

# Post-traumatic stress disorder and coping mechanism among migrant returnees from middle east countries in Amhara region, Ethiopia

## Abstract

**Objective:** the purpose of this study was to assess risk factors and measure prevalence rates of Post-Traumatic Stress Disorder (PTSD) and Coping Mechanisms of migrant returnees from Middle East countries in Amhara Region, Ethiopia.

**Methods:** Mixed method explanatory research design was employed on 376 randomly selected migrant returnees in six nominated towns of the region. PTSD checklist and Coping Strategy Indicator were employed for assessment. Focus Group Discussion (FGD) and interview were also utilized. Descriptive statistics, independent t-test and MANOVA were utilized to analyze the collected data.

**Result:** the general life time prevalence rate of PTSD was 26.2%. Correspondingly, avoidance, intrusive thought and hyper arousal were reported core symptoms of PTSD in their due order. Likewise, to improve quality of life, failure in educational endeavor, peer and family pressure, unemployment and poverty were the major factors for migration to Middle East. In this study, the independent t-test result shows that there was statistically significant mean difference between male and female respondents in experiencing intrusive thought ( $t(374)=-2.62, p<0.05$ ), avoidance ( $t(374)=-3.14, p<0.05$ ) and hyper arousal ( $t(374)=-2.86, p<0.05$ ). Besides, current employment status of returnees had statistically significant effect in experiencing intrusive thought ( $t(374)=2.45, p<0.05$ ), avoidance ( $t(374)=-2.42, p<0.05$ ) and hyper arousal ( $t(374)=2.10, p<0.05$ ). In addition, a MANOVA result revealed that there were statistically significant differences between participants with their respective age ( $F(6,522)=2.230, p<0.05$ ), educational status ( $F(9,665)=3.051, p<0.05$ ), average monthly income ( $F(6,522)=0.867, p<0.05$ ) and types of abuse they faced ( $F(9,635)=2.113, p<0.05$ ) on PTSD dimensions (intrusive thought, avoidance and hyper arousal). Correspondingly, ANOVA result disclosed that age, educational status, types of abuse returnees' face and monthly income in the Middle East had statistically significant effect on intrusive thought, avoidance and hyper arousal separately. As contributing factors for PTSD, limitations on freedom of movement, enforced cultural isolation, verbal and sexual abuse, excessive working hours, being arrested, confiscation of documents, withholding of wage and life threatening trial were highly reported problems. Finally, problem solving, seeking social support and avoidance coping mechanisms were utilized in their due order.

**Conclusion:** The life time prevalence rate of PTSD were very high. Therefore, mental health service providers shall consider in diagnosing and treating PTSD among migrant returnees.

**Keywords:** PTSD, coping mechanism, migrant returnees, Middle East

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## Introduction

Migration is a process of moving across international borders and/or within a state. It is a movement, encompassing any kind of movement of people, whatever its length, composition and causes.<sup>1</sup> In addition, a migrant returnee is an individual who had left his/her place of origin regardless of any reason, but who has returned to his/her place of origin.<sup>2</sup> The migration process involves separation from country of origin, family members, and familiar customs; exposure to a new physical environment; and navigation of unfamiliar cultural contexts. Stresses involved in the immigration experience can cause or exacerbate mental health difficulties, including anxiety, depression, posttraumatic stress disorder (PTSD), substance abuse, suicidal ideation, and severe mental illness.<sup>3</sup> Likewise, the severing of these networks and the removal of interpersonal and socio-cultural supports that may follow migration can contribute to negative social and

psychological health outcomes for individuals and groups.<sup>4</sup> Moreover, the transition may be followed by unforeseen negative consequences and may require exceptional social adjustments.<sup>5</sup> Although the process of migration-adaptation is a challenging experience, it can also mean hope for a better future for many individuals. A report by Human Rights Watch on abuse against migrants<sup>6</sup> states that more than 215 million people live outside their country of birth. Of which, 10.2 % of global migrants will hail from Africa.<sup>2</sup> The total number of Ethiopian migrants in 2010 alone amounted to around 620,100. Their main destinations of the continents were Africa (8.6%), Asia (37.5%), Europe (21.4%), Latin and North America (31.4%).<sup>7</sup> In the past ten years, Middle East countries become common destination for Ethiopian migrants in search of a better future.<sup>8-10</sup> In the first half of 2012 alone, over 160,000 Ethiopians were migrated to Saudi Arabia to work in the domestic sector as maids on time-bound contracts arranged by a wide variety of Private Employment Agencies (PEAs).

The trend expanded especially with the change of government in 1991. On this issue, De Regt<sup>11</sup> argues that Ethiopians migrating to the Middle East before the early 1990s were small in number. With the overthrow of the communist regime in 1991, the right to free movement was provided for all Ethiopians. Since then there has been a massive influx of both women and men to the Gulf region to take up menial occupations. Women constitute a higher proportion of the labor migrants than men because there is more demand for domestic workers. Domestic workers are mainly employed to carry out activities including cleaning, child minding, servicing, gardening or care-taking of elderly people in all sectors of private households. In addition to being employed in such challenging activities, women domestic workers in the Middle East also experienced overwork, denial of food and salary, lack of medication, imprisonment, sexual assault and emotional and physical abuse.<sup>12-15</sup>

Many literatures including Meskerem,<sup>16</sup> Gebeyehu,<sup>17</sup> Esubalew,<sup>18</sup> IOM<sup>19</sup> and ILO<sup>20</sup> clearly demonstrated that trafficked victims faced exploitative and coercion conditions at work places in destination countries including long working hours, restricted movement through confiscation of passports, isolation and inability to change employers. Victims may also be subjected to different forms of physical, sexual, verbal and emotional abuse in the hands of traffickers and employers. These abusive behavior together with the absence of medical care, result in untreated physical injuries, mental health problems, unwanted pregnancy and even death. In the most extreme instances, the victims become slaves, pure and simple, losing all control over their lives and becoming objects to be bought and sold on the prostitution market.<sup>21</sup> In line with this, from 1999 -2005 the Quarantine Office of the Addis Ababa International Airport reported 129 female bodies returned from Jeddah, Dubai, and Beirut. In all cases the cause of death was determined to be suicide.<sup>19</sup> Anbesse, et al.<sup>22</sup> study on returnees from the Middle East to Ethiopia arose due to the observations of the number of return migrants seeking professional psychiatric help. The authors suggest that this is just the tip of the iceberg of mental disorders experienced by female migrants and it is an area of concern. Many scholars reported that migrant domestic workers are vulnerable to migration-related stress and mental health problems.<sup>12-24</sup> Particularly post-traumatic stress disorder (PTSD) and depression were highly reported.<sup>25</sup> Therefore, PTSD is a form of anxiety disorder characterized by a set of symptoms of avoidance, numbing, intrusiveness, and hyper arousal, brought about by a traumatic event or experience.<sup>25</sup>

