEF) reports that in Nigeria, 3 in 5 children before they reach the age of 18 years have experienced some form of physical, sexual or emotional violence. Globally, among young people aged 10-29 years, one in eight report sexual abuse and up to 3-24% of women were sexually assaulted at their first sexual exposure (15). Among youths, males are more affected than females by violent acts (15-16). Nigeria reports that 25% of females have experienced some type of sexual abuse (17). Apart from leading to death and causing physical injury, violence has been found to have non-fatal consequences such as stress and increased risk of a wide range of immediate and lifelong

behavioural, physical and mental health problems as well as increased risk of chronic diseases like heart diseases, diabetes and cancer as well as suicide (18-19).

By far, many injuries and violence are non-fatal and may or may not require hospital care or treatment. However, it has been reported that for every young person killed by violence, an estimated 20-40 receive injuries that require hospital treatment (20). The public health approach to tackling violence advocates that research be carried out to determine the magnitude and features of injury and violence experience to adequately address it (13). Overall, injury and violence reporting are low, and because several injuries are non-fatal and do not require hospital or medical care, they are often not captured. Therefore, there has been a dearth of data to establish the patterns and characteristics of injuries and violence experienced in the region. This study therefore sought to identify experiences of unintentional injury and violent incidents amongst young adults in Nigeria as well as report gender disparities in the reported experiences.

Methods

This was a cross-sectional descriptive study carried out in Bayelsa State amongst young adults undergoing the National Youth Service Corps (NYSC) orientation exercise in December 2019. The NYSC exercise is a compulsory national scheme for every graduate of tertiary education under the age 30 years in Nigeria. Following the completion of their tertiary education, the universities send the list of successful persons to the NYSC which then allocates them in batches to the 36 states in the country to serve for one-year. Therefore, the NYSC programme pools young adults from all the geopolitical regions of Nigeria to undergo a 3-week orientation course after which they spend about one year in community service. Multiple batches of graduates numbering an average of 800-1200 young adults aged below 30 years per batch undergo this programme annually across all states.

The sample size was determined using the Cochrane formula for a standard normal deviate of 1.96 at 95% confidence interval (CI) and the prevalence of physical violence reported as 13.8% (21) in a previous study among women aged 15-49 years with the tolerable alpha error set at 5% for this study. A minimum sample size of 203 was obtained after adjusting for a 10% non-response. In this orientation batch, there were 850 graduates distributed across 10 platoons. The estimated sample was allocated across these platoons with the aim of selecting at least 22 eligible respondents per platoon. Respondents were selected using simple random sampling from each platoon using the platoon register as the sampling frame.

Data were collected using a self-administered online structured questionnaire adapted from the WHO STEP-wise approach to surveillance questionnaire for non-communicable diseases and their risk factors (22). The tool was used to obtain information about the respondents' socio-demographic characteristics (gender, age, marital status, institution of study, state of origin, number of years in school, religion, ethnicity), injury (experience of road traffic accidents, other forms of unintentional injuries from falls, cuts amongst others) and violence (threats, incidents of violence with intentional injuries, physical and sexual abuse as a child and adult) experience. Childhood was defined as before the age of 18 years and an adult as person older than 18 years; physical abuse referred to pushing, grabbing, shoving, slapping, hit, burning or being thrown something at; and sexual abuse referred to sexual touching and/or forced sex. All who did not give consent or were ill were excluded from the study.

Data analysis

Data were analysed using Statistical Package for the Social Sciences (SPSS) version 23.0. Frequencies and percentages were used to summarize categorical variables. Differences in the experience of different

forms of violence between male and female participants were investigated using Chi-squared test. Level of significance was set at p-value<0.05.

Results

A total of 209 responses were obtained with a slight majority of females (51.7%). The mean age was 25.74 years (SD=2.79 years) with 60.3% between 25-29 years of age. A great majority were single (89.5%) and Christian (85.2%) (Table 1). The three major ethnic groups in Nigeria, namely Hausa (11.5%), Yoruba (29.7%) and Igbo (46.4%) were represented in the Camp.

