



REVIEW ARTICLE

# Prevalence of complex post-traumatic stress disorder in survivors of human trafficking and modern slavery: a systematic review

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## KEYWORDS

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## Abstract

**Background and objectives:** The human rights violation of human trafficking and modern slavery could be described as multiple and prolonged traumatisation. This corresponds to the type of trauma identified as most likely to be associated with ‘complex post-traumatic stress disorder’ (CPTSD) as identified in the new 11<sup>th</sup> edition of the International Classification of Diseases (ICD-11). This review aims to collate the evidence of complex post-traumatic stress disorder in populations that have been trafficked, with the intention to highlight important considerations to be made in terms of managing survivor’s health care needs and minimising further traumatisation.

**Methods:** Five databases were searched using key terms related to human trafficking, modern slavery, and complex post-traumatic stress disorder.

**Results:** Five studies reporting on a total of 342 participants were included in the review. These studies indicated that an average of 41% of survivors of modern slavery and human trafficking had CPTSD. This was higher than the 14% diagnosed with PTSD. Post-trafficking stress, endured whilst living in refugee camps, was higher in individuals with CPTSD than in those living with PTSD. Healthcare was more difficult to access by populations with PTSD and CPTSD compared to those with no diagnosis.

**Conclusion:** There is a high prevalence of CPTSD in modern slavery and trafficking survivors therefore a need for identification and specialised treatment. Consideration should be given to consequent biopsychosocial needs, particularly access to healthcare and minimisation of post-trafficking stress.

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## Introduction

Estimates of the prevalence of modern slavery and human trafficking (MSHT) are alarming, with the most recent put at 40.3 million.<sup>1</sup> The incidence is expected to increase due to financial vulnerability caused by economic recession as a result of the COVID-19 pandemic.<sup>2</sup> Even this high figure is likely to be an underestimate, due to the nature of MSHT, in its criminality and secrecy, reporting is variable and notably there is a lack of data availability in the Arab states and the Americas.<sup>1</sup>

Human trafficking is defined by the United Nations protocol as the forcible recruitment or movement of people using threat or other forms of coercion and abduction, abuse of power or the vulnerability of victims or giving and/or receiving payments or benefits to achieve control over another person for the purpose of exploitation.<sup>3</sup> It includes: the exploitation of prostitution of others, or other forms of sexual exploitation; forced labour or services; slavery, or practices like slavery, servitude; and removal of organs.<sup>3</sup> In the United Kingdom, the Modern Slavery Act 2015 introduced two separate categories, with modern slavery being defined as slavery, servitude and forced or compulsory labour, and human trafficking as the recruitment, transportation or transferring, harbouring, or receiving or transferring control over an individual. Although modern slavery is often used as an umbrella term for human trafficking, this categorisation has been rejected by The Survivors Network<sup>4</sup> who prefer human trafficking to be distinguished from modern slavery, the term ‘modern slavery and human trafficking’ has been used in this review to acknowledge this separation and to examine the traumatic experiences and psychological outcomes of both. Women and girls are disproportionately affected by MSHT and account for 71% of the total, with one in four victims being children.<sup>1</sup>

The violence and abuse experienced by individuals subjected to MSHT threatens their physical and mental health both during and after the experience. Previous reviews have examined the physical and mental health outcomes of survivors of trafficking and noted a high prevalence of post-traumatic stress disorder (PTSD),<sup>5</sup> but have not clearly identified survivors who may be living with complex post-traumatic stress disorder (CPTSD).

The concept of complex PTSD was first proposed by Herman<sup>6</sup> and van der Kolk<sup>7</sup> in the early 1990’s. They evidenced through their clinical work that repeated serious traumatisation could correspond to what they described as CPTSD. Herman suggested symptom clusters, in addition to the PTSD symptoms, including somatisation, dissociation, affective changes, pathological changes in relationship and pathological changes in identity.<sup>6</sup> These symptoms are often collectively referred to as ‘disorders of self-organisation’ (DSO).

The definition of CPTSD as a distinct stress related disorder, as proposed earlier by Herman, resulted in modification of the 10th edition of International Classification of Diseases (ICD-10) in 2018. It was then termed “enduring personality changes after catastrophic events” (EPCACE), originally categorised as a personality disorder but in 2012 placed under the ‘stress and traumatic disorder’ category by ICD leadership.<sup>8</sup> The benefit of this definitional change was that the disorder is no longer viewed as ‘enduring’ as suggested by the categorisation of personality disorder, but as a set of symptoms more amenable to change.<sup>8</sup>

A parallel concept to CPTSD named ‘Disorders of Extreme Stress-Not Otherwise specified’ (DESNOS) was developed for

the appendix of the 4<sup>th</sup> edition of the Diagnostic and Statistical Manual DSM-IV (2003) but this was not included in the DSM-V in 2013.<sup>9</sup> DSM-V does not have separate diagnosis for CPTSD and has instead expanded the criteria for PTSD to include some of the additional symptoms outlined in ICD-11.<sup>10</sup> This exclusion of a separate diagnosis was due to lack of empirical field studies to validate the concept.<sup>11</sup>

The recently revised International Classification of Diseases 11 (ICD-11) identifies CPTSD as a diagnostic category separate from PTSD and outlines a set of criteria for it, specifically noting that ‘an event or series of events...commonly prolonged or repetitive...from which escape is difficult or impossible’ may lead to its development.<sup>12</sup> To fulfil ICD-11 criteria for CPTSD, all requirements for PTSD must be met in addition to which three DSO symptom clusters must also be present: problems with affect regulation; diminished self-belief accompanied by shame, guilt or failure; and difficulty sustaining relationships and feeling close to others.<sup>12</sup>