Mental health problems were highly prevalent among Ethiopia migrant returnees from Middle East countries.<sup>16-18</sup> Another study conducted by Lurie<sup>26</sup> indicated that the prevalence rate of PTSD on Ethiopian migrants in Israel was 23%. In addition, a study conducted by Galea, Rockers, Saydee, Macauley, Varpilah & Kruk<sup>27</sup> indicated that the prevalence rate of PTSD in Nimba, Liberia, was 48.3% (n=664). Hence, Ostrovschi, et al.<sup>28</sup> designated that PTSD was diagnosed among 35.8% of illegal migrant women in Moldova, Eastern Europe who had returned to their country of origin. Coping skills are also in evidence, however, including spiritual sources of coping, maintenance of friendships with other Ethiopian women, and reassertion of one's cultural identity. Spiritual sources of coping were found to be an important coping mechanism among East African migrants in Australia.<sup>29</sup> Ethiopian migrants were being detained and would need to be repatriated by Middle East countries government because numerous restrictions have been imposed in their legislation of new labor law to maintain the highly privilege position of their nation. Hence, it is believed that migrants bring their culture, tradition,

social life and religious beliefs, which in most cases are different from the host society. This development poses economic, social and cultural threats to the local population. Though it is so difficult to determine the reliable data about the static number of migrant returnees, 181,218 migrant returnees from Middle East countries were deported through Bole International Airport as of January 18/2014 among whom 49,418 migrant returnees were from Amhara region.<sup>30</sup> Many deportees reported that migrants returned empty handed and not having repaid debts to those who smuggled them, many, particularly female trafficking victims, were referred to care and rehabilitation centers due to severe traumatization and physical abuse. In spite of the difficulties that domestic workers face and the consequences of these challenges, the number of migrants is increasing rapidly in the world.

In general, despite those recent attempts to describe migrant returnees' issue, research on migrants' vulnerability, hardships and adjustment difficulties, mental health problems and the resistance resources in the adaptation process is not well researched in Amhara region. This study, therefore, was undertaken to address this significant gap in research. This study was intended to address the following basic research questions:

1. What is the prevalence rate of posttraumatic stress disorder (PTSD) among migrant returnees from Middle East countries in Amhara region?
2. What are the major factors that force migrants for migrating into the Middle East countries?
3. What types of traumatic events contribute to PTSD among migrant returnees?
4. Is there any statistically significant difference in experiencing PTSD dimensions across returnees' sex, age, employment status, educational status, income and types of abuse they face?
5. What kinds of coping mechanism are most commonly used by migrant returnees?

## Materials and methods

### Study design

The purpose of the present study was to assess the determinant factors and prevalence rate of PTSD and Coping Mechanisms among migrant returnees in Amhara region. To achieve this purpose, mixed method explanatory research design was employed.

### Study area

Amhara region is one of the nine ethnic divisions (regions) of Ethiopia. The Amhara region is bordered by the nation of Sudan to the west, and the Ethiopian regions of Tigray to the north, Afar to the east, Benishangul-Gumuz to the west and southwest, and Oromia to the south. Based on the 2007 Census of the Central Statistical Agency of Ethiopia (CSA), the Amhara Region has a population of 17,221,976 among whom 8,641,580 were men. For the entire Region 3, 983,768 households were counted. With regarding to religion, 82.5% Christian (orthodox), 17.2% Muslim, 0.2% protestant and 0.1% were other faiths. Additionally, 28% of the total population had access to safe drinking water, of which 19.89% were rural inhabitants. Values for other reported common indicators of the standard of living for Amhara region include the following: 17.5% of the inhabitants fall into the lowest wealth quintile; adult literacy for men is 54% and for women 25.1%; and there is only one residential facility in the country for

chronically mentally ill and several other residential facilities, which have served mentally ill clients along with their beneficiaries. Having this, this study was conducted in six study sites of the region that were already identified as hotspot areas for migration from Ethiopia to the Middle East based on Disaster Prevention and Food Security and Labor and Social Affairs of Amhara Regional Administrative Office. The study sites included Debire Tabor, Bahir Dar, Habiru, Dessie, Kemisie, and Ataye towns. In these study sites, human trafficking is highly prevalent.

### Sampling and sample size determination

The target population of this study was migrant returnees who migrate for the purpose of better quality of life but deported forcefully by Middle East countries. According to the Disaster Prevention and Food Security of Amhara Regional Administrative Office (DPFS), 49,418 migrant returnees were registered for social and economic reintegration until January 30/2014. Proportionate stratified sampling was employed to determine the number of participants across study sites. 423 returnees were randomly selected from 6 towns in Amhara region. However, data collectors could collect 376 properly filled questionnaires. The rest 47 questionnaires were discarded for incompleteness. Due to this, the study analysis was done based on the response of 376 study participants. Simple random sampling was used to recruit returnees from each study sites. Besides, 18 core government stakeholders in different level, 25 migrant returnees, 15 parents of migrant returnees and 4 brokers in the prison were also selected by using available sampling technique.

### Variables

Dependent variables of the study were migrant returnees' posttraumatic stress disorder (PTSD) and coping mechanisms. The primary independent variables for this study were returnees' demographic characteristics including their age, sex, educational status, marital status, average monthly income, current employment status and types of abuse migrant returnees' face.

### Data collection instruments

Full scale pre-established questionnaires, focus group discussion (FGD) and interview were used to gather the required data from samples. Ultimately, the questionnaire has five sections where the first section collects data on respondents' demographic characteristics. This includes age, sex, educational status, average monthly income, current employment status and types of abuse they face. The second section of the questionnaire was PTSD checklist (PCL) to assess the prevalence rate of Post-traumatic stress disorder. The third section of the questionnaire was Coping Strategy Indicator (CSI-33) to identify which coping mechanisms are commonly used by migrant returnees. In addition, the fourth section of the questionnaire was abusive behavioral checklist to identify the contributing factors for PTSD among migrant returnees. Finally, self-developed interview and FGD were employed to assess traumatic experiences that contribute for PTSD of returnees from Middle East countries.

