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GENDER-BASED VIOLENCE AND ITS ASSOCIATION WITH MENTAL HEALTH AMONG WOMEN WITH DISABILITIES

ENISHAW TESHOME
Assistant Professor, Mizan Zepi University, Ethiopia

SREEVALSA KUMAR R
Professor, School of Philosophy Psychology and Scientific Heritage, Chinmaya Vishwavidyapeeth, Ernakulam, Kerala, India

SULPHEY M. M
Professor, College of Business Administration, Prince Sattam Bin Abdulaziz University, Saudi Arabia.
ORCID Id: https://orcid.org/0000-0001-6042-2123

Abstract

This study explores the association of Gender-based violence (GBV) and mental health problems of women with disabilities (WWD) in Addis Ababa. The study was conducted on a sample of 303 randomly selected WWDs. The WHO GBV assessment instrument, PHQ-9, PTSD Checklist-Civilian version, STAI, and Rosenberg self-esteem scale were used to collect data. Data collection was done by trained assistant data collectors and a sign language translator. Data were analyzed using descriptive statistics and MANOVA followed by univariate post-hoc comparison and independent samples t-test. The results revealed that out of the total 303 WWDs, 255 of them experienced at least one element of GBV (physical, sexual, and psychological violence). The result from MANOVA found no significant difference in depressive symptoms, state anxiety, trait anxiety, PTSD, and self-esteem among four age groups for WWD who experienced GBV. Based on marital status, MANOVA, ANOVA, and post-hoc comparison showed a statistically significant difference between unmarried, married, and divorced WWDs for depressive symptoms. Similar results were obtained for self-esteem. For PTSD, there was a statistically significant difference between unmarried and married samples. MANOVA also revealed a significant difference in depressive symptoms, state anxiety, and PTSD among WWD who experienced and did not experience GBV. Generally, the result obtained in the present study indicated that WWDs are highly vulnerable to GBV. GBV was also found to have a direct association with mental health poblems. There is a definite need for researchers, clinicians, psychologists, policymakers, and others to alleviate the problem.

Keywords: Women with disabilities, Gender-based violence, Mental health

Introduction

Gender-based violence (GBV) is a comprehensive concept encompassing various aspects of violence (Pershyna, 2020). Some include sexual, physical, and psychological violence (Garcia-Moreno et al., 2005; Hoppstadius, 2019; Kimuna et al., 2018; Westwood et al., 2019). It also encompasses harmful traditional practices and socio-economic violence (UNHCR, 2003). Currently, GBV is recognized as a severe human rights abuse and a significant public health problem with substantial consequences of physical, mental, and reproductive health problems (Finchilescu, 2018; Kimuna et al., 2018; Tenkorang et

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al., 2016). According to World Health Organization (WHO), each year, over one million women with and without disabilities lose their lives due to GBV. Moreover, due to GBV, many women get injured and suffer from a range of physical, sexual, reproductive, and mental health problems (WHO, 2011). Evidence suggests that GBV affects 10% to 69% of women in their lifetime (Garcia-Moreno et al., 2005). The problem of GBV among WWD is more overwhelming and is a component of their day-to-day activities. A meta-analysis of 21 articles (2000 to 2010) indicated the prevalence of violence from 26 to 90.0% in a lifetime (Hughes et al., 2011).

The root causes of GBV against women are multi-dimensional, and there was no single factor that makes clear why some individuals are violent or why violence is more prevalent in some communities or parts of the community than others (An & Choi, 2019; Hoppstadius, 2019; Muster, 2020; Pershyna, 2020; Solis & Heckert, 2020). However, witnessing of marital violence as a child, being abused during childhood, absence or rejecting father, male dominance in the family, male control of wealth in the family, use of alcohol, unemployment/low socio-economic status, delinquent peer association, rigid gender role, sense of male entitlement/ownership over women were the common causes (Finchilescu & Dugard, 2018; Heise, 1998; Muster, 2020).

A systematic review in the Ethiopian context also indicated that violence is significantly associated with alcohol consumption by husband, Khat chewing, family history of violence, partner education, decision-making power, residence, and related victims' characteristics, etc. (Agumasie & Bezatu, 2015). Women with disabilities also experience the same type of abuse from abusers as do women without disabilities. However, their "disabilities" make them additionally vulnerable Due to this, it is difficult to end the abuse (Curry *et al*., 2001).

The term 'mental health problem' describes a broad range of emotional and behavioral difficulties. According to Ristock (1995), mental health problems encompass less severe emotional and behavioral problems and 'mental illnesses' and 'mental disorders', which generally refer to severe and/or persistent states with clinically recognizable sets of symptoms. Studies revealed that violence against women has significant mental health impacts on the victims (Natalier et al., 2020; Westwood et al., 2019). For example, a study by Michigan State University found that between 17 and 65% of women with a lifetime history of sexual assault developed Post-traumatic stress disorder (PTSD), 13 to 51% met diagnostic criteria for depression, 73 to 82% developed fear and anxiety and 12 to 40% experienced generalized anxiety. 13 to 49% of survivors became dependent on alcohol, and 23 to 44% experienced suicidal ideation (Campbell et al., 2009).