It could be hypothesised that, because many survivors of MSHT have experienced prolonged and possibly multiple traumas, in a situation to which ‘escape is difficult or impossible’, there is a greater risk that they will develop CPTSD rather than PTSD.<sup>12</sup>

Recognising CPTSD in MSHT survivors is important because patients may be unresponsive to standard (trauma-focused) treatments for PTSD. It has been suggested that there should be a period of stabilisation and relationship building with the therapist prior to commencing treatment.<sup>13</sup> This is particularly pertinent due to the additional CPTSD DSO symptoms of relationship difficulties because rehabilitation depends on the ability to build and maintain trusting relationships.<sup>14</sup> The period of stabilisation is also crucial, ensuring the patients are safe and free from traffickers and integrated into the community with adequate social support.<sup>13,14</sup>

## Aims

This systematic review aims to establish the prevalence of CPTSD amongst survivors of human trafficking and to review the quality of the available research, with the purpose of highlighting key considerations when working with MSHT survivors and conducting research. These considerations include identification of exposure, recognising aggravating factors, and use of validated diagnostic tools. The review also considers this in the wider context of the UK legal system of identification and management of MSHT survivors.

## Methods

A systematic review following the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA)<sup>15</sup> guidelines and Synthesis Without Meta-analysis (SWiM)<sup>16</sup> guidelines was conducted 21<sup>st</sup> January 2021. The study was preregistered on the international prospective register of systematic reviews (PROSPERO) Registration number: CRD42021228286.

## Search strategy and selection criteria

A systematic search was conducted for studies that recorded the prevalence of CPTSD in child and adult survivors human

trafficking. Five databases were searched: EMBASE, PsycINFO, PTSDpubs, Medline, and Web of Science. All search terms were related to human trafficking and CPTSD (see additional file 1 for the full electronic search strategy). Experts working in the field were contacted to contribute, resulting in the inclusion of one unpublished paper that is currently undergoing peer review. For two papers that lacked the specific data for the trafficking exposure population,<sup>17,18</sup> authors were contacted and necessary data was obtained for one study.<sup>17</sup> Citation searches were also conducted.

## Eligibility

The criteria for inclusion were sample populations that included adults or children of any gender who had experienced MSHT as defined in the UN protocol and/or the Modern Slavery Act.<sup>3</sup> The studies were required to assess CPTSD/EPCACE/ DESNOS with respect to the DSM4/5, ICD 10/11 using, or referencing, the structured interview for disorders of extreme stress (SIDES),<sup>19</sup> the International Trauma Questionnaire (ITQ)<sup>20</sup> or another recognised assessment tool. Study design required for the synthesis included: cross-sectional survey, case-controlled study, cohort study, case-series analysis, secondary analysis of organisational records. Studies were excluded if the sample group was mixed with only a proportion experiencing MSHT and if the results did not report on the MSHT group separately and/or if they did not assess for CPTSD/EPCACE/DESNOS or did not differentiate between CPTSD/PTSD in results. Studies were also excluded if they presented no quantitative empirical evidence, were opinion pieces, single case studies, reviews, books, or if their content was not available in English.

## Data extraction

One reviewer (HE) screened titles and abstracts after the preliminary search. If it was unclear whether a text was relevant to the review, the full text was retrieved and reviewed. The full text was then assessed with reference to the inclusion/exclusion criteria. One reviewer (HE) extracted data and input into the data extraction table. Disagreements were resolved via discussion with the research team. The following information was extracted for each study: the author and year of publication, geographic location of the study, the country of origin of the participants, the types of trafficking, the gender/race/ethnicity and age of the population, the study design, the data collection tools used, the sample size and the prevalence of CPTSD.

## Quality assessment: risk of bias

The Critical Appraisal Skills Program (CASP)<sup>21</sup> for cohort studies was used to assess the quality of the studies. The validity of the studies was reviewed to ensure the studies were clearly focused on MSHT with the outcomes including a prevalence rate for CPTSD. The recruitment of participants was examined to ensure that it was a reasonable and acceptable process that included all relevant participants. The methods used to establish the exposure (MSHT) in each study was reviewed to ensure that the methods were objective and that the same measures are used for all participants.

The measurements of CPTSD were reviewed to assess the reliability of the tools, examining whether they were validated or based on recognised criteria. The studies were examined to confirm that confounding variables were reported and, where appropriate, included in analysis of results. One reviewer (HE) conducted the quality assessments.

## Analysis

As the results were of limited number and heterogenous, a meta-analysis was not appropriate. A narrative synthesis of the findings was therefore performed. This was structured using the SWiM<sup>16</sup> reporting items checklist. The desired primary outcome variable was the prevalence of CPTSD within the studied population. Studies were grouped and compared in terms of tools used to measure outcomes, such as the international trauma questionnaire (ITQ), CPTSD symptom clusters, measurement of post-trafficking stress, type of trauma exposure, age and gender and comparison studies. The use of different diagnostic criteria was compared because working with varied criteria and diagnostic tools may have resulted in different prevalence estimations. Post-trafficking stress was a suggested confounding variable and could have implications for treatment outcomes and considerations made in accommodation of trafficked people.