### PTSD checklist (PCL)

PTSD checklist (PCL) was developed by researchers at the national center to measure PTSD.<sup>31</sup> The PCL is a standardized self-report rating scale comprising 17 items that correspond to the key symptoms of PTSD. The PCL is self-administered and respondents indicate how much they have been bothered by a symptom over the past month using

point (1–5) scale, circling their responses. Responses range from 1 Not at All up to 5 extremely. Regarding to its scoring system, a total score of 44 is considered to be PTSD positive for the general population while a total score of 50 is considered to be PTSD positive in military populations. Studies show that PCL has high validity and reliability. For example, Cronbach's alpha coefficients .94, .85, .85, and .87 for the PCL total, re-experiencing, avoidance, and hyper arousal scores, respectively were indicative of high internal consistency.<sup>32</sup> A cutoff score of 50 for a PTSD diagnosis has demonstrated good sensitivity (.78 to .82) and specificity (.83 to .86). Lowering the cutoff score to 44 revealed better sensitivity (.94), specificity (.86) and overall diagnostic efficiency (.90) with MVA victims.<sup>33,34</sup>

### Coping Strategy Indicator (CSI)

The Coping Strategy Indicator (CSI), developed by Amirkhan,<sup>35</sup> is intended as a widely applicable self-report measure of situational coping encompassing the strategies of avoidance, problem solving and seeking social support. The Coping Strategy Indicator (CSI) is a 33-item, 3-point self-report rating scale designed to assess 3 basic modes of coping. Responses on each of the CSI's 33-items are indicated by means of a three point scale: a lot (3), a little (2), or not at all (1). The three subscales each contain 11 items and subscale scores are calculated by summing responses to appropriate items (range 0–33), higher scores indicate greater use of the strategy. Subjects select a stressful event from their lives and briefly describe it. The event must have occurred within the past six months and must be considered important. Then subjects, keeping that event in mind, respond to 33 questions. On top of that, Cronbach's alpha coefficients indicate adequate internal consistency for each of the subscales ranging from 0.86 to 0.98 for Problem Solving, 0.89 to 0.98 for Seeking Social Support and from 0.77 to 0.96 for Avoidance.<sup>36</sup> Regarding to the internal reliabilities for the CIS, another study conducted by Desmond, et al.<sup>37</sup> in a sample of 618 British individuals with a chronic health challenge, namely amputation of a limb show that Cronbach's alpha coefficients of .9220 and .8687 were obtained for the Problem Solving and Support Seeking scales, respectively. The Cronbach's alpha coefficient calculated for Avoidance scale was .79.

### Pilot test

The pilot study was conducted in Gondar town, North Gondar zone, North West Ethiopia, on 80 migrant returnees from Middle East countries. Before collecting the final data, the tools were translated in to Amharic language. Content validity of the English and Amharic version was assessed by two clinical psychologists from University of Gondar. The translation consistency of the instrument was also examined by three language experts from University of Gondar. Based on the comments and suggestions of the experts changes were made in wording of two trauma items. In the pilot study, the reliabilities of the tools were found to be 0.93 and 0.87 for PTSD checklist scale and Coping Strategy Indicator respectively for full scale.

### Data collection procedures

To collect data for the study, six supervisors were dispatched in which one supervisor for each study site were assigned. The role of supervisors was to train data collectors, oversee participant recruitment and data collection and checking and controlling data quality. A total of 24 data collectors (four for each site) with at least a diploma level training mainly in the social sciences were recruited. Half-day training was provided for the data collectors on the purpose of the study, the

contents of the data collection instruments, ethical matters, and on how to recruit and approach participants. Data collectors went door to door in areas where migrant returnees were available via the guidance of key informants in each locality. The data- collection process was closely followed-up by the supervisors.

### Data analysis

Descriptive statistics including percentages, number of cases, cross-tabulations, mean and standard deviation were used to describe migrant returnees' PTSD and coping mechanism. MANOVA and independent sample t- test and one sample t-test were also used to analyze the collected data. All data were analyzed using Statistical package for Social Science (SPSS) for window version 20.

### Ethical consideration

Oral as well as written informed consent was secured from the respondents. In addition, written permission was obtained from the respective officials of the institutions and organizations where the respondents were recruited based on an official request letter issued by University of Gondar.

### Result

As can be seen from Table 1, out of 376 migrant returnees, most 207 (55.1%) were males and 169 (44.9%) were females. The mean age of the respondents was 25.87 (SD=5.876) where the minimum and maximum ages were 16 and 52 respectively. With respect to marital status, 227 (60.4 %), 112 (29.8 %) and 37 (9.8%) respondents were single, married and divorced respectively. Regarding to educational status, out of all respondents, 109 (29%) had found to be grade 9 and

above, followed by 98 (26.1%) 5 up to 8 graders. 89 (23.7%) migrant returnees were illiterates and 80 (21.3%) were from grade 1 up to 4. Of all the respondents, 230 (61.2%) were currently unemployed while 146 (38.8%) were employed. Furthermore, with regard to the average monthly income when they were in Middle East countries, out of all respondents, most 153 (40.7%) had found to be categorized as middle income, followed by lower income 142 (37.8%) and upper income 81 (21.5%). Finally, out of the total respondents, most of 173(46 %) were victim of multiple abuses, followed by 80 (21.3%) financially abused respondents.while 66(17.6 %)and 57 (15.2 %)were physically and sexually abused respondents respectively.

### General prevalence rate of PTSD among migrant returnees

In order to assess the general prevalence rate of Post-traumatic Stress Disorder, PTSD checklist scale was employed and presented. As can be shown from Table 2, the optimal cut-off point for the PTSD checklist has been generally reported to be below 43 for normal and greater than 44 for clinically PTSD positive. Based on this, out of 376 participants, 98 (26.2%) were PTSD positive while the rest 278 (73.8%) were PTSD non-symptomatic. For this reason, the general lifetime prevalence rate of post-traumatic stress disorder was 26.2%. Among the dimensions of post-traumatic stress disorder, avoidance, intrusive thought and hyper arousal were highly observed respectively. More specifically, feelings of numbness, nightmares, and flashbacks were highly reported by most of returnees. According to the crosstab result, even higher prevalence rate of PTSD was found among single, illiterate, returnees with lower monthly income, currently unemployed and victim of multiple abuse female participants.

