Safety and security of women and girls in public transport

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ABSTRACT
Violence against women and girls is a major public problem globally. This study had conducted to assess women and girls safety and security in public transport and identify factors contributing to violence in Hawassa city, Ethiopia. Data used in the study have been obtained from 199 randomly selected respondents (36.7% women and 63.3% girls), and in addition, 24 focus group discussion members have also participated. Binary Logistic Regression had employed for quantitative data analysis. Data from focus group discussions were analyzed qualitatively using narrative analysis. The types of violence identified were physical, sexual, and psychological. The finding shows that 50.8% of women and girls have experienced more than one type of violence while using public transport. The results indicated that six variables significantly contributed to violence. These variables were age, marital status, type of public transport used, travel time, facilities, and management of public transport services. The result indicates that violence against women and girls in public transport is a serious threat to women’s safety and security to access their mobility in the city. Therefore, cities must focus on developing gender-sensitive public transport service plans and policies that consider women and girls unique needs in public transportation.

1. Introduction
A lot of people travel every day in cities using public transport. Women and girls are among the travelers for different purposes like work, education, religious institutions for worshiping, market or shopping purposes, health centers, recreation centers, visit others, and other important economic and political activities (Choudhary et al., 2018). Public transport is an essential enabler in accessing the public sphere, without which women may be kept away from all essential economic, social, and political activities (UN Women, 2014). Women use public transport more than men (THE WORLD BANK, 2016). However, traveling has been shown to have negative consequences like violence on travelers, particularly for women and girls.
1.1. **Concept of gender-based violence**

Unsafe public transport limits women’s rights and freedoms as equal citizens to access and enjoy their neighborhoods and cities and their mobility and freedom of movement as they avoid certain places, times, routes, and modes of public transportation (Action Aid, 2011). According to Ward (2002), Gender-based violence (GBV) refers to any harm that is perpetrated against a person’s will; that harms the physical or psychological health, development, and identity of the person; and that is the result of gendered power inequities that exploit distinctions between males and females.

Although not exclusive to women and girls, GBV affects them across all cultures. Violence may be physical, sexual, psychological, economic, or socio-cultural. Similarly, the Declaration on the Elimination of Violence against Women defines as ‘any act of gender-based violence that results in or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life’ (Un General Assembly, 1993 Article 1)

At a general level, gender-based violence differs and within different societies according to circumstances and scales relating to the individual, the family, the community, as well as the broader national context (McIlwaine, 2013). The underlying causes and the risk factors associated with gender-based violence in cities in rural and urban are many types; some manifest in particular ways in cities, especially violence against women and girls in public transport. According to Chant (2013), women are most likely vulnerable to violence, especially in urban slums. He also specifies that urban women generally enjoy advantages over their rural counterparts. A range of gender inequalities and injustices persist in urban areas that constrain their engagement in the labor market and informal enterprises and inhibit the development of capabilities among younger women. These include intra-urban mobility and personal safety and security in urban governance.

Men and women, boys and girls, may all be subjected to gender-based violence. However, women and girls are the most affected group and will therefore be the principal focus of this study.

1.2. **Violence Against Women (VAW) in public transportation in developing countries**

Gender-based violence occurs in both the public and private spheres. Violence Against Women and Girls (VAWG) is recognized as a widespread international public health and human rights issue (IASC, 2017). VAWG is a global public health problem, particularly in developing countries, including Ethiopia.

Recent studies have shown that gender is the personal aspect that primarily affects mobility patterns and travel behaviors. A study conducted in Dar es Salaam, Tanzania, indicates a high prevalence of gender-based violence, in public transport and public spaces, including physical, sexual, and verbal harassment (World Bank Group, 2020).

In-depth interviews with female commuters and key stakeholders in the Dar es Salaam city suggest that women frequently experience various forms of verbal and non-verbal GBV in public transportation in the form of groping, catcalls, inappropriate comments,
assault, and rape (World Bank Group, 2020). A survey of Dar es Salaam female commuters shows 59% experienced some form of GBV while traveling at least once in the six months. Similarly, GBV incidents are most common among younger women, with over 77% of affected women between 18 and 25 years old, while the rate is 55% for older women (World Bank Group, 2020).

In Bangladesh, gender-based violence has dramatically increased, especially in public places. The scenario is more severe on public transportation where millions of women were victimized in their everyday life (Mazumder & Pokharel, 2018). This has led to further restrictions on women’s mobility.

Using survey data from college-age women in Santiago, Chile, the study argues that a threat of sexual violence limits women’s mobility, affecting her decisions about how and when to move throughout her city, with critical implications for gender equity (Korn, 2018).

1.3. Safety and security of public transport

It is argued that, as women depend much more on public transport, ensuring women’s safety and security, their ability to get to their jobs and get their kids to school safety is essential and needs the focus of all stakeholders (THE WORLD BANK, 2016).