Four studies expressed their findings dichotomously in terms of participants fulfilling/not fulfilling CPTSD criteria. This was converted to a percentage to allow comparison between studies. One study did not present a CPTSD prevalence but instead presented the prevalence of CPTSD symptom clusters. This study was therefore presented separately, see Table 4. Formal assessment of heterogeneity was not suitable due to the limited number of studies. The heterogeneity of the studies in terms of population, geographical location, sampling method and diagnostic tools was however reviewed and discussed. To evaluate the certainty of the evidence, the quality of the studies and consistency of results across the studies were reviewed, see Table 2. Tables were also used to present the prevalence as a proportion and a percentage, see Table 3.

## Results

The study selection process is outlined in the PRISMA flow diagram (Fig. 1). Five studies reporting on a total of 342 participants were included in the review. Of these, one study reported on children, one on an adult female-only population, two on an adult female and male population, and one a mixed adult and child, male and female population. Three of the studies were conducted in England, one in the US and one in Iraq. Not all countries of origin were listed; one study was conducted in the nation of origin and the other two had participants from 37 and 21 nations respectively. Key characteristics of all studies can be found in Table 1.

## Use of diagnostic tools

Hoffman et al<sup>22</sup> and Jowett et al<sup>23</sup> used the ITQ, or a preliminary version of it, to assess the presence of CPTSD. Hoffman et al<sup>22</sup> using a preliminary version of the ITQ,<sup>24</sup> found a

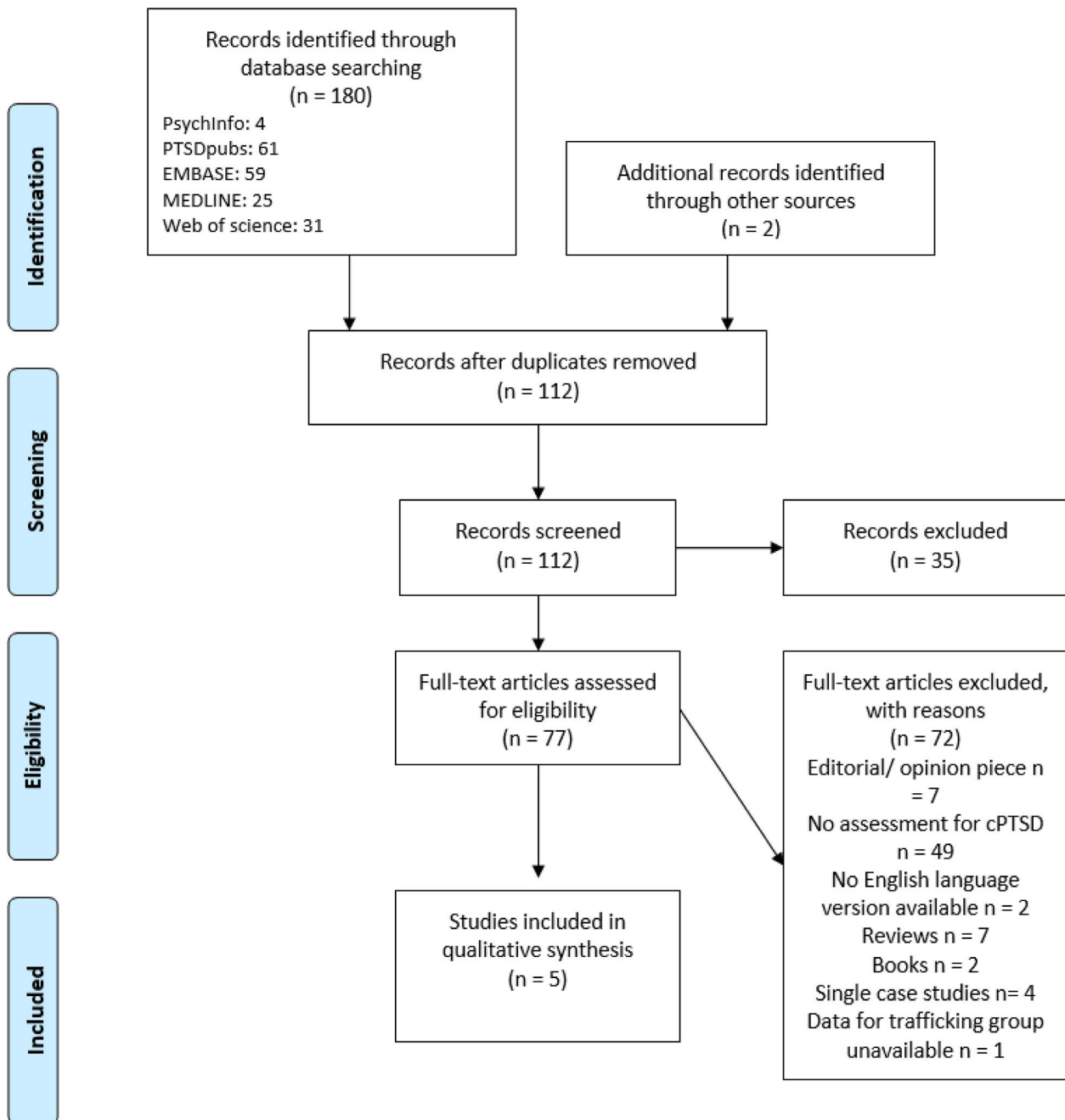


Fig. 1 Study selection PRISMA flow diagram.<sup>15</sup>

CPTSD point prevalence of 51%. Jowett et al,<sup>23</sup> used data from self-reported ITQ and reported a CPTSD point prevalence of 64.86%. Ottisova et al<sup>25</sup> did not use the ITQ, but created a coding system based on the original six symptom clusters proposed by Herman and on the SIDES, with a secondary analysis based on the 3 additional symptom clusters in the ICD-11 criteria. This framework was applied to historic records, reporting a CPTSD point prevalence of 44% when using the ITQ; 9.09% met all 6 symptom clusters as per SIDES. Kissane<sup>17</sup> et al used also used the SIDES, which was the only validated measure at the time of study in 2014. This study classified a diagnosis of CPTSD as having symptoms in all 6 symptom clusters. The prevalence in the Kissane et al study was 20%; this was lower than that found in the three studies

based on the ITQ. Hopper and Gonzalez<sup>26</sup> used DSM-IV-R criteria and prompts related to CPTSD; they did not report a prevalence of CPTSD diagnosis but instead presented the prevalence of specific symptom clusters.