**Table 1** Demographic characteristic of the respondents

Demographic Variable	Categories	Frequency	Percentile
Sex	Male	207	55.1
	Female	169	44.9
Age	Mean	SD	Minimum
	25.87	5.876	16
Marital Status	Married	112	29.8
	Single	227	60.4
	Divorced	37	9.8
Educational Status	Illiterate	89	23.7
	Grade 1-4	80	21.3
	Grade 5-8	98	26.1
	Grade 9& above	109	29.0
Current Employment Status	Unemployed	230	61.2
	Employed	146	38.8
	Lower Income (≤ 1200 Riyal)	142	37.8
Monthly Income in Middle East	Middle Income (1201-2500 Riyal)	153	40.7
	Upper Income (>2501 Riyal)	81	21.5
Types of Abuse	Physical Abuse	66	17.6
	Sexual Abuse	57	15.2
	Financial Abuse	80	21.3
	Multiple Abuse	173	46.0

**Table 2** General prevalence rate of PTSD

Variable	Category	Frequency	Percent
PTSD Score	PTSD normal(0-43)	278	73.8
	PTSD positive( ≥44 )	98	26.2

**Causes of migration to Middle East countries**

To understand the determinant factors for migration to Middle East countries, self-developed closed ended questionnaire were presented for interviewees. Out of 25 interviewees, (92%)to improve personal and family life situation, (88%)poverty and poor life situation of the families, (84%)to search for better life and better paying job, (80%) failure to succeed in educational endeavors, (72%)unemployment, (68%)to get initial capital to start a business, (56%)peer and family pressure, (48%) success of others and (32%)failed marriage were highly reported factors for migration. Interviewees reported that the overall context of poverty, especially rural poverty was the most important push factor. Socio-economic poverty is manifested in the form of a large and predominantly young rural population with limited access to means of production such as land, limited access to social services including vocational, higher education and limited employment opportunities.

**Contributing factors for PTSD among migrant returnees**

As shown in Table 3, out of the total 25 interviewees, the highest problem 24 (96%) were confiscations of documents; 23 (92%) returnees faced limitation on freedom of movement and 23

**Table 3** List of contributing factors for PTSD at destination countries (N=25)

No	Contributing factors for PTSD at destination	Response Categories		
		Yes	No	Total
		N (%)	N (%)	N (%)
1	Have you been imprisoned?	18 (72)	7 (28)	25 (100)
2	Do your employer withhold of your wage?	14 (56)	11(44)	25 (100)
3	Do your employer deny of access to food?	6 (24)	19 (76)	25 (100)
4	Have your employer threatened you to impose even worse working conditions?	22 (88)	3 (12)	25 (100)
5	Have you exposed for excessive working hours (>8)?	19 (76)	6 (24)	25 (100)
6	Have you experienced any history of sexual harassment by employers and their sons?	9 (36)	16 (64)	25 (100)
7	Have your employer enforced you for cultural isolation?	3 (12)	22 (88)	25 (100)
8	Have your employer confiscated your documents?	24 (96)	1 (4)	25 (100)
9	Have you bothered by limitations on freedom of movement?	23(92)	2 (8)	25 (100)
10	Have you exposed for life threatening trial?	13 (52)	12 (48)	25 (100)
11	Have your employer abused you verbally?	23 (92)	2 (8)	25 (100)
12	Have your employer enforced you for commercial sex, drug and alcohol trafficking?	2 (8)	23 (92)	25 (100)
13	Have you ever exposed for robberies?	8 (32)	17 (68)	25 (100)
14	Have you ever exposed for bribe?	8 (32)	17 (68)	25 (100)

(92%) of returnees exposed for verbal abuse. Similarly, 22 (88%) of respondents complained threaten to impose even worse working condition; 19 (76%) excessive working hours (>8) was also highly reported problem faced by returnees; 18 (72%) respondents were arrested with insignificant reason. Correspondingly, 14 (56%) withholding of wage and 13 (52%) life threatening trial were highly reported by domestic migrants. Hence, 9(36%) sexual harassment by employers and their sons, 8(32%) robbery, 8(32%) bribe, 6(24%) denial of access to food, 3(12%) enforced cultural isolation and 2(8%) enforcement to engage in commercial sex, drug and alcohol trafficking were reported by some. In line with this, some interviewees reported that their employers take them to a relative or friend’s house to clean and/or cook if ever they manage to complete their work a bit earlier. Moreover, most of interviewees responded that their working environment, gender, social class and race exposed them for inhuman abuse and exploitation.

**Comparisons of PTSD dimensions among migrant returnees’ sex**

As can be revealed in Table 4, the independent t-test result shows that there was statistically significant mean difference between male and female respondents in experiencing intrusive thought( $t(374)=-2.62, p<0.05$ ), avoidance ( $t (374) = -3.14, p < 0.05$ ) and hyper arousal ( $t (374) = -2.86, p < 0.05$ ). Here, the mean score of intrusive thought (M=13.93, SD=5.20), avoidance (M=18.14, SD=6.67) and hyper arousal (M=13.04, SD=4.02) for female respondents was higher than mean score of intrusive thought (M=12.55, SD=4.96), avoidance (M=16.12, SD=5.79) and hyper arousal (M=11.80, SD=4.24) of male respondents.

### Comparisons of PTSD dimensions among migrant returnees' employment status

As shown in Table 5, the independent t-test result shows that there was statistically significant mean difference between currently employed and currently unemployed respondents in experiencing intrusive thought ( $t(374) = 2.45, p < 0.05$ ), avoidance ( $t(374) = -2.42, p < 0.05$ ) and hyper arousal ( $t(374) = 2.10, p < 0.05$ ). Correspondingly, the mean score of intrusive thought ( $M=13.68, SD=5.20$ ), avoidance ( $M=17.65, SD=6.45$ ) and hyper arousal ( $M=12.72, SD=4.31$ ) for currently unemployed returnees was higher than mean score of intrusive thought ( $M=12.36, SD=4.88$ ), avoidance ( $M=16.05, SD=5.90$ ) and hyper arousal ( $M=11.79, SD=3.91$ ) of currently employed returnees.

### The Effect of migrant returnees' demographic variable on PTSD dimensions

To see whether significant statistical difference exists in PTSD dimensions (intrusive thought, avoidance and hyper arousal) by age,

educational status, average monthly income and types of abuse migrant returnees face, multi variant analysis of variance was computed and was presented.

