

Trafficking and Health: A Systematic Review of Research Methods

TRAUMA, VIOLENCE, & ABUSE
1-17
© The Author(s) 2016
Reprints and permission:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/1524838016650187
tva.sagepub.com



Abby C. Cannon¹, Jennet Arcara², Laurie M. Graham³,
and Rebecca J. Macy³

Abstract

Trafficking in persons (TIP) is a human rights violation with serious public health consequences. Unfortunately, assessing TIP and its health sequelae rigorously and reliably is challenging due to TIP's clandestine nature, variation in definitions of TIP, and the need to use research methods that ensure studies are ethical and feasible. To help guide practice, policy, and research to assess TIP and health, we undertook a systematic literature review of 70 peer-reviewed, published articles to (a) identify TIP and health research methods being used, (b) determine what we can learn about TIP and health from these varied methodologies, and (c) determine the gaps that exist in health-focused TIP research. Results revealed that there are various quantitative and qualitative data collection and analysis methods being used to investigate TIP and health. Furthermore, findings show that the limitations of current methodologies affect what is known about TIP and health. In particular, varying definitions, participant recruitment strategies, ethical standards, and outcome measures all affect what is known about TIP and health. Moreover, findings demonstrate an urgent need for representative and nonpurposive recruitment strategies in future investigations of TIP and health as well as research on risk and protective factors related to TIP and health, intervention effectiveness, long-term health outcomes, and research on trafficked people beyond women trafficked for sex. We offer recommendations for research, policy, and practice based on review results.

Keywords

mental health and violence, prostitution/sex work, sexual assault, violence exposure

Trafficking in persons (TIP)¹ and the resulting health-related outcomes is an important topic in public health and social science research, evidenced by the increasing number of studies on this topic. Potentially millions of people are trafficked globally, exacting an extensive human toll and levying tremendous criminal justice, health, and social costs for communities worldwide. Despite such significant negative consequences, TIP is a lucrative business for criminal organizations and is unlikely to be easily prevented and ended (International Labour Organization, 2014). Thus, rigorous research concerning TIP incidence, prevalence, risks, and consequences is urgently needed to inform the development of evidence-based practices and policies to ameliorate the health consequences of TIP. To provide a foundation on which researchers, practitioners, and policy makers can build, this study systematically locates, synthesizes, and analyzes extant peer-reviewed, empirical literature regarding TIP and health and offers recommendations for the field based on the study findings.

Defining TIP

Although TIP definitions vary, the most widely accepted definition appears in the *United Nations (UN) Protocol to Prevent,*

Suppress and Punish Trafficking in Persons (United Nations General Assembly, 2000), also known as the Palermo Protocol. This code defines TIP as:

the recruitment, transportation, transfer, harboring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation (2000).

¹ MEASURE Evaluation, Carolina Population Center, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

² Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

³ School of Social Work, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

Corresponding Author:

Abby C. Cannon, MEASURE Evaluation, Carolina Population Center, University of North Carolina at Chapel Hill, 400 Meadowmont Village Circle, 3rd Floor, Chapel Hill, NC 27517, USA.

Email: accannon@email.unc.edu

Estimates of the number of persons trafficked are difficult to obtain and vary widely due to varying trafficking definitions and the hidden nature of the issue, among other challenges; there is little consensus on the estimates and the methods used to obtain them (Cwikel & Hoban, 2005; Fedina, 2014; Laczko & Gramegna, 2003; Tyldum & Brunovskis, 2005).

Health Consequences of TIP

As documented by a growing number of studies, TIP presents significant concerns for individual and population health (e.g., Abas et al., 2013; McCauley, Decker, & Silverman, 2010; Zimmerman et al., 2008). However, little research exists on the comprehensive physical and mental health effects of TIP, in particular regarding forms of TIP other than trafficking for sexual exploitation (e.g., labor trafficking, trafficking for organ removal). The majority of research to date on TIP and health examines the health consequences on individuals and, more specifically, on sex-trafficked girls and women rather than overarching public health concerns (Oram, Ostrovski, et al., 2012).

Preliminary research by Zimmerman and colleagues (2003) demonstrated wide-ranging, negative health sequelae associated with sex trafficking of women and girls, including injury from sexual and physical violence, mental health symptoms (e.g., depression, suicidal ideation, and anxiety), reproductive health concerns, substance use for coping with the trafficking situation, forced substance use, fatigue, weight loss, and headaches. Recent research has both confirmed and further described these detrimental health consequences. Studies from the past decade highlight that trafficked people often suffer from physical injuries and long-term mental, physical, and reproductive health concerns (e.g., Abas et al., 2013; Decker, McCauley, Phuengsamran, Janyam, & Silverman, 2011; Mufic & Finn, 2013; Oram, Ostrovski, et al., 2012). These concerns include exposure to HIV and other sexually transmitted infections (e.g., Decker et al., 2011; Silverman et al., 2006), exposure to physical and sexual violence (e.g., Abas et al., 2013; McCauley et al., 2010), exposure to infectious disease (e.g., Silverman et al., 2008), and substance abuse (e.g., Silverman et al., 2011).

Although research has focused on trafficking for sexual exploitation and resultant health outcomes, investigators have paid less attention to trafficking for other forms of labor (e.g., agriculture, manufacturing, mining, food services, fishing, begging, domestic servitude, or drug dealing) or for the trade of human organs (e.g., Turner-Moss, Zimmerman, Howard, & Oram, 2014; World Health Organization [WHO], 2012; Zimmerman, Hossain, & Watts, 2011). Existing research suggests that although individuals trafficked for reasons unrelated to sexual exploitation may suffer similar health effects (namely, violence and physical and mental health effects) as those who are sex trafficked (Turner-Moss et al., 2014), there are also health consequences unique to labor trafficking. Recent labor-trafficking research shows that associated health risks include exposure to dangerous chemicals, poor sanitation

practices, bacterial hazards, and poor ventilation systems (WHO, 2012; Zimmerman et al., 2011). Studies also show that individuals who have been trafficked for labor may lack protective gear on the job, experience strain from repetitive motion, be subjected to extreme temperatures, have long work hours (WHO, 2012; Zimmerman et al., 2011), and/or be exposed to sexual abuse (U.S. Department of State, 2007). Regarding individuals trafficked for organ removal, research highlights the following potential health consequences: losses in productivity, poor postsurgery health, and a lack of compensation for endured damages (U.S. Department of State, 2014).

To sum, TIP is a complex phenomenon that holds significant detrimental health consequences for those who are trafficked. Even though the overall research shows that such health consequences are likely to be devastating for trafficked persons, the specific health consequences likely vary depending on the nature, form, and severity of the trafficking.

Research on TIP and Health

Although there has been a considerable rise in TIP research, conducting accurate, comprehensive, and rigorous investigations of TIP is challenging. These challenges stem from issues such as the hidden and criminal nature of TIP, variation in TIP definitions, and the need to use research methods that ensure studies are ethical and feasible (Oram, Stockl, Busza, Howard, & Zimmerman, 2012; Zimmerman, 2003). Moreover, the relative rareness of TIP makes conducting research difficult, though the health and human rights burden of TIP may be significant at the population level. Due to the clandestine nature of TIP, the visible population of trafficked people included in research may be a specific subpopulation who are no longer in trafficking situations (i.e., in the process of repatriating and/or reintegrating into new communities) and thus not necessarily representative of the overall TIP population. Taken together, these research challenges affect the acceptability and feasibility of research methods used in TIP research as well as the results of TIP research itself (Cwikel & Hoban, 2005; Fedina, 2014; Laczko & Gramegna, 2003; Oram, Stockl, et al., 2012; Tyldum, 2010).

Definitional and methodological challenges have led to the use of varied data collection and research methods. In turn, the various strategies and methods used to investigate TIP create difficulties in producing an accurate, comprehensive picture of trafficking and its consequences. The variety of TIP research methods also creates difficulties for generalizability and making comparisons across studies (Laczko & Gramegna, 2003). Despite such challenges, a comprehensive picture of TIP and its health consequences is urgently needed, given the potential public health costs and burden this problem is producing globally.

Current Study

To address the aforementioned knowledge gaps and methodological challenges, our study sought to gather and synthesize all

peer-reviewed, empirical articles on TIP and health published since the Palermo Protocol and address the following questions:

- (1) What are the primary research methods used in TIP and health research?
- (2) How do the research methods typically used in TIP and health studies affect the results of these studies?
- (3) How do the research methods typically used in TIP and health studies affect what is known about TIP and health, that is, what are the overall strengths and limitations of this body of knowledge to date?

By undertaking this study, our team aimed to provide an inclusive and rigorous analysis of the existing research regarding TIP and its health consequences. To the best of our knowledge, this is among the first efforts to gather, organize, and rigorously analyze the varied research methods used and findings concerned with TIP and health.

Method

For this review, we used two strategies for locating pertinent articles. First, we searched prominent health-related journal databases for peer-reviewed, empirical articles on human trafficking and health published in English from January 2001 (immediately post-Palermo Protocol) through December 2014. The databases included PubMed, CINAHL, Family & Society Studies Worldwide, Global Health, Health Source, PsycINFO, Social Services Abstracts, Social Work Abstracts, Web of Science (ISI), and Women's Studies International. Search terms included "human traffick*," "sex traffick*," and "trafficked persons."² After removing duplicates, we found 94 peer-reviewed journal articles that were potentially relevant.

Prior to reviewing articles, we determined article exclusion criteria to apply to each article we located. We excluded articles if they (a) did not collect and analyze primary data or analyze secondary data (qualitative or quantitative); (b) were not primarily focused on both TIP and health; (c) were policy briefs, systematic reviews, think pieces, or clinical reviews without significant focus on data analysis; (d) or were in nonpeer-reviewed publications. We included all articles that met the above criteria, regardless of if they used the same data set, as multiple articles could use varying methods from the same data set and/or study.

Although we refer to the UN definition of trafficking in this article, as it is the most common, we used a broad definition of trafficking in the initial review of abstracts to include any articles that authors identified as research on trafficking. We used this broad definition because varying definitions of trafficking is a challenge in TIP research, and we were interested in exploring this challenge in our study. If an article was found to have a significantly different definition of trafficking—specifically, some articles conflated trafficking and sex work without differentiating between women involved in sex work and women trafficked for sex work—it was not included in the

review. We were also interested in any articles that included health according to the author's definition. Thus, we included any article that had some focus on health of some kind or context, as long as health was discussed in relation to more than just background information. At least two members of the study team reviewed each of the 94 article abstracts to determine relevance for inclusion. Based on our review of abstracts, 15 articles did not meet the requirements. During full-text review, an additional 17 articles did not meet the inclusion criteria, leaving a total of 62 articles.