### Symptom clusters

Hopper and Gonzalez<sup>26</sup> and Ottisova et al<sup>25</sup> presented data showing the prevalence of each symptom cluster of CPTSD as defined by Herman,<sup>6</sup> see Table 5. Hopper and Gonzalez<sup>26</sup> found that 86% of the trafficking survivors exhibited symptoms in at least one symptom cluster, with 66% of participants meeting criteria for multiple symptom clusters, the

**Table 1** Study characteristics.

Author and year	Study design	Geographic location of study	Country of origin of participants	Recruitment method	Sample	Types of MSHT	Outcomes of interest	Data collection tools
Hoffman et al (2018) Grossman et al (2019)	Cross-sectional survey	Northern Iraq / Kurdistan	Northern Iraq/ Kurdistan	Survey conducted in post ISIS camps Yazidis (Kurdish religious minority)	N = 108 female, mean age 24.46 (SD= 5.7)	Sexual slavery	PTSD and CPTSD Grossman et al used the same sample to look at relationship of CPTSD and insomnia	ICD-11 PTSD questionnaire: 6 items addressing 3 proposed ICD-11 criteria ICD-11 CPTSD questionnaire (preliminary version of ITQ): 6 additional items
Ottisova et al (2018)	Historical cohort study	England	21 countries Most common: Nigeria n = 13, 25% Albania n = 4, 8% Democratic Republic of Congo n = 4, 8%	Clinical records from secondary mental health services in London	N = 51 Male n = 11 and female n = 40 mean age 14.0 $\pm$ 3.1 years, range 5-17. Assessed for CPTSD n = 11.	Sexual exploitation n = 21, 41% Domestic servitude (n = 13, 25%) Labour including restaurant and laundry work (n = 4, 8%) missing data (n = 13, 25%)	PTSD and CPTSD	Data obtained from clinical record system, ICD-10 multi-axial classification system. Coding framework based on SIDES. Further analysis was based on 3 additional criteria proposed in ICD-11 ITQ, as per ICD-11
Jowett et al (2021)	Historical cohort study	England	37 nations, not otherwise specified	Clinical records from specialist trauma service	N = 51 Assessed for CPTSD n = 37.	Not specified	PTSD and CPTSD	
Hopper and Gonzalez (2018)	Historical cohort study	US	Latin America and Caribbean 60%, Asia 17%, Africa 11%, North America 7%, Europe 5%	Community sample (not a clinical treatment-seeking sample)	N = 131 Female 72%, Male 18%, transgender 10% Age 10 – 61 years. Average age 31 (SD = 11)	Sex trafficking (n = 66) Labour trafficking (n = 65)	PTSD, CPTSD and depression	Clinician administered structured interviews, based on DSM-IV-R criteria for PTSD and prompts related to CPTSD categories
Kissane et al (2014)	Cross-sectional survey	England	18 Countries, Africa n = 20, 69%, Asia n = 7, Albania n = 1 3.4%, Trinidad and Tobago n = 1 3.4%	Clinical sample recruited from specialist trauma service	N = 29 N = 15 who experienced human trafficking	Human trafficking not otherwise specified	CPTSD	SIDES, based on DSM-IV criteria for DESNOS.

*ISIS* – Islamic state of Iraq and Syria, *US* – United States of America, *PTSD* – post-traumatic stress disorder, *CPTSD* – complex post-traumatic stress disorder, *MSHT* – Modern Slavery and Human Trafficking, *ICD-11* – international classification of diseases 11, *ITQ* – International trauma questionnaire, *SIDES* – Structured interview for disorders of extreme stress, *DSM-IV* – 4<sup>th</sup> edition of Diagnostic and Statistical Manual of Mental Disorders

**Table 2** Critical appraisal.

	Hoffman et al	Ottisova et al	Jowett et al	Hopper and Gonzalez	Kissane et al
Question					
Clearly focused issue?	Yes	Yes	Yes	Yes	Yes
Cohort recruited in an acceptable way?	Unclear	Unclear	Yes	Yes	Yes
Exposure accurately measured to minimise bias?	Unclear	Yes	Unclear	Yes	Yes
Outcome accurately measured to minimise bias?	Yes	Yes	Yes	Yes	Yes
Identification of all important confounding factors?	Yes	Yes	Yes	Yes	Yes
Are confounding factors considered in the design and/or analysis	Yes	Yes	Yes	Yes	Yes
Follow up complete and long enough?	Unclear	Unclear	Unclear	Unclear	Unclear
Can the results be applied to the local population?	Unclear	Yes	Yes	Yes	Yes
Are the results believable?	Yes	Yes	Yes	Yes	Yes
Do the results fit with other available evidence?	Yes	Yes	Yes	Unclear	Unclear

