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### **Research Article**

# Psychological Impact of the Northern Ethiopia War on Tigray Athletes

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#### ABSTRACT

The war in northern Ethiopia (November 4, 2020-November 2, 2022) caused unimaginable suffering to the people of Tigray. Psychological suffering is among the many. It is well known that war affects all people living in the war zone and alters life dramatically, as its effects can be both physical injury of varying degrees of severity and the dangerous invisible wounds caused by psychological trauma and stress. As far as this issue is concerned, numerous research results have shown the psychological impact of war on the general population. However, no research has been carried out on the psychological impact of war on athletes. So, the main objective of this study was to assess the psychological impact of the Northern Ethiopia civil war on Tigray Athletes. To achieve the purpose of this study, a total of 144 athletes from various clubs in the Tigray area were selected using the convenience sampling method. The anxiety symptom was assessed using the Generalized Anxiety Disorder Scale (GAD-7) and the depression symptom was assessed using the Centre for Epidemiologic Studies (CES-D) depression scale. The data gathered was analyzed using the SPSS statistical package (version 25 for Windows). Of 144 participants, 1 (0.7%) showed minimal anxiety; 4 (2.8%) showed mild anxiety; 29 (20.1%) showed moderate anxiety; and 110 (76.4%) showed severe anxiety. And regarding depression, all of the participants were shown symptoms of depression as their score was higher than 16 points. As the result shows, almost all participants have a risk of anxiety and depression. It can thus be concluded that the two-year war in northern Ethiopia had a negative psychological impact on Tigray athletes.

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#### Introduction

Ursano, Fullerton and Norwood described the war as "the oldest catastrophe caused by man". And A. Stein and Bruce M. Russett describe war as a major agent of change and an ignored agent. Furthermore, Kecskemeti, P. describes war as a disease, and all who have suffered from it are immune to future infections. It is obvious that the war that erupted in Bangladesh, Bosnia and Herzegovina, Indonesia, Iraq, Syria, South Sudan, Rwanda, etc., is evidence of these ideas. War destroys communities and families and often adversely affects the social and economic fabric of nations (Justino) [1-4].

And it has also long-term physical and psychological harm to children and adults (Murthy and Lakshminarayana, Akresh et al, war affects all people living in the warzone and alters life dramatically, as its effects can be both physical injury of varying degrees of severity and the dangerous invisible wounds caused by psychological trauma and stress. The two years war (from November 4, 2020 up to November 2, 2022) between Ethiopian federal forces and its aliens (Amhara Region militias, Fano, Police, Ethiopia's neighbor and former enemy Eritrean armed force) and the Tigray Regional Stat farce has caused unimaginable suffering to the people of Tigray. As different national and international medias reported, including athletes over 600,000 Tigrean civilians have been killed, more than 2 million people were internally displaced (Addis standard), around 70,000 people have fled to Sudan remains cut off from food, water, and medical aid (Addis standard,) more than 120,000 women were faced to single and group sexual violence and 5.2 million people in need of humanitarian assistance (USAID) [5-9]. In line with this families were separated for long period of time, many children lost their parents and thousands face to malnutrition, periods of hunger become long and very common for the whole population of Tigray. In Tigray Region all most all the health centers, schools, business companies (Governmental and non- governmental), sport infrastructures and equipments, social and cultural institutions which connects Tigreans history, identity and lived values were destroyed and looted, leaving seven million people without access of any kind. Consequently, thousands of children missing a significant period of education, athletes forced to pass a long-lasting sedentary behavior, hundreds of thousands civil servants forced to pass more than two years without salary and millions remain without health care facilities. The war has become notorious for the war crimes at stake, including ethnic cleansing, rape and crimes against humanity (Amnesty International). Therefore, the past couple of years have been hell for the Tigray people. In the Tigray region, millions of people, including athletes, get traumatized. As many scholars proved that, anyone who has experienced war, genocide or torture, is often severely traumatized (Schaal & Elbert), and such people are considered to be particularly at risk to develop psychiatric disorders such as anxiety, depression and PTSD [10-12]. Studies evaluating psychiatric disorders have identified depression, PTSD,

and anxiety disorders as the most common disorders diagnosed due to a war situation [13]. It is a fact that women and children are the most vulnerable group to the psychological consequences of war and conflict. Even though there is no any literature that shows the impact of war and armed conflicts on athlete's mental health and psychological well-being, due to the nature of sport (socialization) athletes are also vulnerable group to the negative psychological consequence of war such as stress, anxiety and depression. To this end, psychologically the Tigrean athletes are severely affected by the war because of the absence of organized training and competition, lack of communication between athletes and coaches, inability to move freely, frequent death of loved once and colleague, long lasting sitting which leads to sedentary behavior etc. So, the main objective of this study was to assess the psychological impact of the Northern Ethiopia civil war on Tigray athlete. And this study may provide researchers with some empirical understanding of the impact of civil war on the psychological well-being of athletes.