Next, we conducted a backward literature search of the references of the 62 articles included in our review. Our backward literature search returned 22 potentially relevant articles that had not been previously identified. Again, at least two members of the study team reviewed each article, resulting in 8 articles deemed relevant and 14 deemed not relevant. We also conducted a backward literature search of these eight new articles that did not yield any extra articles. These two search strategies resulted in a total of 70 articles for full-text review.

After locating these 70 articles, we systematically reviewed the full text of each article to fill in a standardized spreadsheet that had been created prior to reviewing relevant articles. Each article had a primary full-text reviewer, and in cases where the primary reviewer had questions about the relevance or content of an article, at least one additional team member also reviewed the full text of the article for confirmation and agreement. The spreadsheet included information on overall study design; data collection methodology; research questions and type of trafficking addressed; sample size, characteristics, and setting; analytic methods; results; human subjects protection information; and strengths and limitations of the article or study. We used the spreadsheet to categorize, sum, and analyze study characteristics in order to systematically identify and assess the common themes in methodologies of research on TIP and health.

Results: Methodologies at Use in TIP and Health Research

Through this systematic literature search of peer-reviewed articles on TIP and health, we found 70 peer-reviewed, data-driven studies. Here, we focus on the methodologies used in the studies. Table 1 shows a summary of these results.

Research Questions Addressed in the Articles

We aimed to identify methods used to investigate TIP and health in this review. Although we excluded articles that did not cover both TIP and health in some way, we found variation in the extent of coverage of TIP and health across the included articles. About two thirds ($n = 45$) of the articles focused explicitly on the effects of TIP on health, while about 20% ($n = 15$) of the articles focused on general TIP issues with a smaller focus on health. Seven articles primarily focused on other issues such as sex work and incorporated trafficking (e.g., trafficked women as a subgroup of sex workers) and health.

Table 1. TIP and Health Systematic Review Results.

Research Method Type	Article Count (N = 70)	Representative Articles
Research questions		
Effects of TIP on health	45	Decker, McCauley, Phuengsamran, Janyam, and Silverman (2011); Dharmadhikari, Gupta, Decker, Raj, and Silverman (2009); Muftic and Finn (2013); Sarkar et al. (2008); Silverman et al. (2014); Tsutsumi, Izutsu, Poudyal, Kato, and Marui (2008); Zimmerman et al. (2008)
TIP issues with a smaller focus on health	15	Blackburn, Taylor, and Davis (2010); Brunovskis and Surtees (2012); Cwikel, Chudakov, Paikin, Agmon, and Belmaker (2004); Omorodion (2009); Reid and Piquero (2014); Simkhada (2008)
Other issues incorporating TIP and health (e.g., sex work mentioning TIP and health)	7	Chudakov, Ilan, and Belmaker (2002); Jana, Dey, Reza-Paul, and Steen (2014); Urada, Morisky, Pimentel-Simbulan, Silverman, and Strathdee (2012)
Health as a TIP risk factor	3	Adejumo (2008); Reid (2011); Williams et al. (2010)
Research designs		
Quantitative cross sectional	39	Abas et al. (2013); Bettio and Nandi (2009); Decker, Mack, Barrows, and Silverman (2009); George and Sabarwal (2013); Gupta, Reed, Kershaw, and Blankenship (2011); Hossain, Zimmerman, Abas, Light, and Watts (2010); McCauley, Decker, and Silverman (2010); Silverman et al. (2014)
Quantitative longitudinal	2	Ostrovski et al. (2011); Reid and Piquero (2014)
Qualitative (including case reports and case studies)	23	Acharya (2008, 2009); Coonan (2004); Karandikar, Gezinski, and Meshelemiah (2011); Konstantopoulos et al. (2013); Simkhada (2008); Vindhya and Dev (2011)
Mixed methods	6	Chudakov et al. (2002); Jana et al. (2014); Raphael, Reichert, and Powers (2010); Reid (2010); Rende Taylor (2005); Reza-Paul et al. (2012)
Type of trafficking ^a		
Sex	59	Bettio and Nandi (2009); Chudakov et al. (2002); Crawford and Kaufman (2008); Cwikel, Ilan, and Chudakov (2003); Gray, Luna, and Seegobin (2012); Gupta et al. (2011); McCauley et al. (2010); Okonofua, Ogbomwan, Alutu, Kufre, and Eghosa (2004); Raphael et al. (2010); Sarkar et al. (2008); Silverman et al. (2006); Silverman, Decker, Gupta, Maheshwari, Patel, et al. (2007); Silverman, Decker, Gupta, Maheshwari, Willis, et al. (2007); Silverman et al. (2014)
Domestic servitude	2	Coonan (2004); Tsutsumi et al. (2008)
Other labor trafficking	3	Oram, Ostrovski, et al. (2012); Patel, Ahn, and Burke (2010); Tsutsumi et al. (2008)
Nonspecific	9	Wong, Hong, Leung, Yin, and Stewart (2011)
Organ	1	Budiani-Saberi, Raja, Findley, Kerketta, and Anand (2014)
Multiple	3	Coonan (2004); Oram, Ostrovski, et al. (2012); Tsutsumi et al. (2008)
Data sources		
Primary data collection	61	Rende Taylor (2005); Zimmerman et al. (2008)
Secondary data analysis of a preexisting data set (no primary data collection)	9	Di Tommaso, Shima, Strøm, and Bettio (2009); Wirth, Tchetgen Tchetgen, Silverman, and Murray (2013)
Data collection methodologies ^d		
Structured survey (in-person, mailed, or other data collection method)	34	Chisolm-Straker, Richardson, and Cossio (2012); Chudakov et al. (2002); Okonofua et al. (2004); Omorodion (2009); Sarkar et al. (2008)
Qualitative in-depth interviews	27	Collins et al. (2013); Coonan (2004); Gezinski and Karandikar (2013); Goldenberg, Engstrom, Rolon, Silverman, and Strathdee (2013)
Focus groups, observation, or other qualitative methodology	7	Blackburn et al. (2010); Rende Taylor (2005); Williams et al. (2010)
Record review or use of other existing documentation	22	Bettio and Nandi (2009); Crawford and Kaufman (2008); Dharmadhikari et al. (2009); Falb et al. (2011); Silverman et al. (2011)
Two or more data collection methods	16	Bettio and Nandi (2009); Jana et al. (2014); Reid (2010); Rende Taylor (2005); Silverman et al. (2011)

(continued)

Table 1. (continued)

Research Method Type	Article Count (N = 70)	Representative Articles
Participant recruitment methods ^a		
Nonrepresentative purposive sampling through an organization	44	Baldwin, Eisenman, Sayles, Ryan, and Chuang (2011); Crawford and Kaufman (2008); Decker et al. (2009); Falb et al. (2011); Gupta, Raj, Decker, Reed, and Silverman (2009); Silverman et al. (2008)
Nonrepresentative purposive sampling without help of an organization or partial help of an organization	20	Aborisade and Aderinto (2008); Chudakov et al. (2002); Gupta et al. (2011); Sarkar et al. (2008)
Representative sampling	6	Adejumo (2008); Okonofua et al. (2004); Omorodion (2009); Wirth et al. (2013)
Sample sex and age		
Adult women	40	Abas et al. (2013); Bettio and Nandi (2009); Collins et al. (2013); Coonan (2004); Hossain et al. (2010)
Adult men	1	Cannella et al. (2011)
Both adult women and men	11	Aborisade and Aderinto (2008); Hom and Woods (2013); Konstantopoulos et al. (2013)
Children or adolescents of either sex	4	Deb, Mukherjee, and Mathews (2011); Omorodion (2009); Reid and Piquero (2014); Simkhada (2008)
Children or adolescents, men, and women	2	Blackburn et al. (2010); Farley et al. (2004)
Children or adolescents, adult women	8	Di Tommaso et al. (2009); Zimmerman et al. (2008)
Adult women and a group with unknown sex	1	McDonald and Timoshkina (2004)
Sex/age unclear	3	Dewan (2014); Oram, Zimmerman, Adams, and Busza (2011); Williams et al. (2010)
Participant characteristics		
Formerly trafficked people	29	Collins et al. (2013); Coonan (2004); Crawford and Kaufman (2008); Falb et al. (2011); McCauley et al. (2010)
Service providers or other key informants	7	Konstantopoulos et al. (2013); Reid (2011); Williams et al. (2010)
Formerly trafficked people and service providers or other key informants	7	Aborisade and Aderinto (2008); Blackburn et al. (2010); Brunovskis and Surtees (2012); Simkhada (2008)
Formerly trafficked people and traffickers	1	Adejumo (2008)
Sex workers	16	Chudakov et al. (2002); Gupta et al. (2011); Silverman et al. (2014); Urada et al. (2012)
Formerly trafficked people and other populations of interest	3	Antonopoulou (2006); Deb et al. (2011); Gray et al. (2012)
Other (e.g., women with child sexual abuse histories, adolescents at risk for trafficking)	5	Okonofua et al. (2004); Reid (2011)
Location ^a		
Africa	6	Aborisade and Aderinto (2008); Okonofua et al. (2004); Omorodion (2009); Reid (2011)
Central America	1	Decker et al. (2009)
North America	21	Coonan (2004); Raphael et al. (2010); Reid (2010)
South America	2	Farley et al. (2004); Konstantopoulos et al. (2013)
Central Asia	1	Di Tommaso et al. (2009)
East/Southeast Asia	9	Blackburn et al. (2010); McCauley et al. (2010); Rende Taylor (2005)
South Asia	24	Crawford and Kaufman (2008); Sarkar et al. (2008); Silverman et al. (2008); Silverman, Decker, Gupta, Maheshwari, Patel, et al. (2007); Silverman, Decker, Gupta, Maheshwari, Willis, et al. (2007)
Middle East	3	Chudakov et al. (2002); Cwikel et al. (2004, 2003)
Eastern Europe	10	Hossain et al. (2010); Oram, Ostrovski, et al. (2012)
Western Europe	8	Antonopoulou (2006); Hossain et al. (2010); Oram, Zimmerman, et al. (2011)
Study setting		
Urban	38	Decker et al. (2011); Goldenberg et al. (2013); Okonofua et al. (2004); Raphael et al. (2010)
Rural	3	Gupta et al. (2011); Rende Taylor (2005); Vindhya and Dev (2011)
Urban and rural areas	5	Crawford and Kaufman (2008); Di Tommaso et al. (2009); Gray et al. (2012)
Unclear or not specified	24	Bettio and Nandi (2009); Brunovskis and Surtees (2012); Hossain et al. (2010)