Safety on the public transportation system enables women to leave their workplace when convenient to them; flexible working hours are appealing for women, who are more likely than men to combine paid work with unpaid home care work (Asian Development Bank, 2015).

Safety and security are two distinct concepts whose meaning is debated in the literature, as interpretations can vary between research disciplines and the reference context. A definition used by many in the transport sector describes safety as the condition of being protected from danger or harm caused by an unintentional accidental event. In contrast, a standard definition of security is the state of being protected from threats or damage caused by an intentional criminal act (Coppola & Silvestri, 2021).

Studies in the mobility of people have shown that some social groups are more prone than others to have concerns and anxiety about the occurrence of unpleasant events due to a lack of safety or security in transit environments (Coppola & Silvestri, 2020).

Women in most developing cities have witnessed an increase in the number of public transport threats to urban safety and security (Choudhary et al., 2018). Gender does not seem to be a specific factor in safety rail issues. Security, on the other hand, is a different matter. Security implies protecting transport users against malicious actions and behaviors.

Women have the right to enjoy all their freedoms equally with men in private and public spaces. However, women experience violence in public places, including streets, public transport, parks, schools, markets, workplaces, public sanitation facilities, and neighborhoods (WEL, 2015). According to the UN Women (2014), VAWG committed to public transport constitutes 19 % of VAWG committed in public spheres.

Recent research in Addis Ababa, conducted on safety and security issues of women informal vendors shows that women’s vulnerability and risks in urban spaces are not sufficiently addressed, and women and girls experience specific forms of violence and
insecurities that require attention (Action Aid, 2011). In other words, we can say that Violence Against Women (VAW) in public spaces, particularly in public transport, is less documented, under-researched, and got less attention from all stakeholders.

Since the regime change in 1991, the Ethiopian government has issued several laws that promote women’s rights. However, it was said that although the national constitution, family law, and criminal codes all contain articles that protect women from various forms of violence. However, women’s vulnerability and risks in urban spaces were not sufficiently addressed (Action Aid, 2011).

Therefore, there is a need to provide the safest and secure travel option to women and girls. The current study assessed women and girls’ safety and security in public transport services and identified factors contributing to VAWG.

2. Related literature

Women are a prime target of violence for several reasons, often because most societies are traditionally patriarchal (ITF, INTERNATIONAL T. F., 2018). A study conducted in Chennai states reveals that 66% of surveyed respondents had been sexually harassed while commuting (Choudhary et al., 2018). Women experience a unique set of threats, fears, insecurities, and interactions with the urban environment compared to men. In cities worldwide, women experience a near-constant fear of sexual violence – harassment and/or assault while traveling or in public spaces (Korn, 2018). Fear of victimization and crime is quite widespread among women. Almost every fear of crime survey reports that women are more fearful of crime than men. At the same time, the fear of rape and severe violence from men may lie in the back of many women’s minds. Feminist scholars also argue about an existing continuity of violence against women and girls, including intimidation, groping, sexual comments and harassment, threats, and other nuisance crimes with sexual undertones (Mineta Transportation Institute, 2009).

Gender is rarely considered concerning transportation policy and planning; similarly, transportation is rarely included in the gender policy agenda. Thus, the ‘gender and transportation’ field is a somewhat new concept (Aloul et al., 2019). Few studies have been conducted in developing countries, including Ethiopia, about traveling in public transport related to VAWG (Action Aid, 2011, 2012; WEL, 2015). Researches associated with VAWG in public spaces, especially in public transport services, are conducted by international and some national organizations that have a mandate and the capacity to promote, respect, and fulfill women’s rights both in private and public life (UN Women, 2013, 2014; Asian Development Bank, 2015; WEL, 2015; Action Aid, 2012). These studies show that the study’s subject matter is a recent phenomenon and very uncommon to be researched by concerned bodies and individual researchers in all parts of the world.

Regarding Ethiopia, not limitations but a scarcity of research exists. It is difficult to find research or any documented evidence regarding VAWG in public transport. Of course, as a country, violence in the public domain and even violence in the private domain has not been appropriately documented. Ethiopian Demographic and Health Survey conducted in 2016 has tried to document the prevalence and forms of VAW. According to this survey, among women aged 15–49 years, 23% have experienced physical violence, and 10% have experienced sexual violence (Ethiopia Central Statistical Agency, 2016).
Generally, reliable global statistics on VAWG in public spaces and transport infrastructure are limited (Fraser et al., 2017). However, available studies show high levels of VAWG in public transport and adjacent public spaces in many cities worldwide (Kakal & Iyot, 2015). Available Studies have shown that 65% of women in Mexico, 83% of women in Egypt, 90% of women in Papua New Guinea, and 54% of women in Kenya have experienced violence on public transport (Action Aid, 2011; United Nations, 2015). A survey on women’s safety on transport also found that 6 of 10 women in major Latin American cities had been physically harassed while using transport (Fraser et al., 2017). Studies have shown that women who use public transport are at risk of sexual harassment and other forms of sexual violence, including verbal harassment, extortion, inappropriate touching, indecent exposure, and rape (UN Women, 2014). A study conducted by Hollaback and Cornell University, which included 16,600 interviews from 22 countries, concluded that 80–90% of women had been harassed in public (Aloul et al., 2019).