In the Ethiopian context, minimal research studies have been undertaken on women with disabilities to examine the extent of GBV and its impact on mental health. Therefore, a study on mental health problems as a consequence of GBV is needed to alleviate the problem and support policy and program recommendations. The overall purpose of this study was to assess the magnitude of domestic violence against WWD and to examine the association of GBV with mental health problems. The specific mental health problems

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examined include depression, anxiety and PTSD, and also self-esteem. Accordingly, this research strives to answer the following research questions:

1. What is the association between GBV, mental health, and certain selected demographic variables?
2. Is there a significant difference in the level of depressive symptoms, anxiety, PTSD, and self-esteem between WWDs who experienced and did not experience GBV?

Method

The study was conducted among WWD members of Ethiopian National Associations for People with Visual Disabilities, Ethiopian National Association for People with Hearing Disabilities, Ethiopian National Association for People with Physical Disabilities. Correlational research design, specifically descriptive comparative research design, was employed. A stratified random sampling technique, specifically the lottery method, was employed to select WWDs from the associations. Taking these three associations as strata, 101 women living with visual, 102 women living with hearing, and 100 women living with physical disabilities were selected randomly using the lottery method. The number of these participants was above the minimum number of samples for continuous data at $\alpha=0.05$, $t=1.95$, and margin of error $=0.03$ (Bartlett et al., 2001).

Instruments

The instruments used for data collection include:

1. GBV: GBV was assessed using the instrument developed by WHO (Garcia-Moreno et al., 2005): The instrument assesses physical, sexual, and psychological violence. To measure physical abuse, participants were asked to rate whether they had been slapped, beaten, kicked or dragged and choked or burnt; or had been threatened with or injured by a weapon or any other object to inflict physical hurt, either by an intimate partner (husband or boyfriend) or by any other man during their lifetime or in the last twelve months. To assess the presence of sexual violence, participants were asked whether they have been physically forced to have sexual intercourse when they did not want to, forced to do something sexual that they found degrading or humiliating, and touched sexually in a way they did not approve. In relation to emotional abuse, participants were asked whether they have been disgraced, scared, intimidated, impeded for decision making, verbally abused, isolated from friends/family members. They were also asked whether they have experienced self-blame, fear, hopelessness, suicidal ideation, and suicidal attempt.
2. PHQ-9 (Spitzer, Kroenke & Williams, 1999): This tool was used to measure the level of depression. It consists of nine items, which could identify the frequency of the depressive symptoms. PHQ-9 has high reliability with a Cronbach's α of 0.86 and test-retest reliability of 0.95. The psycho-metric property of PHQ-9 was also assessed with respect to Ethiopia. It showed good internal consistency

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(Cronbach's α=0.85) and test re-test reliability (intraclass correlation coefficient=0.92 among 926 adults (≥18 years of age) (Gelayea et al., 2014). For the current study, the pilot done among 40 randomly selected WWDs in Addis Ababa had an α of 0.901 at a 95% confidence interval.

3. **State-Trait Anxiety Inventory (STAI)** (Spielberger, 1989): The STAI scale was used for the current study due to its sound psychometric properties and suitability for culturally diverse participants. STAI consist of two 20-item self-report measures, with excellent internal consistency (α = 0.89), and test-retest reliability (*r* = 0.88) (Barnes, Harp & Jung, 2002). The measures have evidenced adequate convergent and discriminate validities. The pilot test was conducted among 40 randomly selected WWDs in Addis Ababa for the current study. The result indicated an α of 0.83 for the twenty items for STAI-S anxiety and 0.81 for STAI-T anxiety at a 95% confidence interval. To maintain the instrument's validity, clarification was given for participants about the instruction of both state and traits instruments during the data collection. This was supported by Kayikcioglu et al. (2017) that the validity of the STAI rests upon the assumption that the examinee has a clear understanding of the “state” and “trait” instructions. A higher score implied a higher level of anxiety. According to Spielberger (1989), the cut-off point was obtained by calculating the mean and standard deviation based on the group responses. The upper cut-off point was obtained by adding the standard deviation was added to the mean value; and the lower limit was obtained by subtracting the standard deviation from the mean. Accordingly, 39 and 56 become the lower and upper boundaries, respectively. By using a similar method for STAI-T, 41 and 55 became the lower and upper boundaries, respectively.
4. **PTSD -**To measure the level of PTSD among WWDs and WWODs, the most widely used Posttraumatic Stress Disorder Checklist (PCL) was used. According to Jon *et al.* (2005), PCL is the second most commonly used instrument (16%) next to the Clinician-Administered PTSD scale (23%). PCL-C consists of 17 items. Sample item included “Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?” And the responses ranged from “Not at all (1) to Extremely (5)”. PCL-C has an excellent internal consistency that was 0.97 and tests re-tests reliability 0.96 over a 2 to 3 days (Keen et al., 2008). No definitive cut-off threshold exists for PCL-C for DSM-IV. Studies recommend varying cut-off values depending on the prevalence of PTSD in the population being studied, the setting, and the assessment goal (Bliese et al., 2008). When the sample was composed of severe accident and sexual assault victims, 44 was the recommended cut-off point (VA National Center for PTSD, 2014; Blanchard et al., 1996). Similarly, a publication on Domestic Violence for Medical Professionals considered scores of above 44 to indicate possible PTSD (Florida State University, 2014). Based on the severe nature of GBV and the recommendation of previous works in the thematic areas, 44 were taken as a cut-off point for the current study. The pilot test conducted on 40 samples presented a reliability α of 0.87 at a 95% confidence interval.