(continued)

Table 1. (continued)

Research Method Type	Article Count (N = 70)	Representative Articles
Overall analytic methods		
Quantitative analysis only	42	McCauley et al. (2010); Silverman et al. (2014); Wirth et al. (2013)
Qualitative analysis only	25	Gezinski and Karandikar (2013); Goldenberg et al. (2013); Gupta et al. (2009)
Both qualitative and quantitative, beyond sample description ^b	3	Chudakov et al. (2002); Rende Taylor (2005); Reza-Paul et al. (2012)
Quantitative analytic methods (n = 45, includes mixed methods studies)		
Descriptive analysis	11	Dharmadhikari et al. (2009); Falb et al. (2011); McCauley et al. (2010); Omorodion (2009)
Standard inferential analysis (e.g., t-tests, χ^2 tests, bivariate and multivariate regression)	28	Okonofua et al. (2004); Sarkar et al. (2008); Silverman et al. (2011); Silverman et al. (2014); Tsutsumi et al. (2008); Urada et al. (2012)
Additional techniques (e.g., multilevel modeling, structural equation modeling, longitudinal techniques)	6	Di Tommaso et al. (2009); Reid (2011); Wirth et al. (2013)
Qualitative analytic methods (n = 28, includes mixed methods studies)		
Case reports/case studies	4	Cannella et al. (2011); Chudakov et al. (2002); Miller, Decker, Silverman, and Raj (2007); Patel et al. (2010)
In-depth analysis from a variety of frameworks or unstated analytic framework	24	Gezinski and Karandikar (2013); Goldenberg et al. (2013); Reid (2010)
Human subjects protection reported		
IRB approval reported	28	Decker et al. (2011); Falb et al. (2011)
Procedures for ethical study implementation (e.g., informed consent) reported	8	Cwikel et al. (2003); McDonald and Timoshkina (2004)
Both IRB approval and procedures for ethical study implementation reported	13	Aborisade and Aderinto (2008); Coonan (2004); George and Sabarwal (2013); Gray et al. (2012)
None ^c	21	Acharya (2009); Blackburn et al. (2010); Chaplinskas and Mardh (2001)

Note. TIP = trafficking in persons; IRB = institutional review board.

^aArticles could fall into more than one category; columns do not sum to N = 70. ^bNote that while six articles report collecting both quantitative and qualitative data, only three analyzed and reported on both types of data in the article. ^cNot all studies may require the same level of IRB approval or ethical procedures, and it is possible that some studies received IRB approval and/or followed ethical procedures that were not reported in the article.

Systematic Review Findings: Research Aims, Strengths, and Limitations.

Research Designs	Research Aims	Strengths	Limitations
Quantitative cross sectional	Wide variation ranging from investigations of characteristics of and protective factors for TIP survivors; HIV prevalence; trafficking as a mechanism into sex work; to program evaluation	<ul style="list-style-type: none"> • Variety of outcome variables • Research design allows for large sample sizes which can allow for complex analyses • Can include knowledge and awareness studies • For record review studies: Less recall bias if records were documented at time of health condition, records may be easier to obtain and pose less retraumatization risk than in-person methods, research cost can be lower, and research process may be ted by review boards 	<ul style="list-style-type: none"> • Limited generalizability • Some small sample sizes • Lack of randomization in evaluations • Variation in depth of analysis either as permitted by data or as conducted by authors • Self-reports subject to recall bias • Survey questionnaires have limited response options • For record review studies: Records may contain incomplete information, does not allow for uniform interviewing or clarification of responses, and subject to recall bias if information contained in records used self-reports of previous events

(continued)

(continued)

Research Designs	Research Aims	Strengths	Limitations
Qualitative (including case reports/case studies)	To better explore and understand: needs of trafficking survivors; perspectives of risks; characteristics and strategies of survivors; and institutional responses to trafficking	<ul style="list-style-type: none"> • Interviews and focus groups often allow for gathering in-depth information about the process and experience of trafficking and other topics • Questions and probing can elicit additional information from participants • Inclusion of unique perspectives, including law enforcement and individuals still in trafficking situation, which can allow for comparison between groups • Certain types of in-depth ethnographic fieldwork may promote trust and openness for better quality data and analysis 	<ul style="list-style-type: none"> • Analysis process and rigor can be unclear to readers • May be difficult to achieve thematic saturation with small samples • May be difficult to see transferability for other study settings or participants • For interviews/focus groups: Quality of data may be dependent on interview skill • In-person methods may be retraumatizing • Coding and transcription can be time intensive and expensive • Participants may be more similar to each other due to purposive sampling techniques
Mixed methods	Motivation and mechanisms for entry into sex work or trafficking; enquiry into health status and access to services; experience of violence	<ul style="list-style-type: none"> • Offers direct opinions and experience from participants in addition to quantitative data • In-depth as well as broad information 	<ul style="list-style-type: none"> • In addition to those for quantitative and qualitative: • Need to report on multiple methods and types of results may make articles long or require cutting important concepts • Research logistics may be difficult (e.g., multiple study arms)
Longitudinal	Mental health of returned trafficked people at two times; risk comparison for commercial sexual exploitation	<ul style="list-style-type: none"> • Includes long-term outcomes that may allow for differentiating acute and chronic outcomes • Can allow for sophisticated analytic techniques 	<ul style="list-style-type: none"> • Research logistics may be difficult (i.e., loss to follow up in an often transient population, increased funding needs) • Some longitudinal analytic methods can require more time and expertise

The majority of articles focused on the effects of trafficking on health; only three articles addressed health as a risk factor for trafficking (Adejumo, 2008; Reid, 2011; Williams et al., 2010).

Overall Study Design and Data Collection Methodology

About half of the articles included study designs that ($n = 39$) were quantitative cross-sectional, 2 were quantitative longitudinal (Ostrovski et al., 2011; Reid & Piquero, 2014), 23 were qualitative, and 6 collected both quantitative and qualitative data (Chudakov, Ilan, & Belmaker, 2002; Jana, Dey, Reza-Paul, & Steen, 2014; Raphael, Reichert, & Powers, 2010; Reid, 2010; Rende Taylor, 2005; Reza-Paul et al., 2012).

Sixteen articles used two or more data collection methods; thus, the data collection methods reported in Table 1 sum to greater than the total number of articles. Thirty-four articles used structured survey interviews (conducted in person, via mail, or over the phone) to collect quantitative data, including psychometric scale data. Most qualitative articles collected

data through in-depth interviews ($n = 27$) with seven qualitative articles using focus groups, observations, or other qualitative or ethnographic methodologies. There were 22 articles that reviewed and abstracted information from existing written records of trafficked people (most commonly medical or social service records). Nine articles reported secondary data analysis of an existing data set and did not report collecting new primary data; given the lack of large-scale surveys collecting information on trafficked persons and proportion of qualitative studies, most articles ($n = 61$) were reports of original data collection.

Type of Trafficking

The majority of articles ($n = 59$) addressed sex trafficking. A few articles addressed multiple types of trafficking ($n = 3$; Coonan, 2004; Oram, Ostrovski, et al., 2012; Tsutsumi, Izutsu, Poudyal, Kato, & Marui, 2008), domestic servitude ($n = 2$; Coonan, 2004; Tsutsumi et al., 2008), or other labor trafficking ($n = 3$; Oram, Ostrovski, et al., 2012; Patel, Ahn, &

Trafficking and Health Methods: Critical Findings.

- Findings revealed that there are various methods being used to investigate TIP and health with quantitative cross sectional and qualitative being the most common.
 - Quantitative studies often included structured surveys or record reviews, whereas qualitative studies most frequently employed in-depth interviewing.
- Regarding participant recruitment:
 - Most studies recruited participants through one or two types of locations, such as social service organizations or brothels.
 - Few studies were able to recruit participants from multiple types of settings.
 - About one third of studies used nonrepresentative sampling methods, such as snowball sampling, to identify potential participants.
 - Few studies were able to use representative probability-based sampling.
- Most quantitative articles used standard inferential analysis, and a minority used only descriptive analysis or additional advanced techniques. Qualitative studies used a variety of research paradigms and analytic approaches.
- Study design and data collection methods shaped the findings and conclusions that can be drawn from each article reviewed as well as the existing TIP and health research overall.
- Findings show that the limitations of current methodologies also affect what is known about TIP and health in a variety of ways. Varying definitions, participant recruitment strategies, ethical standards, and outcome measures all impact what is known about TIP and health.

Note. TIP = trafficking in persons.

Burke, 2010; Tsutsumi et al., 2008). Trafficking for human organs was addressed in one article (Budiani-Saberi, Raja, Findley, Kerketta, & Anand, 2014). A number of articles were not specific about the type of trafficking studied ($n = 9$). Articles reported in Table 1 could include more than one type of trafficking (numbers do not sum to total number of articles).

Sample Size, Participant Characteristics, and Setting

Sample sizes for the articles ranged from 1 (case studies; Miller, Decker, Silverman, & Raj, 2007; Patel et al., 2010) to 5,427 (Bettio & Nandi, 2009), with a median sample size of 118. The larger sample sizes tended to be articles that used the International Organization for Migration's (IOM) Counter-Trafficking Module database, which tracks data from formerly trafficked persons, as they move through the IOM repatriation system.

Characteristics of the participants varied, including only formerly trafficked people ($n = 29$); key informants, commonly medical or social service providers working with trafficked people ($n = 7$); and both formerly trafficked people and key informants ($n = 7$). Sixteen articles focused on sex workers, some of whom had been trafficked. Five articles included other populations of interest (e.g., students, young women). Three articles combined other populations with formerly trafficked people (Antonopoulou, 2006; Deb, Mukherjee, &

Implications for Practice, Policy, and Research.
Practice

- Including long-term well-being and longer term health outcomes in both research and practice work will provide a more comprehensive picture of the health of trafficked people.
- Strengthening collaboration between practitioners serving trafficked people and researchers will provide a foundation for increasing program and intervention evaluations, which turn can enhance the capacity of programs to provide best evidence-based practice.

