



Young people, mental health, and civil conflict: Preliminary findings from Ethiopia's Tigray region

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ABSTRACT

We examine the association between mental health and violent conflict in Ethiopia's Tigray region. Two longitudinal phone-surveys (08/2020–10/2020; 11/2020–01/2021) interviewed 122 young people in Tigray. We use t-tests for the difference in means outcomes between calls to investigate how their mental health evolved before and after the outbreak of conflict (11/2020). Post-outbreak rates of anxiety (34%) were three times higher than 2–3 months before. Similarly, rates of depression increased significantly from 16% to 25%. Males experienced greater increases in anxiety, females in depression. Mental health issues have likely worsened further during the ongoing conflict, making mental health support urgently needed.

1. Introduction

On November 4th 2020, war broke out in Ethiopia's northernmost Region, Tigray, between the federal government and the regional ruling party, the Tigray People's Liberation Front. Allegations of war crimes, mass destruction and looting including of health care facilities have been reported (Devi, 2021). Whilst aid organizations have highlighted the potential risks to mental health, no survey data are yet available to our knowledge. This study is the first to quantitatively investigate the association between the sudden outbreak of conflict and the mental health among young people in Tigray, a particularly vulnerable group as half of all mental health conditions develop by 14 years of age and 75% by early adulthood (Kessler et al., 2007). Further, we contribute to a handful of studies investigating the impacts of *ongoing* conflict on mental health (Osiichuk and Shepotylo, 2020).

2. Methods

We document a worrying increase in anxiety and depression using longitudinal data from two phone surveys conducted in August–October 2020 and November–January 2020/2021 (Tuc et al., 2021). Symptoms of anxiety and depression were measured using the Generalized Anxiety Disorder-7 (GAD-7) scale (Spitzer et al., 2006) and the Patient Health

Questionnaire depression scale-8 (Kroenke et al., 2009) (PHQ-8), with GAD-7 and PHQ-8 ≥ 5 representing at least mild anxiety and depression, respectively. Cronbach's Alpha (Cronbach, 1951) for both scales across calls was close to 0.7 (Nunnally and Bernstein, 1994). Inter-item correlations fell within the recommended range of 0.15–0.50 (Clark and Watson, 1995) (Supplementary Table S1). Both scales have been validated and previously used in Ethiopia (Gezie et al., 2018). They were slightly adapted for administration in a phone survey: First, we asked participants whether they were alone in the room and if not, whether they could go to another room and/or make sure their speaker phone was off. Second, for each item in GAD-7 and PHQ-8 we asked whether the symptom had been observed, and if so, how often it occurred. The phone surveys were translated into Amharic and piloted. Local guides were used to reach participants without access to a mobile phone. Participants provided verbal informed consent to surveys approved by institutional research ethics committees at the University of Oxford (UK, Ref No: CUREC 1A/ODID CIA-20-034, March 15, 2020), and the University of Addis Ababa.

Our sample contains 122 participants from Tigray, (aged 18–19 and 25–26) including 67 males (55%) and 55 females (45%) from the Young Lives study (Favara et al., 2022), a longitudinal cohort survey, established in 2002 and following the same respondents over the past 20 years (Outes-Leon and Sanchez, 2008). The timing of the survey was such that

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Table 1

Comparison of rates of at least mild anxiety and depression across survey periods.

| | No. (%) ^b | No. at least mild anxiety (% ^c ; 95% CI) | | p-value | No. at least mild depression (% ^c ; 95% CI) | | p-value |
|---------|----------------------|---|-------------------------|---------|--|-------------------------|---------|
| | | Aug-Oct | Nov-Jan | | Aug-Oct | Nov-Jan | |
| Total | 122 (100) | 14 (11.48; 5.74–17.21) | 42 (34.43; 25.87–42.98) | 0.000 | 19 (15.57; 9.05–22.10) | 31 (25.41; 17.57–33.25) | 0.045 |
| Pre-CO | 57 (46.72) | 12 (21.05; 10.14–31.97) | 19 (33.33; 20.71–45.95) | 0.128 | 11 (19.30; 8.73–29.86) | 13 (22.81; 11.57–34.04) | 0.621 |
| Post-CO | 65 (53.28) | 2 (3.08; –1.24–7.39) | 23 (35.38; 23.44–47.33) | 0.000 | 8 (12.31; 4.10–20.51) | 18 (27.69; 16.52–38.87) | 0.024 |
| Male | 67 (54.92) | 8 (11.94; 3.97–19.91) | 26 (38.81; 26.83–50.78) | 0.000 | 14 (20.90; 10.90–30.89) | 16 (23.88; 13.40–34.36) | 0.686 |
| Female | 55 (45.08) | 6 (10.91; 2.40–19.41) | 16 (29.09; 16.70–41.48) | 0.011 | 5 (9.09; 1.25–16.93) | 15 (27.27; 15.12–39.42) | 0.003 |

Notes: CO= Conflict Outbreak in Tigray. Pre-CO: respondents who were surveyed before the conflict outbreak in the second survey (Nov 2020–Jan 2021).