This study seeks to answer the questions as to whether it is safe and secure for women and girls to travel in public transport in Hawassa city, if there is a violence against women and girls in public transport, in what form does the violence is manifested and what are the factors that contributing to VAWG in public transport?

3. Methodology

3.1. Study area

This study was conducted at Hawassa city, located in the Sidama National Regional State (Former Sidama Zone in the Southern Nations, Nationalities, and Peoples’ Reginal State) on the shores of Lake Hawassa in the Central Rift Valley of Ethiopia; 273 km south of Addis Ababa, Ethiopia. Hawassa city is the capital of Sidama National Regional State, and the city administration has an area of 157.2 square kilometers, divided into eight sub-cities. Hawassa city with an estimated total population of 387,087 people. Out of this, 199,209 (51.5%) are males, and 187,878 (48.5%) are females (Hawassa City Administration Health Department (HCA), 2018).

The researchers selected the city of Hawassa because it is the largest and better developed, and the only metropolitan city in the region. In addition to this, the city’s growth will also bring the expansion and introduction of new and additional transport facilities in the future that need consideration about safety and security of women commuters. The researchers believe that the city of Hawassa should be a pioneer to see the gender aspect of the public transport system and ensure safety and security for women in all its public spaces.

3.2. Survey design

In order to answer the research questions, we used a mixed research design method, including a cross-sectional method on 199 women and girls aged 15–60 and focus group discussions with 24 participants from Hawassa city on their experience of violence on public transport.
3.3. Procedure for participant recruitment

A multi-stage sampling procedure was employed. First, seven urban sub-cities were selected out of the total eight sub-cities in Hawassa city administration. The eighth sub-city was excluded because of its rural nature and inaccessibility to common public transport services. Out of the seven urban sub-cities, in the second stage, three of them were selected randomly. In the third stage, three villages were selected randomly from the sub-cities. Finally, 199 sample respondents were selected randomly from the list of households provided by the sub-city administrative office for the face-to-face interview of quantitative primary data collection. Of them, 49.2% were women (both married and separated), and 50.8% were single girls. To capture additional opinions, views, and comments, Focus Group Discussions (FGDs) were conducted. Accordingly, one FGD in each sample village with eight participants in each group, including students, government working women, and homemakers, were selected with the help of sub-city women’s and children’s affairs department. Generally, a total of 24 FGD members were participated.

3.4. The study population and sampling frame

The study population was all the women and girls in three sampled villages and resided in the city at least for one year. Single girls below age 15 and women above age 60 who have lived in the city for less than one year were excluded from the study. The sampling frame was all women and girls aged 15–60, residents in the city for one or more years, and public transport users (Table 1).

3.5. Data collection instruments

Primary quantitative data were collected using an interview schedule. It had four parts. The first part of the survey questionnaire was to get participants’ background or personal information. The second part was the type of public transportation commonly used. In the third part, an interview was prepared to assess the prevalence, identify forms of VAWG in public transport and assess the contributing factors for VAWG in the public transport sector based on their daily experience.

Regarding the types of violence, respondents were asked to state their personal experiences of physical, sexual, and psychological violence by giving a list of incidents that constitute each form of violence. Physical violence refers to the intentional use of physical force with the potential to cause death, injury, or harm. Physical violence

| No. | Sub-city     | Total number of villages | Selected villages | Name of Selected villages | Total number of households in the selected villages | Number of respondents |
|-----|--------------|--------------------------|-------------------|--------------------------|---------------------------------------------------|-----------------------|
| 1   | Misirak      | 2                        | 1                 | Wukiro                   | 2805                                              | 73                    |
| 2   | Tabor        | 5                        | 1                 | Dume                     | 2273                                              | 59                    |
| 3   | Addis Ketema | 2                        | 1                 | Philadelphia             | 2580                                              | 67                    |
| **Total** |          | **3**                    |                   |                          | **7658**                                          | **199**               |

Source: Hawassa City Administration Health Department (HCA; 2018)
includes, but is not limited to, scratching, pushing, shoving, throwing, grabbing, biting, choking, shaking, poking, hair pulling, slapping, punching, hitting, burning, the use of restraints or one’s body size or strength against another person, and the use, or threat to use, a weapon (UN Women, 2014). According to UN Women (2013), psychological violence refers to belittling, humiliating, or undermining an individual’s sense of self-worth/self-esteem like constant criticism, verbal insults, and name-calling. On the other hand, sexual violence refers to any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic, or otherwise directed, against a person’s sexuality using coercion by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work. Typical examples are rape and attempt of rape. The fourth part was the transport facilities and management, which includes three attributes: i) bus stop facilities and services (Accessibility), ii) availability of public transport, and iii) cost of public transport (Affordability).