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5. **Self-esteem**- Rosenberg's Self-Esteem Scale (RSES) with 10 items was used to assess self-esteem. This scale has a three-point scale (1 for strongly disagree to 3 for strongly agree). A Cronbach's α coefficient ranging from 0.85 to 0 .90 for general populations has been reported for the scale (Rosenberg, 1979). To re-ascertain, the instrument's content validity, the English and Amharic versions were cross-checked by psychometricians in Addis Ababa University. The experts examined the instrument's content validity, and the feedback confirmed that the instrument was said to have good content validity. The pilot test was conducted, and high internal consistency was reported (Chronbach's alpha of 0.84). A high score represents a high self-esteem status. Scores between 15 and 25 are within the normal range; scores below 15 suggest low self-esteem and scores greater than 25 indicate high self-esteem (Rosenberg, 1965).

A pilot test on 40 females with disabilities indicated good Chronbach's alpha for depressive symptom scale, STAI, PTSD scale, and Rosenberg self-esteem scale. In addition, mental health professionals from Amanuel specialized hospital in Addis Ababa, professionals from gender studies, and language experts participated in the instruments' validation process.

Process of Data collection

Permission was obtained to study at the Ethiopian National Associations for People living with Visual Disabilities, Ethiopian National Association for People Living with Hearing disabilities, Ethiopian National Association for People Living with Physical Disabilities. Three women data collectors were selected and provided short-term training about the overall data collection process. Based on Ethiopian National Association's recommendation for People living with Hearing disabilities, one woman who graduated at certificate level and has ample experience in sign language translation was also selected. The data was collected in private rooms in respective national associations' compounds upon completing the training.

Data gathered from women living with physical disabilities were collected in two ways. The majority of the participants responded to the instrument by themselves. The remaining participants who could not read the instrument were administered with assistant researchers' help, like that of women having visual and hearing disabilities.

Data Analysis

The collected data was analyzed using descriptive and inferential statistical techniques. Descriptive statistics were used to analyze the study participants' demographic characteristics and the extent of GBV among WWDs who experienced and did not experience GBV. MANOVA followed by univariate post-hoc comparison, or independent samples t-test was performed to investigate the presence of statistically significant differences in the level of depression, state and trait anxiety, PTSD, and self-esteem between women with disabilities experienced and didn't experience GBV.

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Results

The association of GBV and mental health problem among WWDs who experienced GBV across demographic variables are presented. Besides, the associations of GBVwith mental health problems among WWDs who experienced and did not experience GBV are also presented.

GBV among the study participants

Results about GBV among the study participants revealed that out of the total 303 WWDs, 255 (84.2%) experienced at least one type of GBV during their lifetime. The remaining 48 (15.84%) reported that they did not experience any type of GBV during their lifetime.

Association of GBV with Mental Health Problems

The associations of GBV with mental health problems among the study participants were analyzed using MANOVA. First, mental health problems between WWD and WWOD who experienced GBV were analyzed and presented. Next, mental health problems between WWDs who experienced and did not experience GBV were presented. For this purpose, the basic assumptions of MANOVA such as normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multi-collinearity, were checked. The result revealed that there was no serious violation of these assumptions.

Mental Health Problems across Age of WWD Who Experienced GBV

The descriptive statistics for dependent variables across participants' age are presented in table 1. In addition, a one-way MANOVA was performed to investigate differences in mental health problems (depression, state-anxiety, trait-anxiety, and PTSD) and self-esteem among four age groups of the study participants of WWD who experienced GBV. The results are presented in Table 2.

Table 1

Result from Descriptive Statistics for Dependent Variables across Participants' Age

Descriptive statistics				
Dependent Variable	Age	Women with disability		
		Mean	SD	N
PHQ9	15-24	13.25	7.18	83
	25-34	15.69	5.83	109
	35-44	17.18	6.68	53
	45 and above	16.10	5.30	10
STAIS	15-24	50.54	10.08	83

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	25-34	50.63	8.31	109
	35-44	49.67	9.44	53
	45 and above	50.20	7.56	10
STAIT	15-24	48.54	7.30	83
	25-34	49.76	6.42	109
	35-44	48.03	7.07	53
	45 and above	48.40	9.90	10
PTSD	15-24	46.33	10.12	83
	25-34	48.55	11.61	109
	35-44	48.45	8.908	53
	45 and above	51.40	9.167	10
Self-esteem	15-24	16.49	5.166	83
	25-34	15.49	4.400	109
	35-44	14.86	4.85	53
	45 and above	14.70	1.82	10

Table 2

MANOVA Result on Association of Mental Health Problem across Age of WWD

Multivariate Tests

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
Intercept	Pillai's Trace	.977	2134.762	5.000	247.000	.000	.977	10673.808	1.000
	Wilks' Lambda	.023	2134.762	5.000	247.000	.000	.977	10673.808	1.000
	Hotelling's Trace	43.214	2134.762	5.000	247.000	.000	.977	10673.808	1.000
	Roy'sLargest Root	43.214	2134.762	5.000	247.000	.000	.977	10673.808	1.000
Age of WWD	Pillai's Trace	.093	1.592	15.000	747.000	.070	.031	23.880	.898
	Wilks' Lambda	.908	1.609	15.000	682.260	.066	.031	22.183	.869
	Hotelling's Trace	.099	1.625	15.000	737.000	.062	.032	24.371	.906
	Roy's Largest Root	.081	4.042	5.000	249.000	.002	.075	20.211	.950

P<0.05

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As indicated in *Table 2*, the result revealed no statistically significant multivariate main effect for mental health problems and self-esteem between age categories for WWD who experienced GBV on the combined dependent variables *F(15, 682.260)=1.609, p=.066*; Wilks' Lambda =*.908*; partial eta squared=*.031*. The power to detect the effect was 0.869.