**Table 3** Prevalence scores for PTSD and CPTSD based on ICD-11 criteria.

Study	Number of participants (MSHT exposure)	Number of participants with CPTSD	CPTSD prevalence	Number of participants with PTSD	PTSD prevalence
Hoffman et al	108	55	51%	23	21%
Ottisova et al	51	4	8%	6	13%
Jowett et al	51 (37 completed ITQ)	24	65%	5	14%
Mean			41%		16%

**Table 4** Prevalence scores defined as fulfilling all 6 disorders of self-organisation symptom clusters.

	Number of participants (MSHT exposure)	Participants with all 6 symptom clusters	Prevalence
Kissane et al	15	3	20%
Ottisova et al	11	1	9.09%

**Table 5** Prevalence of symptom clusters of CPTSD.

	Ottisova et al	Hopper and Gonzalez
Alterations in self-perception	7 (64%)	68 (52%)
Changes in interpersonal relationships	6 (55%)	57 (44%)
Somatic dysregulation	7 (64%)	54 (41%)
Alterations in attention and consciousness	5 (45%)	53 (40%)
Affect dysregulation and impulsivity	9 (82%)	40 (31%)
Alterations in meaning	4 (36%)	
Unsafe relationships/revictimization		24 (18%)
Total number of CPTSD symptoms	3.50 (SD = 1.60)	2.60 (SD = 1.41)



study reports that ‘one third to one half of survivors met criteria for each category of C-PTSD’, and alterations in self-perception was the most commonly reported cluster (52%). Similarly, Ottisova et al<sup>25</sup> found 64% prevalence of alterations in self-perception, but a higher percentage of affect dysregulation and impulsivity (82%) compared with 31% found in the Hopper and Gonzalez study.<sup>26</sup>

### Comparison studies

Two studies used additional groups to compare trafficking survivors to non-trafficked samples exposed to trauma. Ottisova et al<sup>25</sup> used a control group of matched children exposed to single or multiple traumas. They found significantly more CPTSD symptom domains present in the trafficked children than the single trauma group ( $p = 0.02$ ) and the multiple trauma and single trauma group ( $p = 0.05$ ) but found no significant difference between the trafficked children and those exposed to multiple trauma ( $p = 0.11$ ). Ottisova et al<sup>25</sup> found higher prevalence of dissociation, alterations in relations and alterations in meaning in trafficked children when compared with those who had suffered a single trauma. Jowett et al<sup>23</sup> compared survivors of trafficking and an unmatched comparison group of asylum seekers who had also experienced multiple traumas. The study found a 71% point prevalence of CPTSD in asylum seekers and 65% prevalence in trafficking survivors, with no significant difference between the groups ( $p = 0.9$ ,  $F = 0.22$ ).

### Age and gender

Most of the people across all studies were adult females, see Table 1. Hoffman et al<sup>22</sup> and Jowett et al<sup>23</sup> looked at the relationship between age and CPTSD and found no significant correlation, the sample populations were however all adults and the effect size of the Jowett et al study was low (Cramer's  $V = 0.44$ ).

Ottisova et al<sup>25</sup> found a lower prevalence of CPTSD (8%) in a sample of children when compared to Hoffman et al<sup>22</sup> and Jowett et al<sup>23</sup> who were also recording CPTSD according to the ICD-11. The percentage of children with CPTSD (8%) was also lower than that with PTSD (13%), this finding was not reflected in the adult MSHT samples where CPTSD was the more frequent finding.<sup>22,23</sup>

Jowett et al<sup>23</sup> looked at gender in relation to CPTSD, PTSD or no PTSD/CPTSD diagnosis and found there to be no significant correlation. Hopper and Gonzalez<sup>26</sup> found significant differences in CPTSD symptoms based on gender. Specifically, transgender survivors endorsed more CPTSD symptoms (3.77,  $SD = 1.4$ ) when compared with female (2.53,  $SD = 1.4$ ,  $p = 0.007$ ) and with male (2.11,  $SD = 1.1$ ,  $p = 0.002$ ) survivors.<sup>26</sup>

### Trafficking definition and identification

The studies identified did not all provide data on the type (s) of MSHT experienced by participants. However, in the data that is presented, the prevailing type of trafficking experienced was sexual exploitation and/or slavery.<sup>22,25,26</sup> Only Hopper and Gonzalez<sup>26</sup> specifically compared types of trafficking. They found a significant difference in the number of CPTSD symptoms reported by sex trafficking survivors (3.17,

$SD = 1.4$ ) and labour trafficking survivors (1.95,  $SD = 1.1$ ),  $t(108) = 5.1$ ,  $p < 0.001$ .

Ottisova et al<sup>25</sup> ascertained trafficking status from mental health records, using the UN protocol as the basis for identification. Clinical records were searched using trafficking terms such as ‘trafficked’, ‘domestic servitude’ and ‘sexual exploitation’. Records that contained one or more trafficking term were then screened for eligibility. Suspected but not confirmed cases of trafficking by staff during the contact time with the patient were also included. A further breakdown of the specific type of trafficking was given: sexual exploitation ( $n = 21$ , 41%); domestic servitude ( $n = 13$ , 25%); labour including restaurant and laundry work ( $n = 4$ , 8%); missing data ( $n = 13$ , 25%). Only 11 of this samples clinical records were further assessed for CPTSD and no comparison or analysis was made regarding trafficking types.

Hoffman et al<sup>22</sup> defined the group as ‘captives’ who had experienced sexual slavery, and although they conducted a trauma exposure score, no further reference was made to the definition of sexual slavery. Jowett et al<sup>23</sup> and Kissane et al<sup>17</sup> did not describe how participants were identified as having MSHT survivors or the type of MSHT experienced. These studies were however conducted at a specialist service for asylum seekers who have experienced trauma and they were under the care and assessment of clinical professionals.