As can be seen in the Table 6, a multi variant analysis of variance result revealed that there were statistically significant differences between respondents with their respective age ( $F(6,522)=2.230, p<0.05$ ), educational status ( $F(9,665)=3.051, p<0.05$ ), average monthly income ( $F(6, 522)=0.867, p<0.05$ ) and types of abuse ( $F(9,635)= 2.113, p<0.05$ ) on PTSD dimensions (intrusive thought, avoidance and hyper arousal), but with different degrees of effect size.

### Comparisons of PTSD dimensions among returnees' demographic variable

Since a significant multivariate main effect had found for each factor, it is possible to go ahead and do the univariate analysis of variance where we look at each dependent variable in turn to see if the independent variables had a significant impact on them separately. To see the difference, univariate analysis of variance was computed and presented as follows.

**Table 4** Comparisons of PTSD dimensions across respondents' sex

Outcome Variable	Sex		Df	t	Sig.
	Male(n=207)	Female (n=169)			
	Mean (SD)	Mean (SD)			
Intrusive thought	12.55(4.96)	13.93(5.20)	374	-2.62	.009
Avoidance	16.12 (5.79)	18.14 (6.67)	374	-3.14	.002
Hyper arousal	11.80 (4.24)	13.04 (4.02)	374	-2.86	.004

$p<0.05$  (2- tailed) M, mean; SD, standard deviation; df, degree of freedom

**Table 5** Comparisons of PTSD dimensions across returnees' employment status

Outcome variable	Employment Status		Df	t	Sig.
	Currently Unemployed (n=230)	Currently Employed (n=146)			
	Mean (SD)	Mean (SD)			
Intrusive thought	13.68(5.20)	12.36(4.88)	374	2.455	.015
Avoidance	17.65 (6.45)	16.05 (5.90)	374	2.422	.016
Hyper arousal	12.72 (4.31)	11.79 (3.91)	374	2.108	.036

$p<0.05$  (2- tailed) M, mean; SD, standard deviation; df, degree of freedom

**Table 6** MANOVA result for PTSD dimensions across demographic variables of returnees

Independent Variables	Wilks' Lambda Value	F	df	Sig.	Partial Eta Square	Observed Power
Age	0.951	2.230	6,522	0.039	0.025	0.786
Educational Status	0.902	3.051	9,665	0.001	0.034	0.931
Monthly Income	0.867	6.411	6,522	0.000	0.069	0.999
Types of Abuse	0.931	2.113	9,635	0.027	0.024	0.785

Computed using alpha = .05

As can be seen from Table 7, the univariate analysis of variance result showed that returnees' age had significant effect on returnees' intrusive thought ( $F(2,373) = 28.586, p < 0.05$ ), avoidance ( $F(2, 373) = 18.442, p < 0.05$ ) and hyper arousal ( $F(2,373) = 13.778, p < 0.05$ ) symptoms. Furthermore, the Benferroni post hoc multiple comparisons revealed that adolescent (13-20 years old) respondents demonstrated highly significant mean difference on avoidance symptom as compared to early adulthood (21-29 years old) ( $p < 0.05$ )

and middle adulthood and above (30 and above years old) ( $p < 0.05$ ). The mean avoidance score of adolescence respondents ( $M=19.46, SD=6.39$ ) was higher than early adulthood ( $M=16.06, SD=6.14$ ) and middle adulthood and above (30 and above years old) ( $M=15.09, SD=5.26$ ) counter parts. Along with this, adolescence (13-20 years old) respondents demonstrated highly significant mean difference on intrusive thought as compared to early adulthood (21-29 years old) ( $p < 0.05$ ) and middle adulthood (30 and above years) ( $p < 0.05$ ). The

mean intrusive thought score of adolescent respondents (M=15.50, SD=5.20) was higher than early adulthood (M=12.51, SD=4.76) and middle adulthood and above (M=10.98, SD=4.17) counter parts. In addition, adolescence (13-20 years old) respondents demonstrated highly significant mean difference on hyper-arousal symptom as compared to early adulthood (21-29 years old) ( $p < 0.05$ ) and middle adulthood (30 and above years) ( $p < 0.05$ ). The mean hyper-arousal score of adolescent respondents (M=13.74, SD=4.19) was higher than early adulthood (M=11.93, SD=4.05) and middle adulthood and above (M=11.10, SD=3.84) counter parts. However, least significant intrusive thought, avoidance and hyper arousal pair wise mean differences were obtained in early adult hood and middle adulthood and above returnees ( $p > 0.05$ ) as compared to their counterpart adolescences ( $p < 0.05$ ).

As can be seen from Table 8, the univariant analysis of variance result showed that returnees' educational status had significant effect on returnees' intrusive thought ( $F(2, 373)=14.020, p < 0.05$ ), avoidance ( $F(2,373) =20.612, p < 0.05$ ) and hyper arousal ( $F(2,373) =20.172, p < 0.05$ ) symptoms. Furthermore, the Benferroni post hoc multiple comparisons revealed that illiterate respondents demonstrated highly significant mean difference on avoidance symptom as compared to 1-4 graders ( $p < 0.05$ ), 5-8 graders( $p < 0.05$ ) and above 9 graders ( $p < 0.05$ ). The mean avoidance score of illiterate respondents (M=21.08, SD=5.94) was higher than 1-4 graders (M=16.73, SD=5.96), 5-8 graders (M=16.11, SD=5.95) and above 9 graders (M=14.76, SD=5.54) counter parts. Along with this, illiterate respondents demonstrated highly significant mean difference on intrusive thought symptom as compared to 1-4 graders ( $p < 0.05$ ), 5-8 graders ( $p < 0.05$ ) and above 9 graders ( $p < 0.05$ ). The mean intrusive thought score of

illiterate respondents (M=15.88, SD=4.93) was higher than 1-4 graders (M=12.89, SD=4.89), 5-8 graders (M=12.89, SD=4.89) and above 9 graders (M=11.43, SD=4.72). In addition, illiterate respondents demonstrated highly significant mean difference on hyper-arousal symptom as compared to 1-4 graders ( $p < 0.05$ ), 5-8 graders ( $p < 0.05$ ) and above 9 graders ( $p < 0.05$ ). The mean hyper-arousal score of illiterate respondents (M=15.15, SD=3.76) was higher than 1-4 graders (M=11.74, SD=3.91), 5-8 graders (M=11.57, SD=4.04) and above 9 graders (M=11.24, SD=3.85) counter parts.