Mental Health Problems and Self-esteem across Marital-Status of WWD Who Experienced GBV

The descriptive statistics are presented in Table 3. A one-way MANOVA was performed to investigate differences in mental health problems (depression, state-anxiety, trait-anxiety and PTSD) and self-esteem among WWD who were unmarried, married, and divorced women experienced GBV. As indicated in *Table 4*, the result revealed a statistically significant difference in multivariate main effect for mental health problems among WWD and experienced GBV on the combined dependent variables F(10, 496.000)= 6.322, p=.000; Wilk's Lambda=.787; partial eta squared=.113. The power to detect the effect was 1.000.

Table 3

Descriptive Statistics for Dependent Variables across Participant' Marital Status

Descriptive Statistics				
Dependent Variable	Marital status	Mean	SD	N
PHQ9	Never married	12.8632	6.32852	117
	Married	16.8557	6.60648	97
	Divorced	18.1220	4.88464	41
STAIS	Never married	49.0769	9.93787	117
	Married	52.1340	8.09144	97
	Divorced	50.0000	8.28855	41
STAIT	Never married	48.6410	7.43415	117
	Married	49.2165	7.09199	97
	Divorced	49.2195	5.45670	41
PTSD	Never married	45.4017	10.9016	117
	Married	50.3402	10.0756	97
	Divorced	49.3902	9.12655	41
Self-esteem	Never married	17.3932	4.79396	117
	Married	14.6907	4.39782	97
	Divorced	13.0000	3.09031	41

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Table 4

MANOVA Result on the Comparison of Mental Health Problem across Marital Statusof WWD

Multivariate Tests

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
Intercept	Pillai's Trace	.988	3930.818	5.000	248.000	.000	.988	19654.09	1.000
	Wilks' Lambda	.012	3930.818	5.000	248.000	.000	.988	19654.09	1.000
	Hotelling's Trace	79.250	3930.818	5.000	248.000	.000	.988	19654.09	1.000
	Roy'sLargest Root	79.250	3930.818	5.000	248.000	.000	.988	19654.09	1.000
Marital status of WWD	Pillai's Trace	.219	6.116	10.000	498.000	.000	.109	61.161	1.000
	Wilks' Lambda	.787	6.322	10.000	496.000	.000	.113	63.219	1.000
	Hotelling's Trace	.264	6.527	10.000	494.000	.000	.117	65.269	1.000
	Roy's Largest Root	.235	11.693	5.000	249.000	.000	.190	58.464	1.000

P<0.01

Since there was a statistically significant result for MANOVA, each dependent variable was analyzed separately using univariate ANOVA. The result indicated a significant difference among the three groups for depression, PTSD, and self-esteem, but not for state-anxiety and trait-anxiety at P<0.01. The univarate ANOVA result and the subsequent post-hoc multiple comparisons were presented in Tables 5 and 6.

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Table 5

Result for Univarate ANOVA for Mental Health Status and Self-Esteem across Marital Status

Tests of Between-Subjects Effects

Dependent Variable	Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
Depression	Corrected Model	1254.626	2	627.313	16.147	.000	.114	32.294	1.000
	Intercept	52923.292	1	52923.292	1362.24	.000	.844	1362.249	1.000
	Marital status	1254.626	2	627.313	16.147	.000	.114	32.294	1.000
State anxiety	Corrected Model	502.999	2	251.500	3.093	.047	.024	6.186	.593
	Intercept	528707.137	1	528707.13	6502.539	.000	.963	6502.53	1.000
	Marital status	502.999	2	251.500	3.093	.047	.024	6.186	.593
Trait anxiety	Corrected Model	21.034	2	10.517	.213	.808	.002	.426	.083
	Intercept	500193.961	1	500193.96	10140.37	.000	.976	10140.3	1.000
	Marital status	21.034	2	10.517	.213	.808	.002	.426	.083
PTSD	Corrected Model	1398.782	2	699.391	6.561	.002	.049	13.122	.907
	Intercept	487052.79	1	487052.79	4568.89	.000	.948	4568.89	1.000
	Marital status	1398.782	2	699.391	6.561	.002	.049	13.122	.907
Self-esteem	Corrected Model	732.681	2	366.341	18.823	.000	.130	37.645	1.000
	Intercept	46999.298	1	46999.29	2414.82	.000	.906	2414.82	1.000
	Marital status	732.681	2	366.341	18.823	.000	.130	37.645	1.000

P<0.01

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Depression

Univariate between groups ANOVA was conducted to explore the impact of marital status on the level of depression, as measured by the PHQ-9 test. As indicated in *Table 5,* subjects were divided into three groups according to their marital status. There was significant main effect for marital status [F (2, 252) = 16.147, p=.000]. The effect size was large (eta squared =0.114). As indicated in *Table 6*, the post-hoc comparison using the Tukey HSD test revealed that depression means score by WWD who were unmarried (M=12.86, SD=6.33). This was significantly different from married (M=16.85, SD=6.606) and divorced women (M=18.122, SD=4.88). However, there was no significant difference between married and divorced WWD for depression mean score.