In addition to the quantitative data, a qualitative approach like FGDs was also used for triangulation. That is because the topic was very sensitive, and it can be hard to get honest insights. Therefore, it was essential to get information about participants’ perceptions, attitudes, beliefs, opinions, or ideas. In this regard, triangulation is the best method used in social research because it can enrich research as it offers a variety of datasets to explain different aspects of a phenomenon of interest (Noble & Heale, 2019). Triangulation is also an effort to help explore and explain complex human behaviors such as violence using a variety of methods to offer a more balanced explanation to readers (Joppe, 2000).

### 3.6. Data analysis

Both descriptive and inferential statistics were used as analytical tools. The relationship between several explanatory variables and VAWG in public transport was analyzed using statistical techniques such as bi-variable and multivariable binary logistic regression models using IBM Statistical Product and Service Solution (SPSS) version 20. Data obtained from FGDs were analyzed qualitatively using narrative analysis. Narrative analysis is a helpful method for uncovering the underlying ideas embedded in stories (Stokes, 2003). From the interpretative paradigm point of view, the focus is to understand how individuals interpret their everyday lived experiences. There are four typical narrative forms of analysis: structural, functional, thematic, and dialogic/performance. In this study, dialogical narrative analysis was used. Dialogical narrative analysis understands stories as artful representations of lives. Stories revise people’s sense of self and situate people in groups (Frank, 2006).

### 3.7 Ethical considerations

Ethical approval to start the study was obtained from Institutional Review Board of Hawassa University College of Agriculture. Informed consent was obtained from participants after a detailed explanation of the purpose and benefit of the study right before the individual data collection. The confidentiality issue was assured for study participant (no harm or risk to the respondent) and their response was kept private. The participants were informed as having full right to stop or refuse any time during interview.
4. Results

The results of this study indicate that about 50.8% of women and girls using public transport had experienced at least one form of violence.

4.1. Socio-Demographic characteristics of the respondents

The results indicate that participants’ average, minimum, and maximum age are 28.29, 16, and 48, respectively. Of the total sampled respondents, the majority (61.3%) were found in the age group of 15–29 and followed by 30–44 (31.2%) age categories. Regarding marital status, the majority of 101 (50.8%) were single, 70 (35.2%) were married women, and 28 (14.1%) were separated.

Generally, respondents had better access to education; accordingly, 79 (39.7%) of the respondents had a secondary education level, and 30.7% were graduates with a minimum of the first degree.

4.2. Types of violence experienced in public transport

Each type of incident that constitutes each form of violence was weighted separately out of 101 respondents who experienced violence. Accordingly, 87 (86.1%) were experienced sexual violence, 84 (83.2%) psychological violence, and 75 (74.3%) physical violence (Figure 1).

The study result indicates that the most common types of incidents that constitute physical violence were dragging (60.4%), throwing something that could hurt a woman (44.6%), coercion to board against one’s wishes (40.6%), and push shoving, and pulling hair or cloth (12.9%; Figure 2).

Findings from this study revealed that the most common incident of sexual violence experienced by women and girls were staring (67.3%), obscene gestures (60.4%), making noise, whistling or catcallying (49.6%), sexual comments or remarks (41.6%), grabbing (43.6%), pinching (37.6%), sexually motivated touching, groping, or rubbing (35.6%),

Type of violence against women and girls in public transport

![Pie chart showing percentages of different types of violence]

Figure 1. Types of violence against women and girls in public transport in Hawassa city.
Common types of incidents experienced in public transport

| Category               | Incidents                                                                 | Percentage |
|------------------------|---------------------------------------------------------------------------|------------|
| Physical Violence      | Push, shoving and pulling hair or cloth                                    | 12.9%      |
|                        | Coercion to board against one's wish                                       | 40.6%      |
|                        | Throwing something that could hurt a person                               | 44.6%      |
|                        | Dragging                                                                   | 60.4%      |
| Sexual Violence        | Rape                                                                       | 5.9%       |
|                        | Sexually motivated touching, groping or...                                 | 35.6%      |
|                        | Pinching                                                                    | 37.6%      |
|                        | Grabbing                                                                   | 43.6%      |
|                        | Sexual comments or remarks                                                 | 41.6%      |
|                        | Making noise, whistling or cat calling                                     | 49.5%      |
|                        | Obscene gestures                                                           | 60.4%      |
|                        | Staring                                                                    | 67.3%      |
| Psychological Violence | Belittling or humiliating in front of others                               | 11.9%      |
|                        | Deliberate scaring or intimidating                                          | 29.7%      |
|                        | Insulting or making feel bad about oneself                                  | 83.2%      |

**Figure 2.** The common types of incidents in public transport in Hawassa city.

Type of Public Transport used (%)

- **MINIBUS,** 45.7%
- **BAJAJ,** 35.7%
- **CITY BUS,** 18.6%

**Figure 3.** Type of public transport used.
4.3. Frequency of travel versus experience of violence

Among respondents, those who frequently travel per day experienced more violence than those who travel less (Table 2).