As it is shown from Table 9, statistical significant mean differences were observed on respondents' monthly income in experiencing intrusive thought ( $F(2,373)=64.736, p < 0.05$ ), avoidance ( $F(2,373)=70.411, p < 0.05$ ) and hyper arousal ( $F(2,373)=57.229, p < 0.05$ ) symptoms. Furthermore, the Benferroni post hoc multiple comparisons revealed that respondents with lower income demonstrated highly significant mean difference on avoidance symptom as compared to respondents with middle income ( $p < 0.05$ ) and respondents with higher income ( $p < 0.05$ ). The mean avoidance score of respondents with lower monthly income (M=21.20, SD=4.73) was higher than respondents with middle income (M=14.90, SD=4.90) and respondents with higher income (M=13.72, SD=5.53). Correspondingly, the Benferroni post hoc multiple comparisons also revealed that respondents with lower income demonstrated highly significant mean difference on intrusive thought and hyper-arousal symptom as compared to respondents with middle income ( $p < 0.05$ ) and respondents with higher income ( $p < 0.05$ ). As Table 7 shown, the mean intrusive thought and hyper arousal score of respondents with lower monthly income was higher than respondents with middle income and respondents with higher income.

**Table 7** ANOVA result for the effect of returnees' Age on PTSD dimensions

Outcome variable	Age of Returnees			F	P-value*
	Adolescences (13-20 years) (n=137)	Early adulthood (21-29 years) (n=134)	Middle Adulthood (≥30 years) (n= 105)		
	Mean (SD)	Mean (SD)	Mean (SD)		
<b>Intrusive thought</b>	15.50 (5.20)	12.51(4.76)	10.98 (4.17)	28.586	.000
<b>Avoidance</b>	19.46 (6.39)	16.06 (6.14)	15.09 (5.26)	18.442	.000
<b>Hyper arousal</b>	13.74 (4.19)	11.93 (4.05)	11.10 (3.84)	13.778	.000

Notes: SD, standard deviation; \*Significant at the 0.05 level

**Table 8** ANOVA result for the effect of returnees' educational Status on PTSD dimensions

Outcome variable	Educational Status of Returnees				F	P- value
	Illiterate (n=89)	Grade 1-4 (n=80)	Grade 5-8 (n=98)	Above Grade 9 (n=109)		
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		
Intrusive thought	15.88 (4.93)	12.89 (4.89)	12.89 (4.89)	11.43 (4.72)	14.020	.000
Avoidance	21.08 (5.94)	16.73 (5.96)	16.11 (5.95)	14.76 (5.54)	20.612	.000
Hyper arousal	15.15 (3.76)	11.74 (3.91)	11.57 (4.04)	11.24 (3.85)	20.172	.000

**Table 9** ANOVA result for the effect of returnees' monthly income on PTSD dimensions

Outcome variable	Monthly Income of Returnees			F	P- value
	Lower (n=142)	Middle (n=153)	Higher (n=81)		
	Mean (SD)	Mean (SD)	Mean (SD)		
Intrusive thought	16.45(4.50)	11.58(4.40)	10.42 (4.28)	64.736	.000
Avoidance	21.20(4.73)	14.90(4.90)	13.72(5.53)	70.411	.000
Hyper arousal	14.84(3.69)	11.30 (3.60)	9.94 (3.74)	57.229	.000

As can be seen from Table 10, the univariate analysis of variance result showed that kinds of abuse returnees face had significant effect on returnees' intrusive thought ( $F(2, 373)=10.409, p < 0.05$ ), avoidance ( $F(2, 373)=6.656, p < 0.05$ ) and hyper arousal ( $F(2, 373)=3.479, p < 0.05$ ) symptoms. Furthermore, the Benferroni post hoc multiple comparisons revealed that respondents with multiple abuse demonstrated highly significant mean difference on avoidance symptom as compared to physically abused respondents ( $p < 0.05$ ), sexually abused respondents ( $p < 0.05$ ) and financially abused respondents ( $p < 0.05$ ). The mean avoidance score of respondents with multiple abuse ( $M=18.47, SD=6.01$ ) was higher than physically abused respondents ( $M=15.94, SD=6.00$ ), sexually abused respondents ( $M=16.63, SD=6.46$ ) and financially abused respondents ( $M=15.08, SD=6.30$ ). Congruently, the post hoc multiple comparisons revealed that respondents with multiple abuse demonstrated highly significant mean difference on intrusive thought as compared to physically abused respondents ( $p < 0.05$ ), sexually abused respondents ( $p < 0.05$ ) and financially abused respondents ( $p < 0.05$ ). The mean intrusive thought score of respondents who were victim of multiple abuse ( $M=14.61, SD=5.03$ ) was higher than physically abused respondents ( $M=12.29, SD=5.14$ ), sexually abused respondents ( $M=12.68, SD=5.15$ ) and financially abused respondents ( $M=11.13, SD=4.33$ ). In addition, respondents who were victim of multiple abuse demonstrated highly

significant mean difference on hyper-arousal symptom as compared to physically abused respondents ( $p < 0.05$ ), sexually abused respondents ( $p < 0.05$ ) and financially abused respondents ( $p < 0.05$ ). The mean hyper-arousal score of respondents with multiple abuse ( $M=13.01, SD=4.16$ ) was higher than physically abused respondents ( $M=12.22, SD=4.16$ ), sexually abused respondents ( $M=12.14, SD=4.40$ ) and financially abused respondents ( $M=11.23, SD=3.89$ ).

### Coping mechanisms used by migrant returnees

In order to measure migrant returnees' coping mechanism, Coping Strategies Indicator was used. The mean score and one sample dependent t-test result were computed to identify the most frequently used coping mechanisms and the general nature of problem solving, seeking social support and avoidance coping mechanisms used by respondents were examined.

As can be seen in Table 11, the most frequently used coping mechanism by migrant returnees were problem-solving ( $M=25.57, SD=3.61$ ), followed by seeking social support ( $M=23.44, SD=3.08$ ). But avoidance ( $M=20.21, SD=3.37$ ) was least used coping mechanism. In addition, the result designates that the average values of problem solving ( $t(376)=13.824, p < 0.05$ ), seeking social support ( $t(376)=2.789, p < 0.05$ ) and avoidance ( $t(376)=-15.996, p < 0.05$ ) were found to be statistically significant.