Policy

- Increasing research on underinvestigated areas of trafficking research will provide a greater evidence base for important policy decisions.
- Specific areas to focus on include trafficking for reasons other than sex and mechanisms of identifying the true population of trafficking people around the world.

Research

- Findings demonstrate that there is a critical need for representative and nonpurposive recruitment strategies for future investigations of TIP and health. Exploration of innovative methods to reach individuals during and after trafficking will further illuminate health needs and service delivery among this population.
 - Future research should focus on long-term outcomes and well-being to identify effective strategies for trafficked persons' recovery, reintegration, and prevention of re-trafficking.
 - Expanding the scope of health and TIP research to increasingly include other forms of trafficking (e.g., labor trafficking, domestic servitude, organ trafficking) and other populations (e.g., boys and men, transgender persons) will increase the evidence base of health concerns and effective approaches in this field.
 - We encourage researchers to be specific about the definition of trafficking they are using, how they are measuring outcomes, and to increase contextual, nuanced discussion of policy implications.
-

Mathews, 2011; Gray, Luna, & Seegobin, 2012). Notably, one article included both formerly trafficked people and traffickers (Adejumo, 2008).

Most articles included only adult women as participants ($n = 40$). However, 1 article focused solely on adult men (Cannella et al., 2011), and 11 articles included both men and women. Four articles included only children or adolescents of either sex (Deb et al., 2011; Omorodion, 2009; Reid & Piquero, 2014; Simkhada, 2008), while two articles included children or adolescents, men, and women (Blackburn, Taylor, & Davis, 2010; Farley et al., 2004). Eight articles included children or adolescents and adult women, three articles did not specify the sex or ages of participants (Dewan, 2014; Oram, Zimmerman, Adams, & Busza, 2011; Williams et al., 2010), and one article included both adult women and a group of participants for whom the authors did not specify sex (McDonald & Timoshkina, 2004). Commonly, study participants for whom sex was not specified were key informants working with trafficked people not trafficked people themselves.

The most common study settings were South Asia ($n = 24$), North America ($n = 21$), and Eastern Europe ($n = 10$). East/Southeast Asia ($n = 9$), Western Europe ($n = 8$), and Africa ($n = 6$) were also represented. Few studies took place in the Middle East ($n = 3$; Chudakov et al., 2002; Cwikel, Chudakov, Paikin, Agmon, & Belmaker, 2004; Cwikel, Ilan, & Chudakov, 2003), Central Asia ($n = 1$; Di Tommaso, Shima, Strøm, & Bettio, 2009), Central America ($n = 1$; Decker, Mack, Barrows, & Silverman, 2009), or South America ($n = 1$; Farley et al., 2004; Konstantopoulos et al., 2013). Due to six articles with multiple settings, regions do not sum to total number of articles. Depending on the article and participant type (i.e., whether participants were formerly trafficked people who had returned home or were still in the destination country), the participants may or may not be from the region in which the study was conducted. A majority of articles ($n = 38$) focused on urban areas. Twenty-four articles either did not specify whether the study location was urban or rural or were unclear. Three studies took place in rural areas (Gupta, Reed, Kershaw, & Blankenship, 2011; Rende Taylor, 2005; Vindhya & Dev, 2011), and five studies included both urban and rural sites.

Participant Recruitment Methods

A majority of articles ($n = 44$) used nonrepresentative purposive sampling with participants recruited through an organization providing medical or social services to trafficked people. Twenty articles used nonrepresentative purposive sampling not through an organization or only partially through an organization. Six articles used representative sampling.

Analytic Methods

Overall, 45 articles used quantitative analysis methods, and 28 used qualitative analysis methods. Within these, three articles used both qualitative analysis and quantitative analysis beyond sample description (Chudakov et al., 2002; Rende Taylor, 2005; Reza-Paul et al., 2012).³ Within the quantitative studies, 11 articles were descriptive, reporting frequencies and percentages. Twenty-eight articles used standard analysis methods such as t -tests, χ^2 tests, bivariate analysis, and multivariate regression, and six articles used additional techniques such as multilevel modeling or structural equation modeling. Within the qualitative studies, four articles analyzed and presented data as case reports or case studies (Cannella et al., 2011; Chudakov et al., 2002; Miller et al., 2007; Patel et al., 2010), and the remaining 24 used more in-depth analysis from a variety of frameworks. Fifteen articles did not specify the type of coding or analysis used to analyze the qualitative data and how they came to their conclusions.

Human Subjects Protection

Given the sensitive nature of research on TIP and health, we also reviewed articles' descriptions of human subject's protection and institutional review board (IRB) oversight. Thirteen

articles reported that they received ethical approval (and generally reported the name of the IRB from which approval was received) and discussed in varying detail their procedures around informed consent and other ethical issues. Twenty-eight articles reported obtaining ethical approval and did not discuss research ethics beyond IRB approval. Eight articles did not report IRB approval but discussed their procedures for informed consent and ethical conduct of research. Twenty-one articles did not report IRB or general research ethics/informed consent procedures. We note that not reporting IRB approval or discussing ethical study procedures is not synonymous with nonethical study conduct as not all studies require the same level of IRB approval or discussion of ethical procedures. Also, IRB review requirement varies globally.

Discussion

Although the clandestine nature of TIP poses significant challenges in conducting TIP research, the overall findings from this investigation show that researchers are striving to address gaps in the TIP knowledge base. To our knowledge, this is among the first efforts to compile, synthesize, and analyze all peer-reviewed research on TIP and health. Our review identified 70 peer-reviewed research articles published since the Palermo Protocol. In addition, our findings show considerable variability across studies concerned with TIP and health in terms of research aims, foci, location, participants, methods, analysis, rigor, and findings as well as in procedures and protections to ensure research ethics and participant protections.

How Research Methods Used in TIP and Health Studies Affect Results

Importantly, we found that study design and data collection methods shaped the findings and conclusions that can be drawn from each article reviewed as well as the existing TIP and health research overall.

Sample and participant recruitment. Our results showed that many articles used small and nonrepresentative samples, often drawn from nongovernmental, community-based, social services or anti-trafficking organizations. Such participant recruitment approaches are reasonable and practical in TIP research because these organizations can help provide researchers with access to this often hidden and highly vulnerable population. Such recruitment strategies may also help to ensure that research with trafficked persons is ethical and safe for participants. When TIP participants are already engaged in services, researchers have some assurance that participants are relatively protected as well as able to access help if traffickers reappear, crises develop, or participants become retraumatized. Nevertheless, the fact that the extant research on TIP and health comes from data collected from persons who are already engaged in services means that most of the current evidence comes from a subgroup of people who may be unique relative

to the TIP population as a whole, many of whom are currently still being trafficked.

Among the articles reviewed for this research, sampling strategies that rely on researchers' networks (i.e., purposive, snowball) are often used to recruit trafficked people. Given the hidden nature of TIP, such sampling recruitment strategies may be a useful approach for conducting research and finding relevant participants. Despite such usefulness, it is likely there are trafficked individuals that are so hidden they may not be part of social or occupational networks accessible to researchers. Thus, these sampling strategies might not lead researchers to the especially hidden and vulnerable. For future research, it may be beneficial to recruit trafficked persons at multiple sites and multiple stages of trafficking. Such recruitment strategies will likely require investigators to work with various and varied social and occupational networks using community-based, engaged, and participatory research strategies to recruit diverse groups of trafficked persons into studies.

Data sources. Much of the research with TIP participants who are engaged with nongovernmental, community-based, social services or antitrafficking organizations is based on health and/or social services record reviews. This research review showed that 22 articles used these types of data sources. Drawing exclusively from record review, especially from just one organization's records, limits the generalizability to other populations outside the scope of social services or antitrafficking organizations. As noted above with regard to participant recruitment, record review data likely reflect unique subpopulations of trafficked persons.

Service records also have other limitations. For example, drawing data from existing records information prohibits researchers from asking clarifying or follow-up questions. It is also not possible to know if health and human service providers are systematic in their maintenance of client records, and questions may have been asked in different ways depending on the service provider, client, or situational context. Further, service providers are not researchers and may be more likely to note severe health issues in comparison to issues that seemed typical or unrelated to trafficking from their perspective. Notably, one article tried to address this significant limitation by randomly sampling case records to review and asking the staff case manager clarifying questions about the record in question (Crawford & Kaufman, 2008).

Qualitative methods. About 40% of the reviewed articles used qualitative methods. Qualitative methods were used to investigate topics such as motivation for migration (Chudakov et al., 2002), stress points in reintegration after trafficking (Brunovskis & Surtees, 2012), contextualizing perceptions of HIV risk (Collins et al., 2013), and understanding trafficked people's recommendations for supportive interventions (Goldenberg, Engstrom, Rolon, Silverman, & Strathdee, 2013). The use of qualitative methods for TIP and health research offers an in-depth and nuanced picture of the experience of small groups of trafficked people, at various stages of the trafficking process,

including after their escape from trafficking and during reintegration. Importantly, such articles offer valuable insight into individual experiences, as well as emerging themes and health issues that appear to be common concerns across studies and locations. Given the growing call for TIP preventions, practices, policies, and research to be survivor centered, these qualitative findings can make an important contribution to the evidence base and help ensure that people who are most directly affected by TIP have a voice in the developing body of research. Nonetheless, qualitative methods do not generate evidence regarding population-level findings. Although the results from such efforts are meaningful and can help inform large, future quantitative studies, population-level studies concerned with incidence, prevalence, trends, and risk are also needed to comprehensively investigate TIP and health.

Quantitative methods. Forty-five articles in this review used quantitative research methods. Quantitative methods were used to investigate topics such as prevalence of HIV and other infectious diseases, mental health status, and characteristics of mode of entry into sex work or trafficking. Among the articles using quantitative methods, there was a notable lack of probability-based sampling in the majority of quantitative studies. With most quantitative studies using convenience sampling, conclusions and findings are limited in terms of their generalizability. With only a handful of articles using representative surveys or random sampling, as well as the varied levels of methodological rigor within quantitative studies, there is not yet a critical mass of research findings concerned with TIP and health that allow for definitive statements to be made regarding these issues.