Table 2. Frequency of traveling versus the experience of violence.

| Experienced violence when traveling in public transport or around bus stops? | Frequency of traveling per day |
|---|---|---|---|---|---|---|
| | Response | More than four times | Four times | Three times | Two times | Total |
| No | 50 (48.1%) | 32 (47.8%) | 4 (36.4%) | 12 (70.6%) | 98 (49.2%) |
| Yes | 54 (51.9%) | 35 (52.2%) | 7 (63.6%) | 5 (29.4%) | 101 (50.8%) |
| Total | 104 | 67 | 11 | 17 | 199 |

*Value in parentheses is % within the frequency of traveling per day

and 5.9% rape (Figure 2). This study result has also shown that 84.1% of respondents had experienced psychological violence. The common incidents that constitute psychological violence were insulting or making feel bad about oneself (83.2%), deliberate scaring or intimidating (29.7%), and belittling or humiliating in front of others (11.9%). Psychological violence occurs when psychological or emotional abuse was accompanied by physical and/or sexual violence.

Finally, the study revealed that most respondents had experienced more than one form of violence while using public transport services.

4.4. Time of traveling versus experience of violence

The study findings indicated that among women and girls who experienced violence, 23.8% traveled during rush hours, 20.8% traveled early in the morning, 50.5% traveled late in the evening, and 4.9% were traveled in the Mid-day (Table 3).

The common types of public transport in the city are Minibus, Bajaj (small three-wheel vehicles. It is referred to as an autorickshaw in the other parts of the world), and city buses. About 91 (45.7%) of the respondents were using Minibuses, 71 (35.7%) were using Bajaj, and 37 (18.6%) used City buses (Figures 3 and 4).

Among women and girls who experienced violence in public transport, more than half (51.5%) used a small vehicle called Bajaj (Figure 4) as a means of transportation in the city.

About 30.7% used Minibuses for transportation purposes. At the same time, 17.8% used City Buses. Among the Bajaj users, more than half of the victims (57.7%) were single women who experienced violence (Table 4).

FGD participants have given some characteristics to the available modes of public transport services. They characterized city buses as cheap, inaccessible, overcrowded, and have difficult bus stops to depart whenever travelers want to depart. Bajaj is indicated as comfortable, simple, and accessible. However, it is costly and unsafe to board alone. FGD participants also state that Minibuses’ special features are overcrowded; they have many routes and taxi stops that enlarge the traveler’s freedom of travel to any part of the city, less expensive and safer to use at night times than Bajaj’s.
Table 3. Time of traveling versus the experience of violence.

| Time of traveling                          | Experienced violence when traveling in public transport or around bus stops? |
|-------------------------------------------|------------------------------------------------------------------------------|
| Early in the morning (5:00–6:30 AM)       | 21 (20.8%)                                                                  |
| Rush hours (7:00–9:00AM & 4:00–6:00PM)     | 24 (23.8%)                                                                  |
| Mid-day (12:00–2:00PM)                    | 5 (4.9%)                                                                    |
| Late in the evening (After 8:00 PM)       | 51 (50.5%)                                                                  |

*Value in parentheses is % from the respondent (101) who experienced violence.

Figure 4. Means of local transportation serving in the city.

4.5. Transport facilities and management

Transport facilities and management is a general category that includes three attributes:

(i) Bus stop facilities and services (Accessibility)
(ii) Availability of public transport. Availability of transport refers to route possibilities, timings, and frequency. Whatever the purposes of an individual’s journey, be it education, work, leisure, personal services, or another, her/his activities are constrained by the route and the time taken traveling
Table 4. Type of Public Transport used, Marital status and Experience of Violence.

| Have you experienced violence when traveling in public transport or around bus stops? | Types of transport |
|---------------------------------------------|-------------------|
| Marital status                                  | MINIBUS* | BAJA* | CITY BUS* | Total* |
| Yes                                          |          |       |          |        |
| Single                                      | 25 (80.6%) | 30 (57.7%) | 15 (83.3%) | 70 (69.3%) |
| Married                                     | 3 (9.7%)  | 16 (30.8%) | 1 (5.6%)   | 20 (19.8%)  |
| Separated                                   | 3 (9.7%)  | 6 (11.5%)  | 2 (11.1%)  | 11 (10.9%)  |
| Total**                                     | 31 (100.0%) | 52 (100.0%) | 18 (100.0%) | 101 (100.0%) |

*Value in the parenthesis is % within Types of transport; ** Value in the parenthesis is % within Marital status.

(iii) Cost of public transport (Affordability). Affordability refers to the extent to which the financial cost of journeys puts an individual or household in the position of making sacrifices to travel or the extent to which they can afford to travel when they want to (Carruthers et al., 2005).