Table 6

Univarate Post-Hoc Comparison of Depression, PTSD and Self-Esteem across Marital Status

Multiple Comparisons

Dependent Variable: **Depression**, Tukey HSD					Dependent Variable: PTSD Tukey HSD			Dependent Variable: Self-esteem Tukey HSD		
	(J) marital Status	Mean Difference (I-J)	Std. Error	Sig.	Mean Difference(I-J)	Std. Error	Sig.	Mean Difference(I-J)	Std. Error	Sig.
Never married	Married	-3.992*	.855	.000	-4.938*	1.417	.002	2.7024*	.60580	.000
	Divorced	-5.258*	1.13	.000	-3.988	1.873	.086	4.3932*	.80066	.000
Married	Never married	3.9924*	.85	.000	4.938*	1.417	.002	-2.7024*	.60580	.000
	Divorced	-1.2663	1.16	.521	.9500	1.923	.874	1.6907	.82180	.101
Divorced	Never married	5.2587*	1.13	.000	3.9885	1.873	.086	-4.3932*	.80066	.000
	married	1.2663	1.10	.521	-.9500	1.923	.874	-1.6907	.82180	.101

* The mean difference is significant at the .01 level.

PTSD

Univariate between groups ANOVA was also conducted to explore the impact of marital status on the level of PTSD. As indicated in *Table 5*, there was a significant effect on marital status [F (2, 252) = 6.561, p=.002]. The effect size was nearly moderate (eta squared =.049). As indicated in *Table 6*, the post-hoc comparison using Tukey HSD test revealed that PTSD means score by WWD who unmarried (M=12.86, SD=6.33) was

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significantly different from married women (M=16.85, SD=6.606). However, there was no statistically significant difference between married and divorced and divorced and never married WWDs for PTSD mean score.

State-anxiety and trait-anxiety

ANOVA was also done to explore the impact of marital status on anxiety levels, as measured by the STAI for WWDs. No significant main effect was observed for state-anxiety based on marital status [F (2, 252) = 3.093, p=.047]. The effect size was nearly small (eta squared = .024). Similarly, for trait-anxiety, there was no significant difference in the main effect for marital status [F (2, 252) = .213, p=.808]. The effect size was minimal (eta squared =.002).

Self-esteem

ANOVA was conducted to explore the impact of marital status on the level of self-esteem for unmarried, married, and divorced WWDs (Table 5). Significant main effect for marital status [F (2, 252) = 18.823, p=.000] was observed. The effect size was very large (eta squared =.130). As indicated in *Table 6*, the post-hoc comparison using the Tukey HSD test for WWDs revealed a significant difference between unmarried (M=17.3932, SD= 4.79) and married women (M=14.69, SD=4.39). A significant difference was also observed between unmarried (M=17.3932, SD= 4.79) and divorced women (M=13.00, SD=3.09). However, there was no significant difference for self-esteem between unmarried and married women.

Partner Alcohol Abuse and WWDs Mental Health Status

The association of partner alcohol abuse and victim's mental health status was assessed by using MANOVA. Out of the total 255 WWD who experienced GBV, 119 (46%) reported their husband/partners' harmful alcohol use.

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Table 7

Descriptive statistics for partner harmful use of alcohol and WWDs mental health and self-esteem

		WWD		
	Husband/partner alcohol abuse	Mean	Std. Devi.	N
Depression	Yes	16.70	7.01	119
	No	13.93	5.93	136
STAIS	Yes	51.05	9.67	119
	No	49.80	8.54	136
STAIT	Yes	49.53	7.14	119
	No	48.44	6.86	136
PTSD	Yes	50.18	9.81	119
	No	45.94	10.80	136
Self-esteem	Yes	14.53	4.13	119
	No	16.63	4.97	136

One-way MANOVA was performed to investigate the differences in mental health problems (depression, state-anxiety, trait-anxiety, and PTSD) and self-esteem for WWD whose partner/husband abused and did not abuse after having alcohol. The result revealed a significant multivariate main effect for mental health problems and self-esteem between the two groups on the combined dependent variables F (5, 249) = 3.781, p=.003; Wilk's Lambda=.929; partial eta squared=.071. The power to detect the effect was 0.934.

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Table 8 *MANOVA Result for partner harmful use of alcohol and WWDs' mental health and self-esteem*

Multivariate Tests

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power
Intercept	Pillai's Trace	.990	4749.220	5.000	249.000	.000	.990		1.000
	Wilks' Lambda	.010	4749.220	5.000	249.000	.000	.990	23746.100	1.000
	Hotelling's Trace	95.366	4749.220	5.000	249.000	.000	.990	23746.100	1.000
	Roy's Largest Root	95.366	4749.220	5.000	249.000	.000	.990	23746.100	1.000
Partner alcohol Abuse	Pillai's Trace	.071	3.781	5.000	249.000	.003	.071	18.906	.934
	Wilks' Lambda	*.929*	*3.781*	*5.000*	*249.000*	*.003*	*.071*	*18.906*	*.934*
	Hotelling's Trace	.076	3.781	5.000	249.000	.003	.071	18.906	.934
	Roy's Largest Root	.076	3.781	5.000	249.000	.003	.071	18.906	.934

P<0.01

Based on MANOVA results, each dependent variable was analyzed separately using an independent sample t-test to determine the level of mental health and self-esteem for the two groups.