#### Methods

#### Participants

For the purpose of the present study, a total of 144 athletes (mean age of  $23 \pm 5$  years) from different clubs of Tigray Region was selected using convenience sampling method. Specific ethical guide lines were adhered to while conducted the research. Before conducted the study, ethical clearance was obtained from the Institutional Review Board of Health Science College/Ayder Comprehensive Specialized Hospital of Mekelle University, (MU-IRB 2036/2023). And written informed consent was obtained from all participants.

Athletes
Inclusion criteria: Athletes who
played in clubs
Football, Handball, Cycle
and Athletics clubs
Convenience sampling method
Study participants (N=144)
Variables
Variables
Survey
Anxiety
Depression
Rate of return= 100%

**Figure 1: Flow Chart** 

#### **Data Collection Tools**

The data was collected from March, 13 -20/2023, around five months later after the peace agreement was signed between the Federal Government and the Tigray Regional state Government in Pretoria, South Africa, and was collected through Tigrgna version questionnaires. The content of the questionnaires includes demographic characteristics of the participants which include sex, age and type of sport participated, GAD-7 and CES-D which measures the symptoms of Anxiety and Depression respectively. The General Anxiety Disorder 7-item scale (GAD-7) is one of the tools used to screen for anxiety or to measure its severity (Spitzer RL) [14]. Each question response category of 'not at all', 'several days', 'more than half the days' and 'nearly every day' is assigned a score of 0, 1, 2 and 3 respectively. The total score is calculated by adding together the individual scores for the 7 questions. The final scores of 5, 10 and 15 are the cut-off points for mild, moderate and severe anxiety, respectively (Spitzer RL).

The CES-D scale was developed to screen for depression by measuring the frequency of events and ideas over the past week (Radloff, L.S). The CES-D scale is a 20-item instrument with each item rated on a four-point scale ranging from 0 ("rarely or none of the time") to 3 ("most or all of the time"). Four of the items are positive statements which are inversely scored for calculating the total score. The total score ranges from 0 to 60 and a higher score indicates a greater risk of depression. For the original CES-D scale, a total score of 16 or greater is considered as indicative of symptom of depression (Radloff, L.S) [15].

The questionnaires were translated in Tigrgna version, which is the main language of the Region. The translated questionnaires were checked by other experienced translators and researchers to ensure that the meanings and concepts of the questionnaire items remained consistent with the original English version. To ensure reliability of the Tigrgna version questionnaires, test re-test method was executed (r=0.97).

#### **Statistical Technique**

The data gathered was analyzed using the SPSS statistical package (version 25 for Windows). Descriptive statistics were used to report the psychological impact of the Northern Ethiopia civil war on Tigray Athletes. The level of severity were assessed by counts and percentages of participants exceeding the respective recommended cut-offs.

#### Result

#### **Demographic Characteristics**

A total of 144 questionnaires were distributed, and all of the questionnaires were returned (100%). Of these, 101 (70.1%) were male and 43 (29.9%) were female. More ever 77 (53.5%) were participating in Athletics, 27 (18.8%) were football players, 8 (5.6%) were handball players and 32 (22.2%) were cyclist. The average age of the participants were  $23 \pm 5$  years.

Table 1: Frequencies and Percentages Grade of Anxiety and Depression												
Variable	Grade		Frequency		Percentage							
		М	F	Т	М	F	Т					
Anxiety (GAD-7)	Minimal anxiety(0-4)	1	0	1	0.7	0.0	0.7					
	Mild anxiety(5-9)	2	2	4	1.4	1.4	2.8					
	Moderate anxiety(10-14)	19	10	29	13.2	6.9	20.1					
	Severe anxiety(15-21)	79	31	110	54.9	21.5	76.4					
Depression (CES-D)	Normal(<16)	0	0	0	0	0	0					
	Depressed (≥16)	101	43	144	70.1	29.9	100					

The results presented in Table 1 indicate that, out 144 participants 1(0.7%) male participant shown mild anxiety, 2 (1.4%) males and 2 (1.8%) females shown moderate anxiety, 19 (13.2%) males and 10 (6.9%) females shown moderately severe anxiety and 79 (54.9%) males and 31 (21.5%) females shown severe anxiety. And all of the participants were shown symptoms of depression as their score is higher than 16 point.