Program evaluation and intervention research. Only three articles in our systematic review were identified as program reviews or evaluations (Aborisade & Aderinto, 2008; Crawford & Kaufman, 2008; Jana et al., 2014), with varying levels of rigor in evaluation. Despite the lack of research on programs, policies, and services to prevent and ameliorate TIP, there are growing numbers of programs and organizations worldwide working to help trafficked persons escape from these situations as well as help formerly trafficked persons recover and reintegrate into their chosen communities. Likewise, nations and governments are regularly developing new policies and procedures in the areas of criminal justice and immigration to address TIP. Unfortunately, with a dearth of evaluation research, none of these efforts are based on rigorously collected evidence (Hoff, 2014; Kaufman & Crawford, 2011; Macy & Johns, 2011).

Given how little we know about which strategies may be effective for helping trafficked persons, it is critical to evaluate practice and policy interventions to ensure best practices while also identifying and eliminating interventions that are ineffective or even harmful. Unfortunately, the limited number of program evaluation and intervention research articles determined in this review suggests that there is very little available evidence to guide efforts to address and ameliorate TIP and its associated health consequences. We call for future research

efforts to focus on program evaluation as well as rigorous intervention research of practices and policies. While ethical concerns can make randomization concerning in intervention studies, appropriate randomization can be used in intervention studies in conjunction with strong ethical practices as has been done in other similarly sensitive research. For example, research may compare an innovative program to usual care or by using a wait-list comparison group.

Longitudinal studies. With only two articles using longitudinal studies that followed participants over time, this review reveals a dearth of research focusing on the long-term effects of TIP and health. While cross-sectional studies may be able to identify some current and/or major health concerns of persons who had been trafficked, they lack the ability to more fully establish the temporality of trafficking and health concerns as well as to disentangle the constellation of short-, medium-, and long-term health consequences and their relationships to each other. Accordingly, due to the limited use of longitudinal methods in TIP and health research, significant gaps remain in knowledge regarding how TIP relates to health prior to, during, and after trafficking at both the individual and population levels.

How TIP and Health Research Methods Affect Knowledge

The limitations of current methodologies and analyses affect what is known about TIP and health in a variety of ways as well as influence confidence in findings and conclusions that can be drawn. Varying definitions, participant recruitment strategies, ethical standards, and outcome measures all impact what is known about TIP and health.

Varying Definitions of Trafficking

The lack of standard definitions of trafficking among researchers poses a significant challenge in conducting comparable research to build an overall evidence base. Although the UN definition detailed in the Palermo Protocol is the most common, not all countries, researchers, or organizations operationalize trafficking in the same way (Tyldum & Brunovskis, 2005).

In our review, it was unclear in some articles if the research population included individuals that had been trafficked, and several articles described the participants as having been trafficked but failed to specify the definition or the type of trafficking. A few articles discussed trafficking in the introduction or discussion section of the article, but the methods and sample description wording made it difficult to ascertain whether the participants had in fact been trafficked. At least one article located in initial database searches appeared to conflate all sex work as TIP, which is an area of significant controversy and disagreement (Cwikel & Hoban, 2005). Other articles did not identify their participants as women who had been trafficked, but the description of the women (e.g., forced into sex work) met those of the UN trafficking definition.

More broadly, the lack of a standardized definition and standard measures for researching and monitoring trafficking inhibits comparability across locations, disciplines, and studies. This lack of comparability makes it difficult to identify gaps in the research, which can either lead to remaining blind spots in the research or duplication of efforts. Addressing definitional discrepancies and developing comparable outcome measures will improve the ability of program managers, researchers, and decision-makers to draw conclusions based on shared evidence that uses the same standards of counting who is trafficked, measuring health issues, and best practices for treatment and reintegration.

Sampling Bias and Data Collection Difficulties

As noted earlier, the articles included in this review likely include trafficked persons who are systematically different than trafficked people who were not included in the study. For example, some trafficked persons will never interact with health care, law enforcement, migration, social service, or other institutions, and they may be significantly different from those who do, potentially biasing study samples. Local legal and cultural frameworks may differ in study locations, with some environments enabling more or less access to trafficked (or potentially trafficked) persons (Brunovskis & Surtees, 2010). Gatekeepers (those who facilitate access to trafficked people)—whether they are complicit in trafficking (e.g., brothel owners) or are providing some type of assistance (e.g., social workers at posttrafficking assistance programs)—may also bias study samples by giving, or refusing, nonrepresentative access to certain types of trafficked persons (e.g., success stories or the most dramatic cases; Bosworth, Hoyle, & Dempsey, 2011; Brunovskis & Surtees, 2010; Tyldum, 2010). When study participants are recruited through organizations, the characteristics of the gatekeeper's organization itself (e.g., a closed shelter vs. a drop-in center) may also bias the study results (Bosworth et al., 2011; Brunovskis & Surtees, 2010; Tyldum, 2010).

Limitations due to cost and safety may also present barriers to data collection with this population. Research has been done with persons still in the trafficking situation, though not often, due to the significant ethical concerns for the safety of those trafficked people, leading to a knowledge gap in health status while trafficking is ongoing. Similarly, such challenges in accessing trafficked persons for research may inadvertently encourage a mismatch of research question and participant type, such as assessing traumatic experiences during trafficking through service providers' descriptions of trafficked people's experiences rather than via trafficked people themselves. Many research questions are entirely appropriate to be explored through the perspectives of service providers (e.g., assessing difficulties in identifying trafficked people at health facilities). Nevertheless, the importance of understanding trafficking experiences from the perspectives of trafficked people should not be disregarded solely due to research limitations.

The majority of studies were conducted in urban areas, leaving less known about rural trafficking and health. While

this might be expected given the high proportion of articles focusing on sex trafficking and the perception that more sex work occurs in urban areas, it is likely that trafficking and/or sex work in rural areas is a more hidden population that presents fundamentally differently from trafficking and/or sex work in urban areas. We also note that the relative ease of conducting the research in urban areas where it may be more visible could mean that researchers tend to choose urban areas over rural area in selecting study sites. Research that regularly includes rural areas will help determine whether there are meaningful similarities and differences between TIP in rural areas relative to urban ones.

A majority of the studies were quantitative and used structured surveys or case record reviews to collect data. Articles using record reviews from health and social service organizations can provide essential information on symptoms, diagnoses, as well as physical and mental health statuses. However, follow-up time frames are often short because of the nature of such services and the data collected. Such short-term follow-up time frames lead to a body of research largely focused on proximal outcomes, rather than longitudinal ones, and cannot account for the true length of time that recovery may take. Without research on long-term outcomes, the efficacy of health and human services that trafficked people receive now will likely remain unknown. Further, record reviews are limited to information already collected and do not allow for researchers to formulate new questions. This type of study enables researchers to obtain information on a larger number of people while also protecting them from potential retraumatization by being subjected to potentially invasive questions about a difficult part of their lives. However, such research strategies also have limitations as mentioned previously, such as missing information from files.

The results of this systematic review showed that the research to date uses measures with varied validity and reliability, with many studies relying on self-reports or diagnosis by staff that may not be qualified or trained to make systematic diagnoses. To help address this significant limitation in the existing research, we call for the development of systematic outcome measures that can be used by researchers, funders, and program staff to document and investigate the helpfulness of programs and services for trafficked people.

Focus on Certain Types of Trafficking and Populations Over Others

The over representation of sex trafficking among TIP and health research indicates a worrisome dearth of TIP research relating to other forms of trafficking and health, particularly labor trafficking, which has been posited to outnumber trafficking for sexual exploitation (International Labour Organization, 2012). With only four articles focused on labor trafficking, including domestic servitude, in this review (Coonan, 2004; Oram, Ostrovski, et al., 2012; Patel et al., 2010; Tsutsumi et al., 2008), the need for increased research and documentation on health and labor trafficking is abundantly clear. Similarly,

comparatively little is known about men and boys or transgender persons who are trafficked, for sex, labor, or other reasons, as this has been the focus of few articles. We also note the limited research on trafficking in human organs.

We speculate that some of these differences in focus on various populations and types of trafficking may also be due in part to foundations' and governmental funding priorities. Overall, we speculate that there has been a greater focus on funding research, services, and interventions aimed at women and girls who have been trafficked for sex. Further, sex trafficking has also become a prominent social and advocacy issue, which in turn may lead to increased funding and attention. Although we do not call for decreased attention to the issue of sex trafficking, considerably more attention to issues of labor trafficking, human trafficking for organs as well as TIP specifically among males and people identifying as transgender is necessary to bridge knowledge gaps and serve these at-risk populations. Overall, we call for increased attention and resources for research on all forms of TIP and for people of all genders.

Focus on Certain Types of Health Outcomes Over Others

Many TIP and health articles ($n = 22$) have focused on HIV as a primary health outcome. This research has shown that trafficking, especially for sex work, increases risk of HIV. Evidence regarding HIV risk factors relative to TIP is an important in the progress toward preventing and reducing the burden of HIV. However, the extensive focus on HIV as the primary health outcome for TIP disregards the many other significant health issues that have been shown to be associated with trafficking. A tendency to focus on what some might perceive as the most serious or traumatic health effect draws attention away from other health effects that may be equally serious. We in no way want to suggest that TIP researchers should turn away from investigations of HIV. Rather, we would like to encourage TIP researchers to investigate the health consequences of TIP as broadly and comprehensively as their study resources allow.

Ethical Issues

Ethical conduct in research is of particular importance in conducting research with trafficked people. We encourage readers to review articles that include thorough descriptions of measures to ensure safety and confidentiality of participants as guidance for future research as well as to implement the best practices recommended in research and direct care guidelines published by the WHO, IOM, and others.

Some articles did not describe their human participant protections. As noted earlier, there could be a variety of reasons for why authors did not include this discussion. The fact that authors did not mention their protection protocols does not necessarily mean that the researchers did not protect the participants. Additionally, a minority of articles employed

procedures or conduct that was ethically troubling to this research team, such as researchers posing as paying clients in order to interview potentially trafficked sex workers in their place of work and convince them to recruit other women to participate. Given the particular importance of ethical conduct in TIP research, we urge a renewed emphasis on clarity and transparency in the use and description of ethical research procedures. Likewise, journal editors and peer reviewers should require authors to include such information.