Table 9

Independent sample t-test result for partner alcohol Abuse and WWDs mental health and self-esteem

		Independent sample t-test				
Variable	Partner alcohol abuse	Mean	Sta.Dev.	t	Sig. (2-tailed)	df
Depression	Yes	16.70	7.01	3.381	0.001	253
	No	13.93	5.93			
State-anxiety	Yes	51.05	9.67	1.079	0.281	253
	No	49.80	8.54			
Trait-anxiety	Yes	49.53	7.14	1.249	0.213	253
	No	48.44	6.86			
PTSD	Yes	50.18	9.81	3.265	.001	253
	No	45.94	10.8			
Self-esteem	Yes	14.53	4.13	-3.684	.000	253
	No	16.63	4.97			

P<0.01

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t-test was conducted to compare the five dependent variables (depression, state-anxiety, trait-anxiety, PTSD, and self-esteem) among WWD, based on abuse under the influence of alcohol by partners. The result revealed a significant difference for depression mean score for women whose husbands/partners abused alcohol (M=16.70, SD=7.01) and victims whose husbands/partners did not use alcohol [M=13.93, SD=5.93; t (253) =3.381, p=.001]. The magnitude of the differences was moderate (eta squared was 0.046). The two groups explained 4.6% of the variance in depression.

The same technique was used to investigate the mean difference in state-anxiety and trait -anxiety. However, the t-test results indicated no significant difference between state-anxiety and trait-anxiety. Further, a t-test was computed for PTSD between the two groups. A significant difference was observed for PTSD between WWD who have alcohol drinker husbands/partners (M=50.18, SD=9.81) and the other group [M=45.94, SD=10.80; t (253) =3.265, p=0.001]. The magnitude of differences was moderate (eta squared = 0.040). The two groups explained a 4% variance in PTSD.

Finally, an independent sample t-test was computed for the mean score for self-esteem for WWD whose husbands/partners abuse/did not abuse alcohol. A significant difference for self-esteem mean values were observed between women whose partner/husbands abused alcohol (M=14.53, SD=4.13) and those who did not drink [M=16.63, SD=4.97; t (253) =-3.684, p=0.001]. The magnitude of the differences was moderate (eta squared is equal to 0.050). It was found that the two groups explained 5% of the variance in self-esteem.

Comparisons of Mental Health Problems and Self-Esteem among WWD who Experienced and did not experience GBV

Another major purpose of this study was to determine whether or not a significant difference existed in mental health problems and self-esteem between WWDs who experienced and did not experience GBV. The study's five dependent variables (i.e., depression, state anxiety, trait anxiety, PTSD, and self-esteem) were computed and compared using MANOVA. The descriptive statistics revealed that there were 255 and 48 women living with disabilities who experienced and did not experience GBV. Findings revealed significant multivariate main effect difference for those who experienced and did not experience GBV on the combined dependent variables F (5, 297) = 10.338, p =.000; Wilk’s Lambda =.852; partial eta squared =.148. The power to detect the effect was 1.000.

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Table 10

Independent Samples t-test Result for WWD who Experienced and did not Experience GBV

Variable	Group	Mean(SD)	t	Sig.(2-tailed)	df
Depression	WWD who didn't experience GBV	10.16 (5.6)	-4.989*	.000	301
	WWD who experienced GBV	15.23(6.6)			
State anxiety	WWD who didn't experience GBV	42.81 (7.83)	-5.406*	.000	301
	WWD who experienced GBV	50.38 (9.09)			
Trait anxiety	WWD who didn't experience GBV	43.60 (7.14)	-1.166	.249	301
	WWD who experienced GBV	48.19(6.55)			
PTSD	WWD who didn't experience GBV	33.00 (8.63)	-4.438*	.000	301
	WWD who experienced GBV	46.95(11.76)			
Self-esteem	WWD who didn't experience GBV	17.42(5.65)	2.294	.022	301
	WWD who experienced GBV	15.65 (4.71)			

Since there was a significant result for the MANOVA analysis, each dependent variable was analyzed separately using independent samples t-tests to determine which dependent variables differed significantly. To reduce a chance of Type one error, the Bonferroni technique was applied to compute univariate t-tests analysis across the five dependent variables using a criterion p-value of .01.

There was a significant difference in depression score for WWD who experienced GBV (M=15.23, SD=6.6) and women with disabilities who did not experience it [M=10.16, SD=5.58; t (301) = 4.989, p=.000]. The magnitude of the differences was more than moderate (eta square of 0.076). 7.6% of the variance in depression is explained by the state of being abused or not.

t-test was also computed for state anxiety (Table 10). A significant difference was evident in STAI-S mean score between WWD who experienced GBV (M=50.38, SD=9.09) and those who did not experience it [M=42.81 SD=7.83; t (383) =-5.406, *p*=.0.000]. The magnitude of the difference was more than moderate (eta squared = 0.088). Similarly, a t-test was also computed for STAI-Trait anxiety. No significant difference in STAI-Trait anxiety between WWD who experienced GBV (M=48.19, SD=6.55) and the other group was observed GBV [M=43.6, SD=7.14; t (301) =-1.166, *p*=.249]. Further, the magnitude

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of the differences was minimal (eta squared of 0.0045). The two groups explained 0.45% of the variance in trait anxiety.

t-test was computed for PTSD for the two groups of WWD who experienced and did not experience GBV. A significant difference for PTSD among women with (M=46.94, SD=11.76) and without a disability was observed [M=33, SD=8.63; t(301)=-4.438, p=.00] for those who experienced GBV. The magnitude of the differences was moderate (eta squared is equal to 0.0614), with 6.14% of the variance in PTSD explained by the two groups. t-test was also done for the self-esteem of the two groups. No significant difference was observed between WWD who experienced GBV (M=15.65 SD=4.71) and did not experience it [M=17.42SD=5.65; t (301) =2.294, p=.022]. The magnitude of the differences was small (eta squared of 0.017), with 1.7% of the two groups' variance being explained.