Table 2: Frequencies and Percentages Grade of Anxiety and Depression in Regard to type of Sports

Type of sport		Variable									
		Anxiety							Depression		
		Grade									
		Minimal	Mild	Moderate	Severe	Total	Normal	Depressed	Total		
Athletics	Frequency	0	2	8	67	77	0	77	77		
	Percentage	0	1.4	5.6	46.5	53.5	0	53.5	53.5		
Football	Frequency	1	0	6	20	27	0	27	27		
	Percentage	0.7	0	4.2	13.9	18.8	0	18.8	18.8		
Handball	Frequency	0	0	0	8	8	0	8	8		
	Percentage	0	0	0	5.6	5.6	0	5.6	5.6		
Cycle	Frequency	0	2	15	15	32	0	32	32		
	Percentage	0	1.4	10.4	10.4	22.2	0	22.2	22.2		

The results presented in Table 2 indicated that, out of the total (77) participants who participating in athletics sport no one shown mild anxiety; 2(1.4%) shown moderate anxiety; 8(5.6%) shown moderately severe anxiety and 67 (46.5%) shown severe anxiety. In football players, out of 27 participants 1(0.7%) shown mild anxiety 0(0%) shown moderate anxiety; 6(4.2%) shown moderately severe anxiety and 20 (13.9%) shown severe anxiety. In regard to handball, 8 handball players were participated in this study and all shown severe anxiety symptom. And out of 32 cyclist 0(0%) shown moderately severe anxiety; 2(1.4%) shown moderate anxiety; 15(10.4%) shown moderately severe anxiety.

And as shown from the above Table 2, all participants of the study, 77 who participate in athletics sport, 27 footballers, 8 handball players and 32 cyclists were depressed.

#### Discussions

War has a catastrophic effect on the health and well-being of people found in the warzone. Studies have been shown that conflict situations cause more mortality and disability than any major disease [16]. The World Health Organization estimated that, in the situations of armed conflicts throughout the world, "10% of the people who experience traumatic events will have serious mental health problems and another 10% will develop behavior that will hinder their ability to function effectively. The most common conditions are depression, anxiety and psychosomatic problems such as insomnia, or back and stomach aches" (WHO) [17]. In addition, there are many research findings that shown the psychological impact of war on the general population. For instance, Scholte WF, et al., conducted a study in a sample of 1011 Nangarhar province of Afghanistan using a cross-sectional multi cluster method, hence its finding shown that, symptoms of depression were observed in 38.5% respondents and 51.8% of the respondents shown symptoms of anxiety. A similar study conducted by Cardozo BL et al., revealed that, out of 799 Afghanistan adult household members 67.7% respondents showed symptoms of depression and 72.2%, showed symptoms of anxiety, and the epidemiological survey conducted by Pham PN, Weinstein HM, Longman T, concluded that, psychosocial consequences were seen in 64% of the population, including anxiety disorder (26%), major depression (25%) [18,19]. More ever, Roberts B. et al, conducted a cross-sectional, random cluster survey with a sample of 1242 adults (aged over 18 years) in November 2007 in the town of Juba, the capital of Southern Sudan, aiming to measure the level of Depression and the result revealed that, half (50%) of the respondents met symptom criteria for depression. A similar study by Roberts B et al., revealed that, out of 1210 Uganda adult IDPs 67%) of them met symptom criteria for depression. And a study carried out by Elbedour et al. on 229 Palestinian adolescents living in the Gaza Strip reported that, 40.0% shown moderate or severe levels of depression symptomatology and 94.9% were demonstrated severe anxiety levels. And Kolltveit, S et al., reported that, following war exposure 33 out of 139 (23.7%) Gaza adolescents scored above the clinical cutoff on the anxiety scale and 56 out of 136 (41.2%) scored above the recommended clinical cutoff for depression scale [20-22]. In line with the above findings, Elhadi et al, revealed that, out of 1,568 participants 910

(37.5%) shown mild anxiety; 390 (16%) moderate anxiety and 268 (11%) severe anxiety as a result of Libya civil war [23].

As anticipated, the present study also proved that, as a general population, athletes were also psychologically affected by the two years of horrific war takes place in the Northern Ethiopia. In addition there was no any movement for the past two years due to the fighting and air bombardment resulted long lasting sitting in home which leads to sedentary behavior. For instance, in a normal condition a sedentary behavior with high levels of sitting time and low levels of physical activities are associated with increased risks of depression [24]. Moreover, one week of induced sedentary behavior has deleterious effects on mood and depression [25-28].

#### Conclusion

The result of the present study shown that, 96.5% of the participants shown moderate to severe anxiety and 100% of the participants were depressed which requires urgent treatment. So, within the limitations of the present study, it can be concluded that, the two years of the Northern Ethiopia civil war has been created a negative psychological impact on Tigray athletes.

#### Declarations

#### **Ethics Approval and Consent to Participate**

Our study has been approved by the Institutional Review Board of Health Science College/Ayder Comprehensive Specialized Hospital of Mekelle University, (MU-IRB 2036/2023). Written informed consent was obtained from all participants.

#### Availability of Data and Materials

Data is available on reasonable request from the corresponding author.

#### **Competing Interest**

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

#### **Author Contributions**

Kesatie Legesse designed the study; Mulay Gebretensay and Saymon Kiflom collected the data, analysed the data and prepared the draft manuscript. All authors read, corrected and approved the final manuscript.

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