**Table 10** ANOVA result for the effect of kinds of abuse returnees' face on PTSD dimensions

Outcome variable	Kinds of Abuse Returnees' Face				F	Sig.
	Physical abuse (n=66)	Sexual Abuse (n=57)	Financial Abuse (n=80)	Multiple abuse (n=173)		
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		
Intrusive thought	12.29 (5.14)	12.68 (5.15)	11.13 (4.33)	14.61(5.03)	10.409	.000
Avoidance	15.94 (6.00)	16.63 (6.46)	15.08 (6.30)	18.47 (6.01)	6.656	.000
Hyper arousal	12.21 (4.16)	12.14 (4.40)	11.23 (3.89)	13.01 (4.16)	3.479	.016

**Table 11** Dependent t-test result for coping mechanisms used by migrant returnees

Variables	N	Max	Min	Mean	SD	df	t- test Value	t	sig
Problem Solving	376	33	14	25.57	3.611	375	23.5	13.824	.000
Seeking Social Support	376	33	15	23.44	3.088	375	24	2.789	.006
Avoidance	376	29	12	20.21	3.379	375	20.5	-15.996	.000

## Discussion

The purpose of this study was to assess the determinant factors and the prevalence rate of post-traumatic stress disorder (PTSD) and coping mechanisms among migrant returnees in Amhara region, Ethiopia. In the present study, the general lifetime prevalence rate of post-traumatic stress disorder among migrant returnees were 26.2%. This result was supported with that of Lurie (2006) who found that the prevalence of PTSD on Ethiopian migrants in Israel was 23%. Along with this, the present finding was in accordance with Galea, Rockers, Saydee, Macauley, Varpilah & Kruk<sup>27</sup> who found that the prevalence of PTSD in Nimba, Liberia, was high at 48.3% (n=664). Hence, this result yield consistent with previous research finding conducted by Ostrovski et al.<sup>28</sup> who found that PTSD was diagnosed among 35.8% of illegal migrant women in Moldova, Eastern Europe who had returned to their country of origin. However, contrary to the

present study, least (5%) prevalence of post-traumatic stress disorder was found among resettled Sudanese Refugees. This suggests that migrant returnees are more likely to have symptoms related to PTSD than the general population. Previous qualitative studies carried out in this population found that many Ethiopian migrant returnees from different Middle Eastern countries experience sexual, physical and emotional abuse, starvation, imprisonment, and difficulty adapting to a different culture.<sup>35</sup> Following these experiences, migrants reported such symptoms as headache, stomachache, irritability, suicidal thoughts, pessimism and sadness.<sup>36</sup> The present study found that the overall context of poverty was the most important reason for migration. To improve personal and family life situation/living standard, search for better life and better paying job, failure to succeed in educational endeavors, poverty of family and poor life situation, unemployment, failure to succeed in educational endeavors were additional factors. The present study finding was consistently pertinent with many



previous research findings in Ethiopia such as Emebet,<sup>8</sup> Asefach,<sup>13</sup> Agrinet,<sup>37</sup> ILO,<sup>20</sup> IOM<sup>19</sup> and Bezabih.<sup>38</sup> In this study, migrant returnees reported various traumatic events that can be the cause for PTSD. With this regard, confiscation of documents, limitations on freedom of movement, verbal abuse, threaten to impose even worse working condition, excessive working hours (>8) were highly reported problem. In addition, imprisonment, withholding of wage and life threatening trial were also common problems highly reported by domestic migrants. Hence, sexual harassment by employers, robbery, bribe, denial of access to food, enforced cultural isolation and enforcement to engage in commercial sex, drug and alcohol trafficking were reported by some migrant returnees. The result of this study was supported by various similar previous researches<sup>8-52</sup> who found that physical and sexual assault, labor exploitation, withholding and/or denial of salary, sleep deprivation, confinement, insult and belittlement were the most prevalent form of abuse and exploitation faced by Ethiopians victims of human trafficking in the gulf region. In this study, the mean score of PTSD for female respondents were higher than male respondent. This study yields a consistent result with previous research findings including Anbesse B et al.<sup>22</sup>, Emebet K,<sup>8</sup> Alem A et al.;<sup>39</sup> Amare D<sup>40</sup> and Kebede D et al.<sup>41</sup> This is because of different social, cultural, religious and economic conditions that are directly related to gender issues. Moreover, PTSD is highly observed among females than males in Middle East this is because female migrant workers are at a high risk of physical, sexual and verbal abuse.<sup>35,36</sup> Furthermore, Tsutsumi, et al.<sup>42</sup> in Nipal reported a higher prevalence of PTSD (45%) among trafficked female migrants for labor exploitation than males. The study also suggested significantly increased risk of PTSD among women who had been trafficked for sexual exploitation compared with women who had been trafficked for labor exploitation. Moreover, the present study finding was also pertinent with Rasmussen, Rosenfeld, Reeves & Keller.<sup>43</sup> It indicated that gender was significantly associated with PTSD and PTSD was 2.5 times greater for women than men. In addition to this, Ostrovski et al.<sup>28</sup> indicated that at an average of 6 months post-return in Moldova, over half (54.2%) of the women survivors of migrants in the study met DSM-IV criteria for mental disorder. 38% of women had PTSD than men. Moreover, an earlier study conducted by Zimmerman et al.<sup>44</sup> that explored the mental health of migrant sex workers awaiting deportation in Israel reported that 17% had symptoms of PTSD. A study done by Derogatis & Savitz<sup>45</sup> in Greece found that women who were victims of trafficking had a higher risk of developing PTSD than did other abused women.

In this study, a multi variant analysis of variance result showed that age of the respondents had found higher significant effect on the PTSD dimensions which supports findings from previous studies.<sup>26-47</sup> However, the present study finding was contradicted with the findings of previous studies, Ostrovski et al.<sup>28</sup> and Rasmussen et al.<sup>43</sup> who found that the age of migrant returnees is negatively associated with PTSD. In the present study, significant multivariate main effects for educational level of the respondents on PTSD dimensions were found. This result yields consistence with Aragona et al.<sup>23</sup> However, this study finding was inconsistent with study finding of Rasmussen et al.<sup>48</sup> The combination of low education and gender inequality has been exposed many migrant returnees to poor mental health status. Even though migration as domestic worker to the Middle East adversely impacts the mental health status of both men and women, it seems that traditional gender values still play an important role in everyday life of women and that the overload of responsibilities and expectations

on them has a directly devastating impact on their mental health, especially if they do not have strong social support during their stay in the destination country and after they return. Previous research documented that multiple complications like physical, sexual and emotional abuse, salary denial, and violation of expectations each contribute to the decline in mental health of domestic work migrant returnees.<sup>22-50</sup> In this study, income of migrant returnees in Middle East countries had significant effect on PTSD dimensions. This result was consistent with the finding of Lindert et al.<sup>51</sup> who found that lower socioeconomic status of immigrants were associated with higher mental illness particularly PTSD. However, the present study result yields inconsistency with previous research findings of Massimiliano et al.<sup>52</sup> and Abas et al.<sup>53</sup>