Discussion

The current study investigates the difference in mental health problems and self-esteem across various age groups of WWDs who experienced GBV. Findings revealed no significant difference between the different age groups. This is inconsistent with the findings of Campbell, Dworkin, and Cabral (2009), who reported that older survivors experience increased amounts of depression. Besides, older victims have been found to have fewer PTSD symptoms when assaulted by relatives (Ullman et al., 2006). Reasons for the inconsistency of the current finding with previous studies could be due to population differences. For instance, the previous studies were conducted among WWD, and the current study was conducted among WWD. Also, socio-cultural differences, technological advancement, citizens' human rights protection, and the like may have contributed to the inconsistency. Further, many studies from western societies reported GBV among WWD to be a common phenomenon. For example, Hughes et al. (2011) reviewed 22 studies conducted from 2000-2010 among WWD and reported that the prevalence rate of any type of interpersonal violence among WWD ranged from 26.0 to 90.0% for a lifetime.

Women generally and WWDs, particularly in sub-Saharan African countries, experienced different economic and social problems that directly related to mental health problems. These realities can increase the rate of GBV and associated mental health problems. Accordingly, the effect of GBV, specifically mental health problem and self-esteem are not illuminating significant variation across different age groups among WWDs. This finding implies that GBV and related mental health problems and self-esteem are not specific age groups' issues. It transcends age groups.

The examination association of mental health problem (depression, state-anxiety, trait-anxiety, and PTSD) and self-esteem based on marital status, who experienced GBV revealed significant difference among unmarried, married, and divorced WWD. This was evident for the three dependent variables (i.e., depression, PTSD, and self-esteem).

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However, there was no significant difference among the three groups for state-anxiety and trait-anxiety. The result of multiple comparisons for the three variables are presented below:

Depression- Unmarried women reported significantly lower depression mean scores than married and divorced. Divorced women revealed significantly higher depression levels than unmarried women. However, there was no significant difference between married and divorced WWD for depression. Similarly, the study reported that the average levels of depression among divorced women were equal (in line with Herbert, Silver, Cohen, & Ellard, 1991) or exceeded (Lerner & Kennedy, 2000) those of women still involved in abusive relationships. The previous and current study findings revealed that both married and divorced women experienced mental health problems due to GBV. Likewise, women in abusive marital relationships and divorced women developed mental health problems due to economic problems, taking extra responsibility to care for children and managing the new family, being isolated, and negatively impacting society towards divorced women. This finding is in line with the study of Anderson *et al*. (2003). Broken family situations and instability may elevate the depression level of divorced women. This implies that both married and divorced WWD exhibited higher levels of depression as a consequence of GBV. The finding also implies that GBV and related complicated mental health and self-esteem-related problems arise mainly after marriage.

PTSD - Only unmarried WWDs exhibited significant differences with married women. However, no significant difference between unmarried and divorced and married and divorced women for PTSD was observed. A study by Homish et al. (2006) found that being married was related to increased trauma. Other studies reported opposite results. For instance, studies have found that average levels of PTSD among divorced women were equal (Herbert et al., 1991) or exceeded (Lerner & Kennedy, 2000) than those still involved in abusive relationships. These findings strengthen the assumption that married women and divorced experienced relatively higher mental health problems as a result of GBV. However, the main reason for the observed inconsistency between the previous and the current study could be the difference in the study population. Also, socio-economic and cultural factors could be the other contributing factors.

Self-Esteem - A negative impact of GBV on battered women's self-esteem has been observed in earlier studies (Campbell, 2002; Cascardi & O'Leary, 1992; Sulphey, 2021). Research in Ethiopia also revealed that women who experienced GBV experienced lower self-esteem (Abraham, 2015). Concerning self-esteem across marital status, the results indicate that unmarried differed significantly different from married women. Besides, unmarried women also significantly different from divorced women. However, there was no significant difference between married and divorced women. In other words, unmarried women had higher self-esteem than their married and divorced counterparts. Thus, marital status has a significant impact on self-esteem. Anderson et al. (2003) reported that divorced women faced different economic challenges, additional responsibility to manage broken families, isolation, disapproval, and disrespect from their family members

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and society. Such miserable and uncomfortable life situation can threaten their self-esteem.

Passing through different marital statuses may bring various life changes on women in general and WWDs in particular. Successful marital relations can bring positive outcomes to the couple's self-esteem and their family members. On the contrary, an unsuccessful marital relationship can result in disagreement and conflict accompanied by GBV and related mental health problems and ultimately produces divorce. Therefore, professionals who are working in the area of GBV and mental health need to take into consideration clients' marital status when they intervene in their problems.