Limitations of This Review

At the time of submission, this study was unique in its scope and approach as the only study to review all articles on human trafficking and health for methodology, approach, and resulting conclusions in the field. The review was systematic, using standard procedures and multiple reviewers to ensure consistency among research team members. However, it is possible that articles about TIP and health were excluded from the review if they were not included in the databases that we searched or were indexed in the databases after we conducted our literature searches, and the article inclusion criteria included only articles published in English prior to 2015. It is possible that articles were published in languages other than English that may have been pertinent to our review. Further, there is the potential that articles have been published since December 2014 that could not be captured in our review. Because we excluded articles that did not specifically identify the study population as trafficked, it is possible that we excluded articles that did actually include trafficked people. Our protocol for this review did not include gray literature. Accordingly, it is possible that the methodologies of research published in peer-reviewed journals and the methodologies of research published elsewhere are significantly different. For example, we note the dearth of longitudinal data. However, one of the seminal pieces of research (Zimmerman et al., 2006) on trafficking and health did include a longitudinal component, but the longitudinal findings were reported in a gray literature report.

Research, Policy, and Practice Implications

The findings presented here reveal that a variety of methods and approaches are being used in health and TIP research. Overall, there was a reliance on purposive sampling for structured interviews and record reviews at social service organizations. These methods may be cost-effective and efficient. However, there is now a critical need for representative and nonpurposive recruitment strategies for future investigations of TIP and health. Exploration of innovative methods to reach individuals during and after trafficking will further illuminate health needs and service delivery among this population. In addition, research focusing on long-term outcomes and well-being is necessary to identify effective strategies for trafficked persons' recovery, reintegration, and the prevention of re-trafficking.

Moreover, our findings demonstrate that limited attention has been paid in the peer-reviewed literature concerned with TIP and health to prevention and intervention research. The lack of intervention research and evaluation is particularly concerning because there are many health and social service agencies being funded and working to assist people who have been trafficked but which lack evidence to guide intervention development and implementation. It is possible that some of these assistance organizations may be employing ineffective or even potentially harmful strategies without knowing it.

Similarly, the limited research on overall prevention of trafficking and the trafficking cycle is an additional barrier to understanding trafficking's health effects and developing programs to combat them. Although many studies in the review were conducted with assistance from social service organizations, few studies appeared to include extensive collaboration between researchers and practitioners, let alone true collaboration with trafficked people themselves. Developing closer working relationships between researchers and practitioners could positively impact the quality of research and provide a more extensive evidence base for practice and policy development. Thus, the need for systematic monitoring and evaluation with respect to prevention, treatment, and reintegration interventions is urgent. Furthermore, expanding the scope of health and trafficking research to increasingly include other forms of trafficking (e.g., labor trafficking, domestic servitude, organ trafficking), and other populations (e.g., boys and men, transgender persons) will increase the evidence base of health concerns and effective approaches within this field.

We also encourage researchers to be specific about the definition of trafficking they are using, how they are measuring outcomes, and to increase contextual, nuanced discussion of policy implications. We found that articles that clearly tied their research to the larger picture of interventions working to decrease or intervene in trafficking, discussed possible solutions or suggestions, or outlined policy implications in an in-depth way were rare. However, this expanded, contextualized dissemination and discussion of research results added significantly to the quality of the article and more importantly can provide an effective evidence base from which to promote change in the TIP and health policy and programmatic arenas.

Finally, our review highlights areas for future research on methods used to study TIP and health. First, it would be useful for future research to critically analyze and summarize the specific methods used to assess health (such as mental health assessment tools or medical chart practices) to guide research and practice in this area. Second, we call for future research to summarize key findings related to various methodological groupings (e.g., quantitative vs. qualitative studies) used to study TIP and health as well as examine how methodological variations affect study findings and lessons learned. In sum, we urge practitioners, researchers, and policy makers to take into account and build upon these findings to move the field of TIP and health forward and thus promote the health and well-being of trafficked persons and ultimately work to prevent TIP's devastating effects on people and communities globally.

Acknowledgments

The authors would like to thank Beth Robinson for her valuable review and feedback during the writing process.

Declaration of Conflicting Interests

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

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Some of Laurie Graham's time and effort for this research was supported by the Caroline H. and Thomas S. Royster Fellowship awarded by the University of North Carolina at Chapel Hill.

Notes

1. Throughout this review, we use the phrases "trafficking in persons" and "human trafficking" interchangeably. Where a specific type of trafficking is discussed (e.g., sex trafficking), we specify as such. While some research may use the terms "survivors of trafficking" or "victims of trafficking," given the number of articles included in this review that may include persons at a variety of stages of the trafficking experience and/or who may describe themselves in multiple ways, we use "trafficked persons" and "trafficked people" instead.
2. The search terms trafficked people and trafficked persons returned only results that were duplicates of the initial results, and several search terms ("trafficking in people," "trafficking in persons," "labor traffick*," "slave*") returned results that were primarily comprised of biology articles with a few repeats of initial results.
3. Note that while six articles report collecting both quantitative and qualitative data, only three studies analyzed and reported on both types of data in the article.

References

References marked with an asterisk indicate studies included in the meta-analysis.

- *Abas, M., Ostrovski, N. V., Prince, M., Gorceag, V. I., Trigub, C., & Oram, S. (2013). Risk factors for mental disorders in women survivors of human trafficking: A historical cohort study. *BMC Psychiatry, 13*, 204. doi:10.1186/1471-244X-13-204
- *Aborisade, R. A., & Aderinto, A. A. (2008). Pathways to sex workers' rehabilitation and assessment of rehabilitation approaches in Nigeria: Evidence from a qualitative study. *Gender & Behaviour, 6*, 1925–1959.
- *Acharya, A. (2008). Sexual violence and proximate risks: A study on trafficked women in Mexico City. *Gender, Technology and Development, 12*, 77–99. doi:10.1177/097185240701200106
- *Acharya, A. (2009). Dynamic of gender violence and trafficking of women in Mexico: A study on Monterrey City. *Review of Research and Social Intervention, 24*, 7–20.
- *Adejumo, G. O. (2008). Psychosocial predictors of involvement of women as victims of trafficking in persons in South West Nigeria. *Gender & Behaviour, 6*, 1480–1493.

- *Antonopoulou, C. (2006). Symptoms of post-traumatic stress disorder in victims of sex-related trafficking. *International Psychology Bulletin, 10*, 32–37.
- *Baldwin, S. B., Eisenman, D. P., Sayles, J. N., Ryan, G., & Chuang, K. S. (2011). Identification of human trafficking victims in health care settings. *Health and Human Rights, 13*, 1–14.
- *Bettio, F., & Nandi, T. K. (2009). Evidence on women trafficked for sexual exploitation: A rights based analysis. *European Journal of Law and Economics, 29*, 15–42. doi:10.1007/s10657-009-9106-x
- *Blackburn, A. G., Taylor, R. W., & Davis, J. E. (2010). Understanding the complexities of human trafficking and child sexual exploitation: The case of Southeast Asia. *Women & Criminal Justice, 20*, 105–126. doi:10.1080/08974451003641099
- Bosworth, M., Hoyle, C., & Dempsey, M. M. (2011). Researching trafficked women: On institutional resistance and the limits to feminist reflexivity. *Qualitative Inquiry, 17*, 769–779. doi:10.1177/1077800411423192
- Brunovskis, A., & Surtees, R. (2010). Untold stories: Biases and selection effects in research with victims of trafficking for sexual exploitation. *International Migration, 48*, 1–37. doi:10.1111/j.1468-2435.2010.00628.x
- *Brunovskis, A., & Surtees, R. (2012). Coming home: Challenges in family reintegration for trafficked women. *Qualitative Social Work, 12*, 454–472. doi:10.1177/1473325011435257
- *Budiani-Saberi, D. A., Raja, K. R., Findley, K. C., Kerketta, P., & Anand, V. (2014). Human trafficking for organ removal in India: A victim-centered, evidence-based report. *Transplantation, 97*, 380–384. doi:10.1097/01.TP.0000438624.83472.55
- *Cannella, A. P., Nguyen, B. M., Piggott, C. D., Lee, R. A., Vinetz, J. M., & Mehta, S. R. (2011). A cluster of cutaneous Leishmaniasis associated with human smuggling. *American Journal of Tropical Medicine and Hygiene, 84*, 847–850. doi:10.4269/ajtmh.2011.10-0693
- *Chaplinskis, S., & Mardh, P. (2001). Characteristics of Vilnius street prostitutes. *International Journal of STD & AIDS, 12*, 176–180.
- *Chisolm-Straker, M., Richardson, L. D., & Cossio, T. (2012). Combating slavery in the 21st century: The role of emergency medicine. *Journal of Health Care for the Poor and Underserved, 23*, 980–987. doi:10.1353/hpu.2012.0091
- *Chudakov, B., Ilan, K., & Belmaker, R. H. (2002). The motivation and mental health of sex workers. *Journal of Sex & Marital Therapy, 28*, 305–315.
- *Collins, S. P., Goldenberg, S. M., Burke, N. J., Bojorquez-Chapela, I., Silverman, J. G., & Strathdee, S. A. (2013). Situating HIV risk in the lives of formerly trafficked female sex workers on the Mexico-US border. *AIDS Care, 25*, 459–465. doi:10.1080/09540121.2012.720361
- *Coonan, T. (2004). Human trafficking: Victims' voices in Florida. *Journal of Social Work Research and Evaluation, 5*, 207–216.
- *Crawford, M., & Kaufman, M. R. (2008). Sex trafficking in Nepal: Survivor characteristics and long-term outcomes. *Violence Against Women, 14*, 905–916. doi:10.1177/1077801208320906
- *Cwikel, J., Chudakov, B., Paikin, M., Agmon, K., & Belmaker, R. H. (2004). Trafficked female sex workers awaiting deportation: Comparison with brothel workers. *Archives of Women's Mental Health, 7*, 243–249. doi:10.1007/s00737-004-0062-8