### Trauma exposure

All studies apart from Kissane et al,<sup>17</sup> assessed the trauma exposure of the groups. Hoffman et al<sup>22</sup> aggregated this as a ‘trauma score’ and recorded duration of captivity. Dichotomous (yes/no) exposure items were used to calculate an exposure score. This did not appear to be a validated scoring system and no alpha scores for the tool were presented. The raw data is not presented, but the trauma exposure score and captivity duration were reported not to be significantly associated with a diagnosis of CPTSD. The entire sample in this study were victims of sexual slavery.

Ottisova et al,<sup>25</sup> thoroughly reported the trauma characteristics of the child trafficked sample and a further subsample analysis of those diagnosed with CPTSD. Physical violence during trafficking was recorded in 27 children (53%), sexual violence in 25 (49%) and having experienced either physical or sexual violence in 28 (78%). In the subsample analysis 11 (100%) of the trafficked sample had experienced physical or sexual childhood abuse, 10 (91%) experienced physical abuse, 9 (82%) sexual abuse or assault, 5 (45%) experienced emotional abuse, neglect, witnessed violence and 4 (36%) had witnessed a murder. Jowett et al<sup>23</sup> presented the trauma exposure for a mixed group of trafficked and non-trafficked asylum seekers. Although the group was multiply traumatised there was no significant difference found between trauma types and CPTSD, PTSD or no diagnosis.

Hopper and Gonzalez<sup>26</sup> used data derived from psychological interviews that addressed elements of force, fraud and coercion and presented data for both pre- and during trafficking trauma. The prevalence of pre-trafficking developmental trauma of sexual abuse was found in 25% of the sample, physical abuse in 33% and psychological abuse in 22%. The study found that most sex trafficking survivors (65%) endorsed some type of childhood abuse, versus 18% of

labour trafficking survivors.<sup>26</sup> Hopper and Gonzalez<sup>26</sup> also reported violence during trafficking, with 28% of the labour trafficking survivors and 90% of the sex trafficking survivors having experienced sexual violence. Physical assaults during the trafficking experience were more commonly reported by sex trafficking survivors (70%) than by labour trafficking survivors (49%)  $p < 0.05$ .<sup>26</sup>

## Insomnia

Grossman et al,<sup>27</sup> examined the relationship between insomnia and CPTSD. Using the same population as Hoffman et al, where 51% were diagnosed with CPTSD, 96.54% of those with a CPTSD diagnosis also were diagnosed with insomnia. The study found significant group by clinical insomnia dependencies  $X^2(4) = 11.92$ ,  $p < 0.01$  (no-PTSD = 66.7%; PTSD-alone = 78.3%; CPTSD = 96.54%).<sup>27</sup>

## Post-trafficking stress

Two studies looked at the stress endured by participants after they had come out of the trafficking situation. Hoffman et al<sup>22</sup> quantified this with a Likert scale (1 = not at all to 5 = very much so,  $\alpha = 0.79$ ). The four areas included in the assessment were experiencing violence, physical abuse, sexual abuse and hunger. The study found that the groups diagnosed with no PTSD, PTSD and CPTSD differed significantly in stress endured in post-ISIS camps, where they were currently 'resettled'. The averages of the Likert scale scores were no PTSD = 2.45, PTSD = 2.77, CPTSD = 3.78,  $F(2,93) = 53.37$ ,  $p < 0.0001$ .

Jowett et al<sup>23</sup> used the Post-Migration Living Difficulties Checklist (PMLDC)<sup>28</sup>; 29.7% of the participants did not complete the checklist and the results for trafficked persons were not presented separately to the asylum seeking group. The outcomes from the PMLDC were grouped into five categories of basic survival, healthcare, relationships, integration, and housing. The only statistically significant differences were found in two categories: 'healthcare' and 'relationships'. The mean scores in the access to healthcare category indicated that the PTSD group had the highest score, 9.11 (SD = 5.93), indicating that they had the greatest issues in accessing healthcare followed by the CPTSD group, 7.96 (5.42), and the lowest was the no PTSD group, 3.38 (SD = 3.50),  $F = 4.61$ ,  $p = 0.01$ . The effect size however was weak (Cramer's  $V = 1.24$ ).

## Discussion

### Key findings of this review

This review examines five papers reporting specifically on CPTSD in MSHT populations and identifies a mean prevalence of 41% when using the ICD-11 criteria. Although this not a true meta-prevalence, it does give a clear indication that CPTSD is a common presentation in survivors of trafficking and more common than that of PTSD, which was found to be 14% in the same populations. These findings were evident both in populations that were already known to mental health services and in populations living in post-trafficking camps.<sup>22,23,25</sup> There were some inconsistencies in the diagnostic and screening methods used, but the three studies

that were included in the mean prevalence score<sup>22,23,25</sup> all used the published or proposed ICD-11 criteria.