Many research findings indicated a strong positive correlation between partner/husband alcohol abuse and increased rate of GBV (Agumasie & Bezatu, 2015; Gil-Gonzalez *et al.,* 2006). However, a research study that examined the association of GBV and mental health problems among women who have alcohol abusers and non-alcohol abuser partners was hardly attempted in the Ethiopian context. The current study found a significant difference between the two groups for depression, PTSD, and self-esteem mean score. However, no significant difference for state-anxiety and trait-anxiety was observed. In other words, WWD who have alcohol abuser partner/husband had higher levels of depression, PTSD, and self-esteem. This is in line with the earlier findings of Homish *et al.,* (2006) and Dawson *et al.* (2007). Excessive partner alcohol use was found to increase the risk for common mental health disorders two-to three-fold (Nayak *et al.,* 2010). Partner alcohol consumption was also related to victims' PTSD level (Sullivana et al., 2012). This study also reported that PTSD-related mental health problems resulting from interpersonal violence were correlated with victims' alcoholic problems. A significant difference in self-esteem was observed between women who have alcohol abuser partners/husbands and women who have not alcohol abuser partners/husbands.

Homish et al. (2006) found alcohol to operate as a situational factor, increasing the likelihood of violence by reducing inhibition, clouding judgment, and impairing an individual's ability to interpret cues. An individual's aggressive character can result in devastating violence that directly relates to victims' mental health, such as depression, PTSD, and lower self-esteem. Thus, alcohol is a trigger factor that intensifies the severity of violence that could have a complicated and long-lasting effect on the victims' mental health status. Mental health problems can also result from domestic violence as well as substance abuse. Therefore, these three intertwined factors are the cause that threatens the normal well-being of women in general and WWDs in particular.

The current findings imply that husband/partner alcohol abuse is a triggering factor that increases the rate of GBV, having a direct impact on the mental health problem among WWD. Therefore, professionals and organizations who work in the area need to consider the intertwined nature of partner/husband alcohol abuse, GBV, and mental health problems.

Though scant literature exists about the effect of GBV on the mental health status of WWD, findings from WWOD revealed the presence of a significant relationship. For instance, the

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effect of GBV with depression (Campbell, 2002; Warshaw & Barnes, 2003; Pico-Alfonso *et al*., 2006), anxiety (Thabet *et al*., 2015; Pico-Alfonso *et al*., 2006), PTSD (Warshaw & Barnes, 2003; Pico-Alfonso *et al*., 2006) and self-esteem (Abraham, 2015) were confirmed. The present study also explored whether there was a significant difference in mental health problems and self-esteem between WWD who experienced and did not experience GBV. The Significant difference was found between the two groups. A significant difference was observed between WWD who experienced and did not experience GBV for the three dependent variables, depression, state-anxiety, and PTSD, but not for STAI-T and self-esteem.

WWD who experienced GBV was significantly different from their non-abused counterparts concerning depression. This implies that WWD who experienced GBV have higher depression levels. A study by Pico-Alfonso *et al*. (2006) reported a difference between the two groups. The result of the current study revealed that women who experienced physical or physical/psychological violence reported higher scores for Beck's Depression Inventory (BDI) than non-abused women. Regarding the severity of depression symptoms, women who experienced GBV reported higher scores for severe, moderate, and mild depression than non-abused women (Pico-alfonso *et al*., 2006). This study also reported that women who experienced GBV used more psychiatric and psychological treatments than non-abused women. A similar finding was also reported from Latin America (Ceballo *et al.,* 2004) and Ethiopia (Bizu *et al*., 2009). A study conducted in Southern Ethiopia among female University students found that those who experienced GBV reported depressive symptoms than their non-abused counterparts (Bizu *et al*., 2009).

WWD who experienced GBV were found to have higher anxiety levels than WWD who did not experience GBV. A study by Thabet et al. (2015) reported that 25.9% experienced moderate anxiety, 17.4% severe anxiety, and 29.9% very severe anxiety. Similarly, a study conducted in Australia on the lifetime prevalence of violence and mental health also indicated that 77.3 % of the women develop anxiety disorder (Rees *et al*., 2011). The same findings were also reported from Spain. The study was conducted among physically and psychologically abused women (Pico-alfonso *et al.,* 2006). Thus, the available evidence points towards the fact that women who experienced GBV had a higher level of anxiety (Solis & Heckert, 2020).

WWD who faced GBV were found to have higher PTSD levels. Many research findings were in line with these findings (Muster, 2020; Pico-Alfonso *et al.,* 2006; Warshaw & Barnes, 2003). Cascardi, O'Leary, and Schlee (1999), from a meta-analytic study, found that the rate of PTSD among WWD ranged from 31 to 84%, with modal rates ranging between 45 and 60%. Similarly, a meta-analysis of research on violence and mental health among battered women, based on 11 studies, revealed the prevalence of mental health problems (Golding, 1999). Similar findings were reported by Ceballo *et al*. (2004); Pershyna (2020); Pico-Alfonso *et al*. (2006) and Solis & Heckert (2020).

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Many studies, including the current, have confirmed the strong association between GBV and mental health problems, including depression, anxiety, and PTSD. These findings imply the need for treatments such as medical, social support, and psychotherapy intervention for those who experienced GBV.

Conclusion

The study explored the association of GBV and mental health problems of women with disabilities in Addis Ababa. The study results indicate that GBV directly relates to WWDs mental health problems precisely, for depression, state-anxiety, and PTSD. There is a definite need for all the concerned bodies such as government policymakers, program planners, non-governmental organizations, researchers, clinicians, and lawyers to have a new look at the issue based on the findings. They need to contribute their might to alleviate this malice. The study has also contributed substantially to the literature. It is expected that the present study's findings would act as a trigger for further research on this socially relevant topic.

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