- Cwikel, J., & Hoban, E. (2005). Contentious issues in research on trafficked women working in the sex industry: Study design, ethics, and methodology. *The Journal of Sex Research, 42*, 306–316.
- *Cwikel, J., Ilan, K., & Chudakov, B. (2003). Women brothel workers and occupational health risks. *Journal of Epidemiology & Community Health, 57*, 809–815.
- *Deb, S., Mukherjee, A., & Mathews, B. (2011). Aggression in sexually abused trafficked girls and efficacy of intervention. *Journal of Interpersonal Violence, 26*, 745–768. doi:10.1177/0886260510365875
- *Decker, M. R., Mack, K. P., Barrows, J. J., & Silverman, J. G. (2009). Sex trafficking, violence victimization, and condom use among prostituted women in Nicaragua. *International Journal of Gynecology and Obstetrics, 107*, 151–152. doi:10.1016/j.ijgo.2009.06.002
- *Decker, M. R., McCauley, H. L., Phuengsamran, D., Janyam, S., & Silverman, J. G. (2011). Sex trafficking, sexual risk, sexually transmitted infection and reproductive health among female sex workers in Thailand. *Journal of Epidemiology and Community Health, 65*, 334–339. doi:10.1136/jech.2009.096834
- *Dewan, S. E. (2014). Patterns of service utilization among pre-certified victims of human trafficking. *International Social Work, 57*, 64–74. doi:10.1177/0020872813507592
- *Dharmadhikari, A. S., Gupta, J., Decker, M. R., Raj, A., & Silverman, J. G. (2009). Tuberculosis and HIV: A global menace exacerbated via sex trafficking. *International Journal of Infectious Diseases, 13*, 543–546.
- *Di Tommaso, M. L., Shima, I., Strøm, S., & Bettio, F. (2009). As bad as it gets: Well-being deprivation of sexually exploited trafficked women. *European Journal of Political Economy, 25*, 143–162. doi:10.1016/j.ejpoleco.2008.11.002
- *Falb, K., McCauley, H. L., Decker, M. R., Sabarwal, S., Gupta, J., & Silverman, J. G. (2011). Trafficking mechanisms and HIV status among sex-trafficking survivors in Calcutta, India. *International Journal of Gynecology & Obstetrics, 113*, 86–87. doi:10.1016/j.ijgo.2010.11.009
- *Farley, M., Cotton, A., Lynne, J., Zumbek, S., Spiwak, F., Reyes, M., . . . Sezgin, U. (2004). Prostitution and trafficking in nine countries: An update on violence and posttraumatic stress disorder. *Journal of Trauma Practice, 2*, 33–74.
- Fedina, L. (2014). Use and misuse of research in books on sex trafficking: Implications for interdisciplinary researchers, practitioners, and advocates. *Trauma Violence Abuse, 16*, 188–198. doi:10.1177/1524838014523337
- *George, A., & Sabarwal, S. (2013). Sex trafficking, physical and sexual violence, and HIV risk among young female sex workers in Andhra Pradesh, India. *International Journal of Gynecology and Obstetrics, 120*, 119–123. doi:10.1016/j.ijgo.2012.08.019
- *Gezinski, L., & Karandikar, S. (2013). Exploring needs of sex workers from the Kamathipura red-light area of Mumbai, India. *Journal of Social Service Research, 39*, 552–561. doi:10.1080/01488376.2013.794758
- *Goldenberg, S. M., Engstrom, D., Rolon, M. L., Silverman, J. G., & Strathee, S. A. (2013). Sex workers perspectives on strategies to reduce sexual exploitation and HIV risk: A qualitative study in Tijuana, Mexico. *PLoS One, 8*. doi:10.1371/journal.pone.0072982
- *Gray, G. G., Luna, L., & Seegobin, W. (2012). Exploring resilience: Strengths of trafficking survivors in Cambodia. *International Journal of Adolescent Medicine and Health, 24*, 363–371. doi:10.1515/ijamh.2012.053
- *Gupta, J., Raj, A., Decker, M. R., Reed, E., & Silverman, J. G. (2009). HIV vulnerabilities of sex-trafficked Indian women and girls. *International Journal of Gynecology and Obstetrics, 107*, 30–34. doi:10.1016/j.ijgo.2009.06.009
- *Gupta, J., Reed, E., Kershaw, T., & Blankenship, K. M. (2011). History of sex trafficking, recent experiences of violence, and HIV vulnerability among female sex workers in coastal Andhra Pradesh, India. *International Journal of Gynecology and Obstetrics, 114*, 101–105. doi:10.1016/j.ijgo.2011.03.005
- Hoff, S. (2014). Where is the funding for anti-trafficking work? A look at donor funds, policies and practices in Europe. *Anti-Trafficking Review, 3*, 109–132.
- *Hom, K. A., & Woods, S. J. (2013). Trauma and its aftermath for commercially sexually exploited women as told by front-line service providers. *Issues in Mental Health Nursing, 34*, 75–81. doi:10.3109/01612840.2012.723300
- *Hossain, M., Zimmerman, C., Abas, M., Light, M., & Watts, C. (2010). The relationship of trauma to mental disorders among trafficked and sexually exploited girls and women. *American Journal of Public Health, 100*, 2442–2449. doi:10.2105/AJPH.2009.173229
- International Labour Organization. (2012). *ILO global estimate of forced labour: Results and methodology*. Geneva, Switzerland: Author.
- International Labour Organization. (2014). *Profits and poverty: The economics of forced labour*. Geneva, Switzerland: Author.
- *Jana, S., Dey, B., Reza-Paul, S., & Steen, R. (2014). Combating human trafficking in the sex trade: Can sex workers do it better? *Journal of Public Health (Oxford), 36*, 622–628. doi:10.1093/pubmed/fdt095
- *Karandikar, S., Gezinski, L. B., & Meshelemiah, J. C. A. (2011). A qualitative examination of women involved in prostitution in Mumbai, India: The role of family and acquaintances. *International Social Work, 56*, 496–515. doi:10.1177/0020872811425804
- Kaufman, M. R., & Crawford, M. (2011). Sex trafficking in Nepal: A review of intervention and prevention programs. *Violence Against Women, 17*, 651–665.
- *Konstantopoulos, W. M., Ahn, R., Alpert, E. J., Cafferty, E., McGahan, A., Williams, T. P., . . . Burke, T. F. (2013). An international comparative public health analysis of sex trafficking of women and girls in eight cities: Achieving a more effective health sector response. *Journal of Urban Health, 90*, 1194–1204. doi:10.1007/s11524-013-9837-4
- Laczko, F., & Gramegna, M. A. (2003). Developing better indicators of human trafficking. *Brown Journal of World Affairs, X*, 179–194.
- Macy, R. J., & Johns, N. (2011). Aftercare services for international sex trafficking survivors: Informing U.S. service and program development in an emerging practice area. *Trauma Violence Abuse, 12*, 87–98. doi:10.1177/1524838010390709
- *McCauley, H. L., Decker, M. R., & Silverman, J. G. (2010). Trafficking experiences and violence victimization of sex-trafficked young women in Cambodia. *International Journal of Gynecology & Obstetrics, 110*, 266–267. doi:10.1016/j.ijgo.2010.04.017
- *McDonald, L., & Timoshkina, N. (2004). Examining service needs of trafficked women from the former eastern bloc: The Canadian