MANOVA result of this study illustrated that types of abuse returnees' face had significant multivariate main effect on PTSD dimensions. Respondents who were victims of multiple abuse had demonstrated highly significant mean differences on PTSD score as compared to their counterpart who were victims of physical ( $p < 0.05$ ), sexual ( $p < 0.05$ ) and financial abused respondents ( $p < 0.05$ ). The finding of the present study yields pertinent with the previous study conducted by Eisenman, et al.<sup>54</sup> and Silove et al.<sup>55</sup> Ethiopian men and women trafficked to the Middle East countries suffer from recurrent physical and emotional abuse by employers.<sup>8-14</sup> The most common forms of physical abuse were beating and corporal punishment inflicted by the female and male employers, although abuse by agents and the police had also been reported.<sup>52</sup> Emotional abuse is the most common and humiliating type of the abuse for women domestic workers.<sup>52</sup> The types of traumatic event determine the degree of returnees' trauma. Higher prevalence rate of PTSD were found among currently unemployed respondents than currently employed respondents. The difference was statistically significant. Previous research results were in line with the present research findings.<sup>28,47,57</sup>

In present study, the most frequently used coping mechanism by respondents was problem-solving, seeking social support and avoidance coping mechanism respectively. This result was in line with Araya et al.<sup>58</sup> and Emmelkamp,<sup>32</sup> who found higher levels of endorsement of problem solving coping mechanisms to deal PTSD in migrants from culturally traditional countries. Congruently, Selvira D<sup>59</sup> also found pertinent finding with the present study which demonstrated that social support as one of coping strategies most often used by Bosnian immigrants in Switzerland. Spiritual sources of coping were found to be an important coping mechanism among East African migrants in Australia.<sup>29,60</sup>

## Conclusion

In this study, the majority of respondents believe that the overall context of poverty was the foremost factor for migrating to the Middle East for there is little chance for a better life in Ethiopia. Cognizant of that, to improve personal and family life situation/living standard, to search for better life and better paying job, to failure to succeed in educational endeavors, poverty of family and poor life situation and unemployment were the most frequently reported factors that enforce migrants to migrate in Middle East countries. In the process of pre, during and post migration, migrant returnees were highly exposed for inhuman exploitation and coercion in the Middle East that could be the cause for developing severe post-traumatic stress disorder. Besides, returnees were deported after experiencing various traumatic events. In this study, hazardous working and living conditions,

constant control of movement, unbearable workload, imprisonment, confiscation of documents, denial of wages, life threatening trial, sexual abuse, financial abuse, physical abuse were highly reported factors for experiencing PTSD of migrant returnees. Due to this, the life time prevalence rate of PTSD were very high. Even higher prevalence rate of PTSD were found among single, illiterate, returnees with lower income, currently unemployed, a victim of multiple abuse and female adolescence migrant returnees. On top of that, statistical significant differences were found in experiencing PTSD full scale and PTSD dimensions across migrant returnees' sex, age, educational status, average monthly income, types of abuse they face and current employment status after deportation. Regarding to coping mechanisms, problem solving, seeking social support and avoidance were highly used respectively to deal with the traumatic events.

## Recommendation

Based on the result of the study, the following recommendations shall be implemented by responsible stakeholders of the region as well as the federal government of Ethiopia. Mental health service providers shall consider in diagnosing and treating Post-traumatic stress disorder among migrant returnees. The psychosocial service shall be taken place in all Zones and Woredas in Amhara region where migrant returnees have been leading their life. All concerned governmental, non-governmental and civil society stakeholders shall work hand in hand to improve the migrant returnees' mental health problem. Congruently, both governmental and non-governmental organizations (including migrant returnees) of Amhara region shall raise awareness among the potential victims on the possibilities to work in their own country and about all the range of dangers to the destination countries. Furthermore, using all available means and media outlets, the governmental and non-governmental organizations shall show the available domestic work opportunities and possibilities of changing one's own life in the country for the young generations. In this regard, the private and public press shall also work in partnership with the government in advertising the available and potential domestic job opportunities and encourage the young generation to improve their work habits and entrepreneurship skills. In line with this, governmental and nongovernmental organizations that are currently working on job-creation for migrant returnees within the country need to extend their vision to include returnees in their income generating projects. Lack of assistance turns yesterday's returnees into today's victims of trafficking. In addition, the regional government has to strengthen the existing piece of movement in all Zones and Woredas to reintegrate migrant returnees with the society. Additionally, regional government in collaboration with researchers, policy makers and entrepreneurs shall develop the structured system that enable them sustainably carry out very important goals relation to migrants. Most importantly, local and international smugglers and traffickers shall be brought to the law and severely punished for their acts to discourage others from engaging in the same illegal activity. Society at large should cooperate with law executive bodies to identify traffickers and bring them to justice. Stricter laws and policies should be put in place and the public made aware of the existence of such laws.

## Limitation and future implication

In conducting this study, the usage of a structured instrument, trained data collectors and supervised field workers to collect data from randomly selected migrant returnees decreases the likelihood of the occurrence of bias in the study. However, there were two

limitations. First, although the Amharic version of the instrument had revealed good reliability and feasibility, it was too hard to be quite sure that the translated tool had been retained their original psychometric properties in different cultural backgrounds of the study sites. Second, the finding was not supported by similar locally available researches on migrant returnees' PTSD. Due to this, it is difficult to generalize for other contexts. Along with this, the finding of this research implied as further research shall be conducted on the following four areas; first, Post-traumatic stress disorder often coexists with other psychological disorders such as depression disorder, anxiety disorders, somatization and substance abuse. Second, still the qualitative study has to be conducted about the experience of victims in the destination countries, way of trafficking, the problem they face particularly illegal migrants at the boarder of Yemen. Third, replication of this study with a larger and representative sample size would be beneficial to see if similar results are found. The larger the sample size, the greater the credibility and generalizability to the target population. Finally, studies on psychosocial issues of families left behind and migrant's resilience power shall be surveyed.

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## Conflicts of interest

The authors declared no conflict of interest.

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