Table 1: Socio demographic characteristics of the participants (N=209)

Characteristics	No.	%
Sex		
Male	101	48.3
Female	108	51.7
Age group (years)		
<20	7	3.3
20 - 24	60	28.7
25 - 29	126	60.3
≥30	16	7.7
Marital status		
Single/Divorced	187	89.5
Married	21	10.5
Religion		
Christian	178	85.2
Muslim	31	14.8
Ethnicity		
Hausa	24	11.5
Ibo	97	46.4
Yoruba	62	29.7
Others*	26	12.4
Institution of tertiary education		
University	153	73.2
Polytechnic	46	22.0
Monotechnic	10	4.8
Years of undergraduate training		
≤ 4 years	122	58.4
5 - 6 years	72	34. 4
≥ 7 years	15	7. 2

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Table 2 shows that about one in every five participants (21.5%) was involved in an RTA in the preceding 12 months, most commonly as a passenger. Furthermore, 32.1% reported other unintentional injuries that required medical attention. Most of these injuries resulted from falls (41.8%) and cuts (34.3%) and occurred at home (59.7%). As in Table 3, 29.7% had experienced threats to self or family in the past 12 months with greater majority of threats coming from strangers (43.5%) and friends

(29%). Violence by close relatives including intimate partners was reported by only 19.7%. Amongst respondents, 27.7% had sustained injuries requiring medical attention, while most of them did not involve any weapon (15.8%) and the perpetrators were mostly friends (37.8%). No respondent reported carrying a loaded gun.

Table 2: Experience of unintentional injury in the past 12 months in sample (N=209)

Types of injury	No.	%
Young person involved in road traffic accident (RTA)		
Yes	35	21.5
No	164	78.5
Involvement in RTA (n=35)		
As a passenger	30	85.7
As a driver	10	28.6
As a cyclist	3	8.6
As a pedestrian	2	5.7
Young persons involved in accidental injury other than RTA requiring medical attention		
Yes	67	32.1
No	142	67.9
Cause of the injury (n=67)		
Fall	28	41.8
Cut	23	34.3
Burn	10	14.9
Animal bite	6	9.0
Place of injury (n=67)		
Home	40	59.7
Road/street/highway	8	11.9
Sport/athletic areas	7	10.4
Workplace	6	9.0
Farm	3	4.5
Others (school, campground)	3	4.5

As presented in Table 3, the majority (64.4%) had been physically abused in childhood (about 1 in 5 respondents), while about quarter of the respondents were sexually abused during their childhood by an adult and about 1 in 5 respondents by another older child. About a quarter (24.4%) of the study participants had been sexually abused as adults at least once.

As shown in Figure 1, more females reportedly experienced both physical (70.4% vs. 58.4%) and sexual (21.3% vs. 19.8%) violence during childhood. More males reported experiencing RTA than females (23.8% vs. 21.3%). Experience of physical and sexual violence was not significantly different ($p>0.05$) between the two sexes, but non-RTA injuries were significantly greater ($p=0.04$) in females than males (38.0% vs. 25.7%).

Discussion

This study aimed to report the experiences of unintentional injury and violence and gender variations amongst young adults. In this study we have explored experiences during childhood and adulthood and reported the gender variations in these experiences.

Based on our research, it appears that the most common types of accidental injuries suffered by

young adults are RTA and falls. This finding is in line with global reports which accounted for 38% of deaths from injuries (2). As young adults tend to be more mobile and travel frequently, they are at a higher risk of RTAs. This is a significant concern as global studies have shown that unintentional injuries are the leading cause of death among young adults (4).

Table 3: Experience of threats and injury from violent incidents in the past 12 months in sample (N=209)

Violence experience	No.	%
Experience of threat to self or family by another person(s)		
Yes	62	29.7
No	147	70.3
Source of the most frightening threat (n=62)		
Stranger	27	43.5
Friend or acquaintance	18	29.0
Close relative (intimate partner, parent, child, sibling or other relative)	12	19.4
Others (official or legal authorities, unrelated caregiver, etc.)	5	8.1
Number of times involved in a violent incident with injury requiring medical attention		
Never	172	82.3
1 - 2 times	31	14.8
3 - 5 times	4	1.9
6 or more times	2	1.0
Cause of injury in the violent incident (n=37)		
Injured without any weapon (slapped, pushed, etc.)	33	15.8
A weapon (other than a gun)	4	1.9
Being shot with a gun	0	0
Relationship with the perpetrator (n=37)		
Friend or acquaintance	14	37.8
Stranger	12	32.4
Close relative	6	16.2
Others	5	13.5
Carried a loaded gun during past 30 days		
No	209	100.0
Yes, for protection/ work	0	0.0

In this study, we discovered that approximately one in three respondents reported experiencing threats. It was interesting to note that threats from friends and close acquaintances were the most common, which aligns with previous findings that perpetrators of violent acts are more often close friends, whom one would usually have the least defence and suspicion (1, 23). This study also revealed a high incidence of threats from strangers in keeping with a report that suggested that violent acts are more likely to be perpetrated by strangers (13). Regardless of the source, threats can have significant implications for one's emotional and mental well-being.