The measurement of trauma exposure during trafficking was inconsistent between the studies. Trafficking survivors were found to be multiply traumatised<sup>25,26</sup> and a comparative study found that trafficking exposure and multiple trauma was associated with a significantly higher prevalence of CPTSD when compared to a single-trauma exposure control group.<sup>25</sup> Only Hopper and Gonzalez<sup>26</sup> specifically compared types of MSHT and found there to be an increased number of CPTSD symptoms in sex trafficking survivors than labour trafficking survivors, and also found the sex trafficking group to have a higher prevalence of sexual and physical assaults.<sup>26</sup> This is consistent with the hypothesis that multiple trauma is more likely to result in CPTSD symptoms.<sup>6</sup>

Potential gender differences were highlighted, with transgender survivors presenting more CPTSD symptom clusters than cis-women and cis-men.<sup>26</sup> Child populations studied had a lower prevalence of CPTSD than that of adult samples and had higher prevalence of PTSD (13%) compared to CPTSD (8%) a finding that was not reflected in the adult population. These differences may also be influenced by the trauma exposure, 49%<sup>25</sup> of the child sample experienced sexual assault, which may not be comparable to the adult samples such as Hoffman et al<sup>22</sup> where the entire population were sexual slavery survivors. Affect dysregulation and impulsivity was found to be higher in a child population compared to a mixed adult and child population.<sup>25,26</sup> However, the child population was small, with only 11 individuals with CPTSD identified.<sup>25</sup> Research on child trafficking survivors is limited so further research is needed to analyse these findings.

Post-trafficking stress was found to be associated with CPTSD outcome, with individuals who experienced high levels of violence, physical abuse, sexual abuse and hunger in post-trafficking camps exhibiting higher levels of CPTSD.<sup>22</sup> Groups with PTSD and CPTSD were also found to have greater concerns in accessing healthcare when compared with those without these diagnoses.<sup>23</sup>

### What this review adds to existing literature

This review is thought to be the first that looks specifically at CPTSD in trafficked populations. Previous reviews<sup>5,29</sup> have looked more generally at the mental health outcomes for trafficked people and one review included a pilot study that looked at CPTSD prevalence.<sup>17</sup>

This review highlighted that post-trafficking stress could be associated with CPTSD. Although there is limited research in trafficked populations, previous studies have found an association between DSO symptoms and both post-migration living difficulties and lack of social support in refugees<sup>30,31</sup> and that delays in refugee applications were associated with PTSD.<sup>28</sup> The UK uses the National Referral Mechanism (NRM) to identify and manage survivors of trafficking, and 'first responders' including police and border force are trained to identify and refer to the NRM.<sup>32</sup> A review of multi-agency decision making for child trafficking<sup>33</sup> raised concerns over the decision making of the NRM, and the timeliness of these decisions and how this impacted safeguarding processes. Problems with identification and appropriate referral could be a source of further stress for those who have experienced MSHT, social stressors such as insecure housing and risk of



deportation have been identified as factors causing or exacerbating mental health symptoms.<sup>34</sup>

Research has found that many trafficking survivors are living in situations of social, legal and economic instability,<sup>34</sup> and that lack of social support and unmet needs is significantly associated with mental health disorders.<sup>35</sup> According to the *UK Annual Report on Modern Slavery* published in 2020,<sup>36</sup> adult survivors in England and Wales are entitled to support through the Victim Care Contract for a minimum of 45 days and until 'a conclusive grounds decision about their victim status' has been made. If they receive a 'positive conclusive grounds decision' they will be entitled to remain in support for at least 45 days, this is to enable transfer to another service or return to their country of origin.<sup>36</sup> As demonstrated in this review, over 40% of these people may be living with CPTSD. Experts have expressed that safety, stabilisation and relationship building are fundamental in the treatment of CPTSD<sup>13,14,20,37</sup> which the uncertainty and possibility of deportation and re-initiation of trafficking/slavery does not facilitate. This policy differs from that of Scotland where there is a minimum of 90 days support after a positive conclusive grounds decision.<sup>36</sup> The policy in Scotland also provides greater continuity with the organisations commissioned to facilitate the support, Trafficking Awareness Raising Alliance, and Migrant help, are accessible to survivors prior to a conclusive grounds decision and after the 90-day period.<sup>36</sup> Decisions around which service should take responsibility can present challenges for mental health professionals as well as waiting times for psychological therapy and funding cuts to voluntary services.<sup>35</sup> This can be exacerbated by the instability of MSHT patients dealing with immigration issues and being rehoused in different areas.<sup>35</sup>

In this review, barriers to accessing healthcare were suggested to be associated with PTSD and CPTSD. Barriers to health care have also been found in other MHST populations studied.<sup>38</sup> Confusion surrounding eligibility for primary care services and lack of understanding of modern slavery creating adjudication bias have been found in other literature to be primary barriers created by providers.<sup>38</sup> Housing and immigration instability have also been documented as challenges for adults accessing healthcare.<sup>35</sup>

Although there is some debate regarding the cross-cultural validity of psychiatric diagnostic criteria,<sup>39</sup> participants in this review were from over 37 nations and the findings remain consistent across the populations. CPTSD has been studied in several countries and findings provided evidence for PTSD and CPTSD as separate and valid diagnoses in East Asia,<sup>40</sup> Syrian refugees in Lebanon,<sup>41</sup> Israel,<sup>42</sup> West Papuans,<sup>43</sup> South Africa<sup>44</sup> and others.<sup>45</sup> There is substantial evidence for the cross-cultural validity of CPTSD found both in this review and other literature.<sup>45</sup> However, tools such as the ITQ can only reveal what is being looked for and cannot be used as a substitute for truly understanding the reality of each trauma survivor.<sup>46</sup> This diagnosis may allow for a more specialised and holistic treatment than would be offered for PTSD,<sup>14</sup> but treatment should consider the cultural background and preferences of survivors.<sup>14</sup>

### Key strengths of this review

A comprehensive search strategy and adherence to the PRISMA guidelines and SWim criteria ensured a systematic

approach to synthesising the literature on CPTSD prevalence in survivors of human trafficking. Though screening, data extraction and quality appraisals were done by one reviewer, the decisions were reviewed by four other reviewers. Efforts were made to include all relevant literature that fit the research criteria by contacting expert researchers in the field and conducting citation searches.