- case. *Journal of Social Work Research and Evaluation*, 5, 169–192.
- *Miller, E., Decker, M. R., Silverman, J. G., & Raj, A. (2007). Migration, sexual exploitation, and women's health: A case report from a community health center. *Violence Against Women*, 13, 486–497. doi:10.1177/1077801207301614
- *Muftic, L. R., & Finn, M. A. (2013). Health outcomes among women trafficked for sex in the United States: A closer look. *Journal of Interpersonal Violence*, 28, 1859–1885. doi:10.1177/0886260512469102
- *Okonofua, F. E., Ogbomwan, S. M., Alutu, A. N., Kufre, O., & Eghosa, A. (2004). Knowledge, attitudes and experiences of sex trafficking by young women in Benin City, South-South Nigeria. *Social Science & Medicine*, 59, 1315–1327. doi:10.1016/j.socscimed.2004.01.010
- *Omorodion, F. I. (2009). Vulnerability of Nigerian secondary school to human sex trafficking in Nigeria. *African Journal of Reproductive Health*, 13, 33–48.
- *Oram, S., Ostrovschi, N. V., Gorceag, V. I., Hotineanu, M. A., Gorceag, L., Trigub, C., & Abas, M. (2012). Physical health symptoms reported by trafficked women receiving post-trafficking support in Moldova: Prevalence, severity and associated factors. *BMC Womens Health*, 12.
- Oram, S., Stockl, H., Busza, J., Howard, L. M., & Zimmerman, C. (2012). Prevalence and risk of violence and the physical, mental, and sexual health problems associated with human trafficking: Systematic review. *PLoS Med*, 9, e1001224. doi:10.1371/journal.pmed.1001224
- *Oram, S., Zimmerman, C., Adams, B., & Busza, J. (2011). International law, national policy-making, and the health of trafficked people in the U.K. *Health and Human Rights*, 13, 1–14.
- *Ostrovschi, N. V., Prince, M. J., Zimmerman, C., Hotineanu, M. A., Gorceag, L. T., Gorceag, V. I., . . . Abas, M. (2011). Women in post-trafficking services in Moldova: Diagnostic interviews over two time periods to assess returning women's mental health. *BMC Public Health*, 11, 232. doi:10.1186/1471-2458-11-232
- *Patel, R. B., Ahn, R., & Burke, T. F. (2010). Human trafficking in the emergency department. *Western Journal of Emergency Medicine*, 11, 402–404.
- *Raphael, J., Reichert, J. A., & Powers, M. (2010). Pimp control and violence: Domestic sex trafficking of Chicago women and girls. *Women & Criminal Justice*, 20, 89–104. doi:10.1080/08974451003641065
- *Reid, J. A. (2010). Doors Wide Shut: Barriers to the successful delivery of victim services for domestically trafficked minors in a Southern U.S. Metropolitan Area. *Women & Criminal Justice*, 20, 147–166. doi:10.1080/08974451003641206
- *Reid, J. A. (2011). An exploratory model of girls' vulnerability to commercial sexual exploitation in prostitution. *Child Maltreat*, 16, 146–157. doi:10.1177/1077559511404700
- *Reid, J. A., & Piquero, A. R. (2014). Age-graded risks for commercial sexual exploitation of male and female youth. *Journal of Interpersonal Violence*, 29, 1747–1777. doi:10.1177/0886260513511535
- *Rende Taylor, L. (2005). Dangerous trade-offs: The behavioral ecology of child labor and prostitution in rural northern Thailand. *Current Anthropology*, 46, 411–431.
- *Reza-Paul, S., Lorway, R., O'Brien, N., Lazarus, L., Jain, J., Bhagya, M., . . . Steen, R. (2012). Sex worker-led structural interventions in India: A case study on addressing violence in HIV prevention through the Ashodaya Samithi collective in Mysore. *Indian Journal of Medical Research*, 135, 98–106.
- *Sarkar, K., Bal, B., Mukherjee, R., Chakraborty, S., Saha, S., Ghosh, A., & Parsons, S. (2008). Sex-trafficking, violence, negotiating skill, and HIV infection in brothel-based sex workers of eastern India, adjoining Nepal, Bhutan, and Bangladesh. *Journal of Health, Population, and Nutrition*, 26, 223–231.
- *Silverman, J. G., Decker, M. R., Gupta, J., Dharmadhikari, A. S., Seage, G. R., & Raj, A. (2008). Syphilis and hepatitis B co-infection among HIV-Infected, sex-trafficked women and girls, Nepal. *Emerging Infectious Diseases*, 14, 932–934.
- *Silverman, J. G., Decker, M. R., Gupta, J., Maheshwari, A., Patel, V., & Raj, A. (2006). HIV prevalence and predictors among rescued sex-trafficked women and girls in Mumbai, India. *Journal of Acquired Immune Deficiency Syndromes*, 43, 588–593.
- *Silverman, J. G., Decker, M. R., Gupta, J., Maheshwari, A., Patel, V., Willis, B. M., & Raj, A. (2007). Experiences of sex trafficking victims in Mumbai, India. *International Journal of Gynecology and Obstetrics*, 97, 221–226. doi:10.1016/j.ijgo.2006.12.003
- *Silverman, J. G., Decker, M. R., Gupta, J., Maheshwari, A., Willis, B. M., & Raj, A. (2007). HIV prevalence and predictors of infection in sex-trafficked Nepalese girls and women. *Journal of the American Medical Association*, 298, 536–542. doi:10.1001/jama.298.5.536
- *Silverman, J. G., Raj, A., Cheng, D. M., Decker, M. R., Coleman, S., Briden, C., . . . Samet, J. H. (2011). Sex trafficking and initiation-related violence, alcohol use, and HIV risk among HIV-infected female sex workers in Mumbai, India. *Journal of Infectious Diseases*, 204, S1229–S1234. doi:10.1093/infdis/jir540
- *Silverman, J. G., Saggurti, N., Cheng, D. M., Decker, M. R., Coleman, S. M., Briden, C., . . . Raj, A. (2014). Associations of sex trafficking history with recent sexual risk among HIV-infected FSWs in India. *AIDS and Behavior*, 18, 555–561. doi:10.1007/s10461-013-0564-3
- *Simkhada, P. (2008). Life histories and survival strategies amongst sexually trafficked girls in Nepal. *Children & Society*, 22, 235–248. doi:10.1111/j.1099-0860.2008.00154.x
- *Tsumumi, A., Izutsu, T., Poudyal, A. K., Kato, S., & Marui, E. (2008). Mental health of female survivors of human trafficking in Nepal. *Social Science & Medicine*, 66, 1841–1847. doi:10.1016/j.socscimed.2007.12.025
- Turner-Moss, E., Zimmerman, C., Howard, L. M., & Oram, S. (2014). Labour exploitation and health: A case series of men and women seeking post-trafficking services. *Journal of Immigrant and Minority Health*, 16, 473–480. doi:10.1007/s10903-013-9832-6
- Tyldum, G. (2010). Limitations in research on human trafficking. *International Migration*, 48, 1–13. doi:10.1111/j.1468-2435.2009.00597.x
- Tyldum, G., & Brunovskis, A. (2005). Describing the unobserved: Methodological challenges in empirical studies on human trafficking. *International Migration*, 43, 17–34.
- United Nations General Assembly. (2000). *Protocol to prevent, suppress and punish trafficking in persons, especially women and children, supplementing the United Nations convention against transnational organized crime*. Palermo, Italy: Author.

- U.S. Department of State. (2007). *Trafficking in persons report 2007*. Washington, DC: Author.
- U.S. Department of State. (2014). *Trafficking in persons report 2014*. Washington, DC: Author.
- *Urada, L. A., Morisky, D. E., Pimentel-Simbulan, N., Silverman, J. G., & Strathdee, S. A. (2012). Condom negotiations among female sex workers in the Philippines: Environmental influences. *PLoS One*, 7, 1–9. doi:10.1371/journal.pone.0033282.t001
- *Vindhya, U., & Dev, V. S. (2011). Survivors of sex trafficking in Andhra Pradesh: Evidence and testimony. *Indian Journal of Gender Studies*, 18, 129–165. doi:10.1177/097152151101800201
- *Williams, T. P., Alpert, E. J., Ahn, R., Cafferty, E., Konstantopoulos, W. M., Wolferstan, N., . . . Burke, T. F. (2010). Sex trafficking and health care in metro Manila: Identifying social determinants to inform an effective health system response. *Health and Human Rights*, 12, 135–147.
- *Wirth, K. E., Tchetgen Tchetgen, E. J., Silverman, J. G., & Murray, M. B. (2013). How does sex trafficking increase the risk of HIV Infection? An observational study from Southern India. *American Journal of Epidemiology*, 177, 232–241. doi:10.1093/aje/kws338
- *Wong, J. C., Hong, J., Leung, P., Yin, P., & Stewart, D. E. (2011). Human trafficking: An evaluation of Canadian medical students' awareness and attitudes. *Education for Health*, 24, 1–10.
- World Health Organization. (2012). *Understanding violence against women: Human trafficking*. Geneva, Switzerland: Author.
- Zimmerman, C. (2003). *WHO ethical and safety recommendations for interviewing trafficked women*. Geneva, Switzerland: WHO.
- Zimmerman, C., Hossain, M., & Watts, C. (2011). Human trafficking and health: A conceptual model to inform policy, intervention and research. *Social Science & Medicine*, 73, 327–335. doi:10.1016/j.socscimed.2011.05.028
- *Zimmerman, C., Hossain, M., Yun, K., Gajdadziev, V., Guzun, N., Tchomarova, M., . . . Watts, C. (2008). The health of trafficked women: A survey of women entering posttrafficking services in Europe. *American Journal of Public Health*, 98, 55–59.
- Zimmerman, C., Hossain, M., Yun, K., Roche, B., Morison, L., & Watts, C. (2006). *Stolen smiles: The physical and psychological health consequences of women and adolescents trafficked in Europe*. London, England: London School of Hygiene & Tropical Medicine.
- Zimmerman, C., & Watts, C. (2003). *WHO ethical and safety recommendations for interviewing trafficked women*. Retrieved from: http://www.who.int/mip/2003/other_documents/en/Ethical_Safety-GWH.pdf

Author Biographies

Abby C. Cannon is a research associate and gender specialist for the MEASURE Evaluation Project within the Carolina Population Center at the University of North Carolina, Chapel Hill. Beginning in 2010, she spearheaded efforts to integrate gender across health areas, international monitoring and evaluation systems, and capacity building. Her research focuses on the intersection of gender and health, with particular interest in HIV, trafficking in persons, and gender-based violence. Her experience in gender and health spans domestic and international settings; direct service with survivors of domestic

violence and human trafficking; as well as monitoring, evaluation, and research. Cannon holds a bachelor's degree in psychology from Furman University. She worked in foster care and adoption services before returning to the University of North Carolina at Chapel Hill for graduate studies in social work and public health, obtaining her MSW and MPH.

Jennet Arcara is a PhD student in the Department of Maternal and Child Health at the University of North Carolina at Chapel Hill. Her PhD studies and research focus on demographic methods, gender-based violence, reproductive health, and maternal morbidity and mortality. She was a UNC fellow at IntraHealth International and was a U.S. Department of Education Foreign Language and Area Studies fellow in Urdu for the first 2 years of her PhD program. Prior to returning to school, she was a country programs manager at Venture Strategies Innovations, where she managed programs, policy development, and research on reducing maternal mortality in Africa and South Asia. Jennet received an MPH in Global Health with a concentration in reproductive health and population studies from the Rollins School of Public Health at Emory University, an MPP with a concentration in gender and international development from the Hubert H. Humphrey School of Public Affairs at the University of Minnesota, and a BA in anthropology and foreign languages from Syracuse University.

Laurie M. Graham, MSW, received her bachelor's degree in sociology with a second concentration in psychology and her master's degree in social work from UNC–Chapel Hill. Upon receipt of her master's, she worked for the Orange County Rape Crisis Center in Chapel Hill for several years, most recently as the programs director. As a recipient of the Caroline H. and Thomas S. Royster fellowship, she is pursuing her doctorate at the UNC–CH School of Social Work where she teaches a service-learning course for undergraduate students and focuses her research activities on sexual violence primary prevention, human trafficking, as well as intervention and prevention strategies for survivors of gender-based violence more broadly. She received the 2013 Peer Support Award from the North Carolina Coalition Against Sexual Assault for being the lead author on a manual concerning best practices in developing and coordinating support group programs for survivors of sexual violence.

Rebecca J. Macy is the L. Richardson Preyer distinguished chair for Strengthening Families at the UNC at Chapel Hill School of Social Work. She taught courses in social work practice, family violence, mental health, and statistics. She joined the UNC faculty in 2002, after receiving her doctoral degree in social welfare from the University of Washington in Seattle. In 1993, she received her MSW from Tulane University in New Orleans. She has social work practice experience in community mental health where she worked with violence survivors. Her research is concerned with multiple forms of violent victimization, including partner violence, sexual violence, and human trafficking. Her research activities focus on the health consequences of victimization, repeated victimizations across the life span, and the development of community-based preventions and interventions to promote violence survivors' resilience and well-being. She has published over 50 peer-reviewed articles, book chapters, and invited articles on these topics. She received the 2013 Office of the Provost Award for engaged research from the University of North Carolina at Chapel Hill and the 2010 Award for Community Service from the Orange County North Carolina Rape Crisis Center.