Table 4: Experience of violence during childhood and adulthood (N=209)

Forms of violence	No.	%
Physical abuse during childhood by a parent or household adult		
Never	74	35.4
Ever	135	64.6
Sexual abuse during childhood by an adult		
Yes	54	25.8
No	155	74.2
Sexual abuse during childhood by a child at least five years older		
Yes	43	20.6
No	166	79.4
Forced sex acts as an adult		
Never	158	75.6
Once	28	13.4
A few times (2-3)	14	6.7
Many times (4 or more)	9	4.3

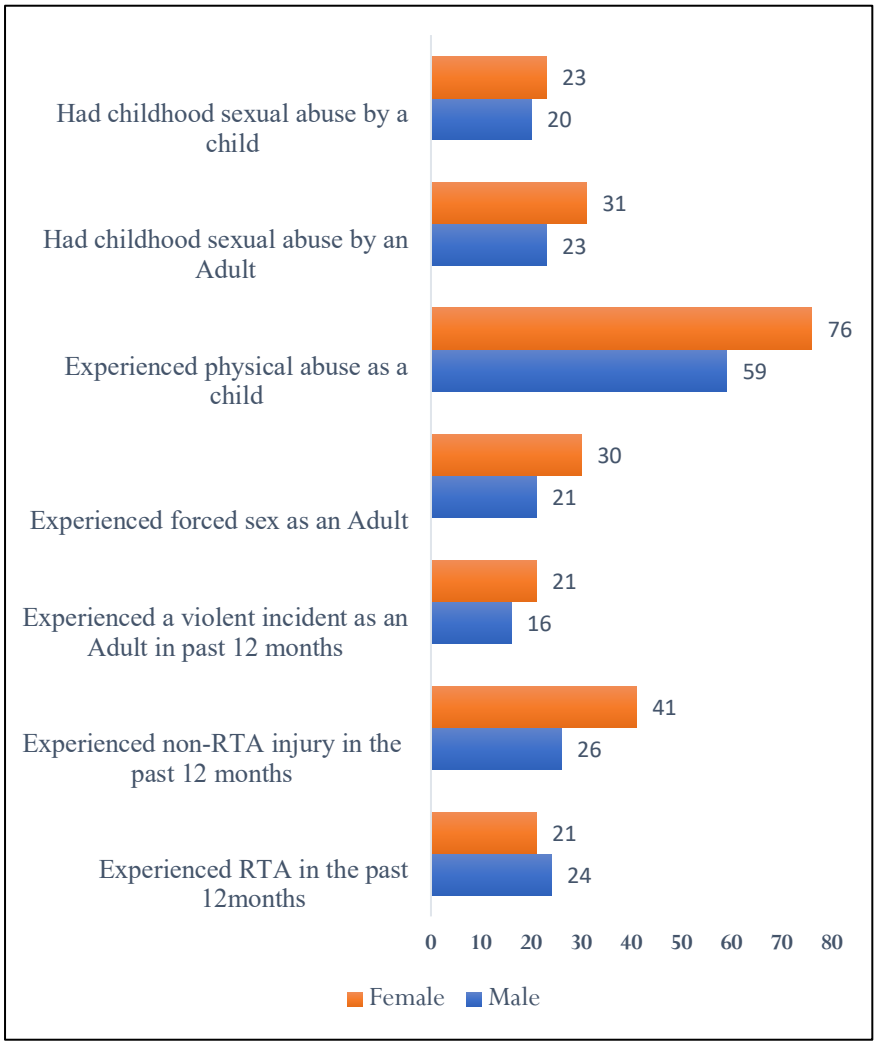

Figure 1: Experience of injury and violence by gender (N=

*Gender-based statistically significant differences

Over the past 12 months, 17.7% of the respondents have reported experiencing violent incidents, such as being slapped or pushed. Additionally, 10.8% of the respondents had been injured by a weapon other than a gun. More than half of these incidents (54%) were perpetrated by close friends and relatives. Most respondents (64.6%) had experienced violent encounters during their childhood, such as being pushed, grabbed, shoved, slapped, hit, burned, or bitten. Unfortunately, this is a common practice in Nigeria, known as "parent training approach".