Post-CO: respondents who were surveyed after the conflict outbreak in the second survey (Nov 2020–Jan 2021).

No. = Number.

95% CI = 95% confidence interval.

p-values represent significance of t-test of equality between phone survey mental health rates among the full sample (Total), those who were surveyed before the conflict outbreak (Pre-CO), those who were surveyed after (Post-CO), males, and females.

^b Mean in % in reference to the total sample.^c Mean in % in reference to the respective subgroup sample.

conflict broke out when the second phone survey was underway. 47% of participants were interviewed for the second time before the outbreak of conflict, allowing us to investigate the changes in mental health pre- and post-conflict.

We use *t*-tests for the difference in means outcomes between calls within groups and consider a 2-sided *p*-value <0.05 as significant. Analysis is performed using Stata 14.2.

3. Results

At the time of the second phone call, 2 in 5 young people self-reported at least mild depression and/or mild anxiety, and 16% (95% CI, 9.73–23.06) self-reported both (Supplementary Table S2). This increase is almost entirely amongst those interviewed after the conflict outbreak, while no significant changes in mental health were found for those interviewed pre-conflict in the second survey.

Rates of self-reported anxiety were three times higher in November/January than in August/October, and rates of self-reported depression went up by ten percentage points. Again, these rates seem to be driven by those interviewed post conflict outbreak. For those interviewed after the outbreak, rates of at least mild anxiety were eleven times higher than pre-conflict from 35% (95% CI, 23.44–47.33) to 3% (95% CI, –1.24–7.39). Rates of at least mild depression more than doubled from 12% (95% CI, 12.31; 4.1–20.51) to 28% (95% CI, 16.52–38.87). Males reported greater increases in anxiety, females in depression (Table 1).

4. Discussion

The main limitations of this study are its small sample size and its potentially selected sample. Encouragingly, we do not find evidence of sample selection when comparing the characteristics of the respondents included in the analysis sample and those who dropped (Supplementary Table S3); the only exception being the dropped respondents being more likely to live in urban areas at baseline. The conflict outbreak in urban areas and the subsequent displacement might explain this. In fact, our findings are likely an underestimate, given that those who are most affected by the conflict (including those displaced, or even killed) have less likely been reached in our second call.

There are also potential confounding factors related to the COVID-19 pandemic that might have exacerbated mental health issues, including the increase in food insecurity following the pandemic outbreak (Favara et al., 2021; Porter et al., 2021). However, the increase in depression and anxiety symptoms over time is more marked for Tigray respondents (more than doubled) compared to the rest of the Ethiopian sample (not statistically significant) and affects all respondents regardless of the food security status. Therefore, we find suggestive evidence that the increase in depression and anxiety is at least partially attributable to the conflict

(Supplementary Table S4).

Overall, our prevalence rates are aligned to the post-conflict literature (Charlson et al., 2019; Steel et al., 2009). As previous research (Steel et al., 2009) shows that experiencing conflict at a young age can persist into late adulthood and may also reach into subsequent generations (Betancourt et al., 2020), our results suggest that in addition to emergency aid, mental health support is urgently needed in Tigray, especially as the conflict adds to the already stressful situation of a global pandemic (Favara et al., 2021; Porter et al., 2021).

CRedit author statement

Marta Favara: Supervision, Funding acquisition, Writing- Reviewing and Editing, Investigation, Project administration. Annina Hittmeyer: Formal analysis, Data curation, Writing-Original draft preparation, Validation. Catherine Porter: Conceptualization, Methodology, Writing-Original draft preparation. Saurabh Singhal: Methodology, Writing-Reviewing and Editing. Tasew Woldehanna: Investigation, Writing-Reviewing and Editing, Project administration.

Role of the funding source

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Ethical approval

The surveys were approved by institutional research ethics committees at the University of Oxford (UK, Ref No: CUREC 1A/ODID CIA-20-034, March 15, 2020), and the University of Addis Ababa, Ethiopia. Participants were asked for their verbal informed consent before the study and assured of confidentiality.

Data sharing statement

The entire individual participant data collected during the phone survey and previous in-person rounds, after de-identification, is available including data dictionaries. Furthermore, the questionnaire, attrition reports and the field work manual are available at <https://www.younglives.org.uk/>. The data was made available on February 19th with no end date to anyone who wishes to access the data for any

purpose, via the UK Data Archive (study number 8678, DOI: 10.5255/UKDA-SN-8678-3).

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Marta Favara reports financial support was provided by Foreign Commonwealth & Development Office. Annina Hittmeyer reports financial support was provided by Foreign Commonwealth & Development Office. Catherine Porter reports financial support was provided by Foreign Commonwealth & Development Office. Tassew Woldehanna reports financial support was provided by Foreign Commonwealth & Development Office. Saurabh Singhal declares that he has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.psycom.2022.100025>.

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