Accordingly, in this paper, the bus stop facilities and services (Accessibility) were measured in the satisfaction of public transport users on the availability of all the facilities and services at bus stops to make the service safer (Table 5). In this regard, the majority (58.8% up to 100%) of the respondents responded that facilities and services at bus stops are, in some cases, not available or destitute.

Secondly, the availability of public transport vehicles were measured in the action of loading the recommended number of passengers. Extra loading of passengers over the legally permitted number of seats indicates a shortage of public transportation, which in turn exposes women and girls to violence like unwanted sexually motivated touching, groping, or rubbing. The research result indicates that 94.1% of women and girls were experienced overloading due to a shortage of public transport. Overloading is a common phenomenon in the transport sector. According to the discussions of FGD participants, one member of FGD explained her experience as follows:

One day I refused to permit extra loading on my seat but, the conductor’s reply was amazing. He said,” I know you very well. I will never let you board my taxi again. Why don’t you buy your automobile? Is this the place where you remember your rights?” He talked and insulted me a lot until I reached my destination.

Thirdly, the cost of public transport (Affordability) was measured in users’ experience of overcharging that is paying beyond the tariff set by the government. It is believed that the refusal of overcharging payment by women or girls might lead to a violent reply from the conductor and the driver. According to the study results, about 81.2% of the respondents had experienced overcharging while using public transport services. FGD participants also explained that overcharging increased the risk of violence in women. First, overcharging becomes a problem when using Mini busses and Bajaj, while City buses strictly implement the governments’ tariff. Second, Mini bus conductors are very known to force travelers to pay extra money beyond the tariff. Third, although conductors demand extra cash from all travelers beyond the tariff, the refusal of overcharging by women or girls has a violent reply from the conductor and the driver.
### Table 5. Bus Stop Facilities and Services (N = 199).

| Attributes                                      | Responses | Frequency | %    |
|-------------------------------------------------|-----------|-----------|------|
| Availability of light in the evening at Bus stop & on the road | No        | 150       | 75.4 |
|                                                 | Yes       | 49        | 24.6 |
| Availability of shelter at bus stops            | No        | 199       | 100.0|
| Availability of full information about routes and tariffs | No        | 192       | 96.5 |
|                                                 | Yes       | 7         | 3.5  |
| Keeping cleanness of the transport              | No        | 199       | 100.0|
| Presence of security members or traffic police at the Bus stop | No        | 117       | 58.8 |
|                                                 | Yes       | 82        | 41.2 |
| Presence of a system to treat travelers who need special care | No        | 194       | 97.5 |
|                                                 | Yes       | 5         | 2.5  |

#### 4.6. Factors contributing to VAWG in the public transport service

Bivariate and multivariate binary logistic regression analysis was done to identify associations between dependent and independent variables. Crude odds ratio (COR) and adjusted odds ratio (AOR), 95% CI, and p-value were used to assess the strength of association and statistical significance. An adjusted odds ratio (AOR) is an odds ratio that controls for other predictor variables in a model. It gives us an idea of the dynamics between the predictors. Simultaneously, the crude odds ratio (COR) is just an odds ratio of one independent variable for predicting the dependent variable.

Hosmer and Lemeshow’s assumption was checked and met (P = 0.84), which is greater than 0.05, and the model accurately classifies 83.4% of cases. Significant variables in bivariate analysis were entered into the multivariate analysis to control for confounding variables.

Regarding the age of women and girls, age categories of 15–29 years were 4.1 times more likely to experience violence than those age categories of 45–60 years (AOR = 4.128, 95% CI: 1.167, 14.602). This result implies that the younger the age, the more they are exposed to violence (Table 6). This finding is similar to Azerbaijan’s result, where younger women, especially those aged 15–30, were more likely to be harassed than women aged older (Asian Development Bank, 2015).

Single women were at 4.8 times higher risk of violence during transportation than separated women ‘AOR’ = (4.840, CI 95%: 1.038, 22.557).

Time of travel using public transport has a significant association with the VAWG. Women and girls using mid-day and rush hour were negatively associated with violence. Women and girls who used transportation during the late evening were positively associated; that is, women and girls who used public transport during the late evening were 3.6 times more likely to experience violence as compared to morning time (AOR = 3.614, 95% CI: 1.999, 13.157; Table 6).

Regarding means of transportation, women and girls who usually use Bajaj (three wheels) were 14 times more likely to experience violence than city bus users (AOR = 14.32195% CI: 3.308,62.001). More than half of (57.7%) the victims were single women among the Bajaj users compared to married and separated. The availability of light in the evening at Bus stop & on the road protects women and girls from violence. Since women and girls who usually use transportation methods with light availability in the evening at Bus stops were 77.2% less likely to have violence (AOR = 0.228, 95% CI: 0.065, 0.799). Extra loading of people during the transportation is also significantly
associated with the violence of women and girls. Women and girls experiencing extra loading due to the shortage of seats were 19 times more likely to experience violence than the appropriate number of loading (AOR = 19.674, 95% CI 3.870, 100.025). Overcharging beyond reasonable tariff is not significantly contribute to violence in the multivariable analysis (Table 6).