This study showed that some respondents were sexually abused in childhood either by an adult or another child, and also in their adulthood. Sexual violence, particularly during childhood, can lead to increased smoking, drug and alcohol misuse, and risky sexual behaviours in later life. It is also associated with perpetration of violence (for males) and being a victim of violence (for females) (23). Globally, the WHO reports that both women and men who were sexually molested as children are more than two times likely to attempt suicide than their counterparts who were not abused (2).

According to this study, more males than females have been involved in RTA although this was not statistically significant. These findings are consistent with other studies (9, 13) that have reported males being about three-quarters more likely to be involved in an RTA than females. This could be due to that males are typically more mobile than females and this may increase their likelihood to be involved in RTA. Conversely, more females in this study reported non-RTA injuries, with most of these injuries occurring at home. This supports the earlier report that more females are likely to be at home. This is not surprising as more females are homemakers and involved in domestic work and household chores, making them more susceptible to domestic accidents.

The prevalence of sexual violence was found to be higher in female respondents than males, which is consistent with the findings of previous studies that have reported similar ratios of about 3-4:1. However, this study highlights a concerning trend of increasing incidents of sexual abuse among males. In fact, 41.2% of male respondents reported experiencing sexual abuse both as children and adults.

Violent incidents not only cause physical injuries but also lead to various irreversible and lifelong consequences and effects, both psychological and emotional. These effects can manifest at any age and need to be addressed in our society. Studies (4, 20) suggest that individuals who experience abuse are more likely to become perpetrators of violence later in life and are also prone to other mental illnesses, long-term medical conditions, and even suicidal tendencies. Therefore, it is crucial to recognize and address the impact of violence and abuse to prevent their long-term repercussions.

In this study, it was found that a higher number of females reported experiencing physical and sexual violence compared to males. This finding is consistent with other studies which have shown that females are more susceptible to violence, particularly during childhood. Some people may argue that females are more likely to report their experiences of violence than males, however, there is a significant amount of evidence that supports the idea that females are more likely to experience violence (4). The consequences of experiencing violence for females can include a higher risk of suicidal behaviours such as ideation, planning, and attempts, when compared to males (20).

This study was part of a larger study and as such did not allow for a more robust exploration of the perceptions and beliefs of the respondents regarding their experience of violence and injury. In addition,

this study is prone to recall bias as some incidents may have occurred in childhood and may be obscured by poor memory and other events. Also, due to the sensitivity of some issues explored here such as history of sexual violence, there might be some degree of underreporting, hence the prevalence reported in this study may actually be an underestimation of violence. The experience of violence in this study is based on self-reports and cannot be verified or corroborated with any other documented reports. However, the findings from this study provide relevant information and insight about young adults regarding their experience with injuries and violence.

Public Health Implications

- The high report of unintentional injuries and violence amongst young people has physical, social, emotional and economic implications to include morbidities, disabilities and fatalities.
- Domestic physical violence is an aspect of violence that needs urgent attention in childhood and young adulthood.
- Exposure to any form of trauma, particularly in childhood can increase the risk of mental illness, suicide; substance and alcohol abuse; chronic diseases and social problems.
- Victims can also become perpetuators of violence themselves. This is a key pointer that urgent attention should be directed to address the experience of violence among young adults.

Author Declarations

Competing interests: The authors declare that they have no competing interests.

Ethics approval and consent to participate: Ethics clearance was granted by the Ethics Review Committee of the Federal Medical Centre Yenagoa, Bayelsa State and permission obtained from the Bayelsa National Youth Service Corps (NYSC) management. Informed written [verbal] consent was obtained from each participant prior to data collection.

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Author contributions: UIM conceptualized the study. All Authors participated in the design of the study, coordinated data collection and initial manuscript drafting. UIM and AA performed statistical analysis and interpreted the data. UIM and OIO drafted the final version manuscript. All authors read and approved the final manuscript.

Conclusions & Recommendations

Injuries, whether unintentional or intentional, greatly impact at all levels including individual, family, community and nation. The effects of injuries can be widespread and sometimes lifelong and irreversible. The patterns of violence and injury consist of RTA, accidental injuries such as falls and cuts, physical and sexual abuse in both childhood and as adults. These results emphasize the urgent need for increased awareness and action to prevent and address sexual violence in all populations.

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