### Key limitations of the available evidence and their implications for future research

The evidence available to conduct this review was limited. In addition, methodological issues in the identified studies may limit the conclusions that can be made. They do however also highlight areas that could benefit from further research. There is a scarcity of information on male, transgender and child trafficking survivors, a finding echoed from previous reviews.<sup>5,29,47</sup> The lack of research evidence to date may be due to barriers in the identification of trafficking survivors and access difficulties, along with the sensitive nature of conducting such research.<sup>23</sup> Survivors of MSHT may not self-identify as having experienced trafficking and/or modern slavery,<sup>47</sup> but as a population with multiple health problems they often present to health care services during the period of exploitation and may not be identified by providers who are ill-equipped to recognise the signs of trafficking.<sup>48</sup> There is a lack of data representing transgender people in the studies reviewed and in wider MSHT research, transgender people may not self-identify as MSHT survivors and/or be reached by trafficking support services. They are also more likely to be criminalised.<sup>47</sup> This review highlighted that transgender people may experience more CPTSD symptoms, potentially exacerbated by lack of support and increased criminalisation as well as increased incidences of trauma.<sup>26,47</sup> Transgender people's experiences should therefore not be overlooked, and research should report their experiences with the aim to facilitate better recognition and support.

There is a particularly limited body of research that examines CPTSD in MSHT populations. This could be attributed to the newness of the classification in ICD-11 (2018) perhaps causing a dearth of awareness of CPTSD amongst health professionals, the lack of CPTSD diagnosis in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), and the limitations of westernised concepts of defining mental disorders which may not be accepted in all cultures.<sup>37</sup>

Three of the five studies were of data collected by specialist mental health services.<sup>17,23,25</sup> This may not accurately represent population CPTSD prevalence. Recruiting from mental health services may limit the generalisability of the results as many trafficked people will not access support. CPTSD may be overestimated as these individuals have already been identified as having a mental health problem. On the other hand, the wider population who have been unable to access health-care services have unknown and possibly increased mental health care needs, meaning that the reported prevalence could be an underestimate. The participants across all the studies were no longer being trafficked, however research and access to populations who are currently trafficked would be nearing impossible due to limited access and identification.

The MSHT population was often not clearly defined, and not all the results were presented separately for the MSHT

group, although a multiple search terms were used in this study to attempt to minimise this problem. This issue also resulted in exclusion of papers that may have contributed to the overall findings.<sup>18</sup> The heterogeneity of the definition of ‘human trafficking’ and ‘modern slavery’ has also been reported in other reviews<sup>29</sup>; only two of the studies found in this review explicitly outlined how participants had been identified as trafficked.<sup>25,26</sup> This definitional complexity of MSHT has regularly complicated attempts to study the issue.<sup>29</sup> Only Hopper and Gonzalez<sup>26</sup> explicitly compared types of trafficking, and found a significant difference between number of traumatic events as well as differing numbers CPTSD symptom clusters. Further research should clearly identify the MSHT exposure by means of the UN protocol and *The Modern Slavery Act* and clarify the type of MSHT.

Previous reviews have suggested that time spent during MSHT and time elapsed since the experience correlate with mental health outcomes.<sup>5</sup> However, there was limited evidence within the papers studied, with only Hoffman et al<sup>22</sup> further analysing the time spent in captivity, time since release and CPTSD diagnosis. Further research should document these findings and consider this in evaluation of outcomes.

There may have been a language bias due to restriction of papers to those written in English. However, the two identified papers that were not available in English were unlikely to fit with the inclusion criteria based on the English abstract.

## Conclusions and practical recommendations

Building a substantial body of evidence on the health consequences of MSHT is crucial when considering how to identify and support this population. This study looks specifically at CPTSD as this had been previously underreported, but the broader physical and mental health care needs of survivors should also be considered when making assessments and implementing support.

The available evidence indicates that (using ICD-11 criteria) there is a high (41%) prevalence of CPTSD in MSHT survivors, compared with a 14% prevalence of PTSD. CPTSD was identified in specialist mental health care facilities, community samples and post-trafficking camp settings.<sup>22,23,25,26</sup> Higher levels of trauma experienced in post-trafficking camp settings was associated with CPTSD diagnosis and those with CPTSD diagnosis in mental health care settings were found to have greater barriers in accessing healthcare.<sup>23</sup> In view of this, consideration should be made to identify MSHT survivors promptly and minimise the further trauma they experience post trafficking. Provision should be made to enable these populations to access healthcare services more easily, possibly via an advocate and implementing MSHT education of health care providers and students.<sup>38</sup> Transgender survivors exhibited higher numbers of CPTSD symptoms<sup>26</sup> and were under-represented in available research.

The needs of patients with CPTSD are significantly different from those of patients with PTSD, CPTSD patients often require longer and more diverse treatment, with a focus on DSO as well as on trauma symptoms.<sup>45</sup> This

should be taken into consideration when outlining policies for MSHT survivors. Policymakers should consider the longer and varied treatment requirements, facilitating a supportive environment that minimises ongoing stress that has been shown to lead to poorer outcomes for people living with CPTSD.

## Ethical considerations

The Brighton and Sussex Medical School Research Governance and Ethics Committee do not require institutional ethics review for systematic reviews conducted by staff or students.

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## Conflict of interest

None.

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