5. Discussion

The study conducted by WEL (2015) in Kenya confirms the same finding that VAWG prevalence in the transport sector is 54%. Similarly, the findings from Asian countries like Papua New Guinea, Pakistan, and Azerbaijan are 90%, 78%, and 81%, respectively (Asian Development Bank, 2015; UN Women, 2013). However, the prevalence of VAWG in these countries is higher than the results of this study. This difference might have occurred because of the higher number of travelers in these countries.

Single women faced a higher risk of violence than married women. This might be because of the single girls’ style of dressing. There can be many reasons to stimulate or encourage perpetrators to commit violence against women. Sometimes the way of dressing is suggested as one of the reasons for violence by men. In our focus group discussions, participants have also raised that dressing style causes violence, especially for single girls. According to Kwenaite and Van Heerden (2011), violence towards women has been justified in incidents where women have worn short skirts and trousers.

Table 6. Factors Contributing to VAWG in Public Transport (N = 199).

| Variables                                      | Violence No | Violence Yes | S.E.       | AOR (95% C.I.)       | COR |
|-----------------------------------------------|-------------|--------------|------------|----------------------|-----|
| Age category                                   |             |              |            |                      |     |
| 15–29                                          | 54          | 68           | 0.645      | 4.078(1.167, 14.602)**| 4.162** |
| 30–44                                          | 29          | 33           | 0.812      | 3.934(0.801, 19.333)  | 2.393 |
| 45–60                                          | 15          | 0            | 1          |                      |     |
| Marital status                                 |             |              |            |                      |     |
| Single                                         | 31          | 70           | 0.785      | 4.840(1.038, 22.557)* | 3.490** |
| Married                                        | 50          | 20           | 0.826      | 0.203(0.040, 1.025)   | 0.618 |
| Separated                                      | 17          | 11           | 1          |                      |     |
| Time of traveling using public transport       |             |              |            |                      |     |
| Early in the morning                           | 22          | 21           | 1          |                      |     |
| Rush hour                                      | 38          | 24           | 0.695      | 0.170(0.044, 0.666)*  | 0.662 |
| Mid-day                                        | 19          | 5            | 0.851      | 0.142(0.027, 0.752)** | 0.276* |
| Late in the evening                            | 19          | 51           | 0.659      | 3.614(1.999, 13.157)* | 2.812* |
| Types of transportation                        |             |              |            |                      |     |
| Minibus                                        | 60          | 31           | 0.576      | 0.581(0.188 1.796)    | 0.545* |
| Bajaj                                          | 19          | 52           | 0.748      | 14.321(3.308,62.001)* | 2.889* |
| City Bus                                       | 19          | 18           | 1          |                      |     |
| Availability of light in the evening at Bus stop & on the road |   |              |            |                      |     |
| No                                             | 65          | 85           | 1          |                      |     |
| Yes                                            | 33          | 16           | 0.639      | 0.228(0.065, 0.799)** | 0.371** |
| Experienced extra loading due to shortage of seats |             |              |            |                      |     |
| No                                             | 33          | 6            | 1          |                      |     |
| Yes                                            | 65          | 95           | 0.830      | 19.674(3.870,100.025)* | 8.038** |
| Experienced overcharging beyond tariff         |             |              |            |                      |     |
| No                                             | 32          | 19           | 1          |                      |     |
| Yes                                            | 66          | 82           | 0.697      | 2.581(6.658, 10.118)  | 2.093* |
Regarding the most common types of violence against women and girls, findings from this study relate to a study conducted in Baku Metro, Azerbaijan made by Jafarova et al. (2014), who noted that around 41% of victim women had experienced physical harassment. The results of this study also similar to the work of Rahman (2010) who indicated that, 41% had been physically harassed or groped on public transport by male passengers, drivers, and/or conductors. Similarly, a study conducted by Secretaría de la Mujer in 2012 in Bogotá, Columbia, reported that 64% of women had experienced unwanted sexual touching on public transport (Jaramillo, 2014).

The results of this study are consistent with earlier similar studies, for instance, a study conducted in Baku, Azerbaijan, made by Jafarova et al. (2014), pointing that, Eight in ten women (81%) reported having experienced sexual harassment. Eighty-three percent of Egyptian women and 98% of foreign women surveyed reported experiencing sexual harassment, most often on the streets and public transport (Aliyaa et al., 2008). Similarly, in Trivandrum, over 80 percent reported sexual harassment while either waiting for or riding public transport (Sakhi Women’s Resource Centre, 2011). In Mumbai, a survey was done by Akshara in 2013 also showed that 46 percent of women reported facing sexual harassment inside buses and 17 percent inside trains (Sakhi Women’s Resource Centre, 2011). Therefore, based on the study findings and related studies discussed above, we agree with Shah et al. (2017) that sexual violence in cities has become a serious issue with growing urbanization. McIlwaine (2013) also, in his study, examines the nature and paradoxes of the relationships between urbanization and gender-based violence in cities. He argues that gender-based violence is highly prevalent throughout the global South. However, there are variations between urban and rural areas. According to McIlwaine (2013), urbanization processes can create high risk factors for women, making them more vulnerable to violence. This paper has also outlined a range of risk factors accompanying urbanization processes. These can exacerbate gender-based violence in many circumstances, especially concerning urban poverty, slum dwelling, the prevalence of gang violence, low-quality sanitary facilities, widespread sale of alcohol, and an urban environment that lacks street lighting and has secluded, un-policed spaces. Other triggers that predominate in cities include fragmented social support networks and the concentration of various jobs associated with gender-based violence, such as factory and sex work.

Sexual harassment affects women’s mobility, accessibility, and confidence. Lack of safety and security in public spaces and public transport affects women’s human rights and ability to participate equally in the city.

The study revealed that most respondents had experienced more than one form of violence while using public transport services. This indicates that VAWG in the transport sector is a serious threat to women’s fundamental rights, safety, and security to access their education, job, healthcare, and mobility in cities in general. However, this remains a much-neglected area with little data and few laws, policies, and initiatives to prevent and address it.

The travel frequency clearly shows that women and girls high dependency on public transportation and its significance in their lives to fulfill their productive and reproductive roles and responsibilities. However, this frequent traveling exposed them to different types of violence in their lives, which means the more frequently they use public transport, the more they will be exposed to violence. These results agree with a study
on female students in the Kathmandu valley of Nepal (Gautam et al., 2019) that revealed that 96.8% of female students who travel daily found a higher chance of facing harassment in public transportation. According to Gautam et al. (2019), those who occasionally used public transportation had a lower chance of being harassed than those who traveled daily.

Women and girls who travel during rush hours have experienced violence more than those who do not travel during these times. This result is possibly due to the peak hours, and on overcrowded buses and Minibuses, the perpetrator (passenger) has ample opportunity to harass. Additionally, there might be a limited number of vehicles during peak hours, at a higher risk of sexual violence. In general, this study reveals that most women and girls were traveling at-risk time, exposing them to gender-based violence. This result agrees with Jalil et al. (2011) that traveling during peak hours with male passengers and getting off at multiple destinations might expose women to unsafe situations such as dark areas of taxi stands, bus stations, and others. Similar results had also mentioned in another study (Gautam et al., 2019). They stated that mornings and evenings are more unsafe for a female traveling on a bus. Therefore, we can understand that the morning and rush hours were the riskiest time traveling on public transport.

Among the common types of public transport serving in the city, nearly half of the respondents have used Minibuses. However, fewer number travelers use city buses. The low usage of city buses might be due to the shortage of city buses, and bus stops are also not accessible everywhere for passengers who want to use them.

To make the public transport service safer, the availability of required facilities and services at bus stops is crucial. However, the level of users’ satisfaction indicates that the facilities and services were destitute or, in some cases, not available. This inadequacy of facilities and services in transport systems might be one of the reasons that can contribute to the VAWG.

The study revealed that most public transport users experience overcharging that is paying beyond the tariff set by the government. The refusal of overcharging has a violent reply from the conductor and the driver. This might be because drivers and conductors perceive women and girls as helpless. Also, the absence of security members or traffic police at bus stops encourages conductors to request overcharging beyond the tariff. Finally, the study has limitations that, due to the small sample size, the findings are not representative of urban Ethiopia as a whole and are a cross-sectional study.

6. Conclusions

The study findings have shown that 50.8% of women and girls have experienced more than one type of violence while using public transport. Thus, we need to emphasize increasing the safety and security of women and girls in the public transport sector. This can be achieved in general by developing gender-sensitive public transport service plans and policies that consider women or girls special needs, safety, and security. Among the actions to be taken, the following are few: improve the safety of women and girls through the provision of a sufficient number of city buses that operate only with seats, particularly in rush hours and late evening; improve the public transport sectors facilities and services at bus stops as an intervention strategy to reduce VAWG; develop a controlling system that private-public transport service providers strictly follow the tariff set by the
government; enact specific rules, regulations, and code of conduct that govern minimum age and training requirements, working conditions, and ethical standards for private parties who wants to participate in the public transport sector.

Acknowledgments

We would like to express our gratitude to the institutions and study participants for their response and collaboration in the study.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Ethical Approval

All procedures performed in studies involving human participants follow the ethical standards of Hawassa University School of Graduate studies.

Informed Consent

The research involved human participants, who were informed about the purpose of the study and that their participation is voluntary.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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