

BMJ Open

BMJ Open is committed to open peer review. As part of this commitment we make the peer review history of every article we publish publicly available.

When an article is published we post the peer reviewers' comments and the authors' responses online. We also post the versions of the paper that were used during peer review. These are the versions that the peer review comments apply to.

The versions of the paper that follow are the versions that were submitted during the peer review process. They are not the versions of record or the final published versions. They should not be cited or distributed as the published version of this manuscript.

BMJ Open is an open access journal and the full, final, typeset and author-corrected version of record of the manuscript is available on our site with no access controls, subscription charges or pay-per-view fees (<http://bmjopen.bmj.com>).

If you have any questions on BMJ Open's open peer review process please email info.bmjopen@bmj.com

BMJ Open

Measurement and prevalence of sexual harassment in low and middle income countries: a systematic review

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2020-047473
Article Type:	Original research
Date Submitted by the Author:	30-Nov-2020
Complete List of Authors:	Ranganathan, Meghna; London School of Hygiene and Tropical Medicine Faculty of Public Health and Policy, Global Health and Development Wamoyi , Joyce ; National Institute for Medical Research Muhimbili Research Centre, Pearson, Isabelle; London School of Hygiene & Tropical Medicine, Global Health and Development Stoeckl, Heidi; London School of Hygiene and Tropical Medicine Faculty of Public Health and Policy, Global Health and Development
Keywords:	Depression & mood disorders < PSYCHIATRY, PUBLIC HEALTH, Sexual and gender disorders < PSYCHIATRY

SCHOLARONE™
Manuscripts



I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our [licence](#).

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which [Creative Commons](#) licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

1
2
3 **Measurement and prevalence of sexual harassment in low and middle income countries: a**
4 **systematic review**
5
6

7 Meghna Ranganathan^{1*}, Joyce Wamoyi², Isabelle Pearson¹, Heidi Stoeckl¹
8
9

10
11 ¹ London School of Hygiene and Tropical Medicine, Faculty of Public Health and Policy, Department
12 of Global Health and Development
13

14
15 ² National Institute for Medical Research, Department of Sexual and Reproductive Health, Mwanza,
16 Tanzania
17
18

19
20
21
22 ***Corresponding author**
23

24 Dr. Meghna Ranganathan
25

26 The London School of Hygiene and Tropical Medicine
27

28 15-17 Tavistock Place,
29

30 London WC1H 9SH
31

32 Email: Meghna.Ranganathan@lshtm.ac.uk
33
34

35
36
37 **Key words:** Sexual harassment, Gender discrimination, unwanted sexual attention
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Abstract

Objectives: Despite gaining worldwide prominence, there remains ambiguity around the definition and measurement of sexual harassment in low and middle income countries (LMICs). We synthesise evidence from studies on sexual harassment in LMICs to estimate the prevalence and highlight evidence gaps.

Design: Systematic review and meta-analysis.

Methods: We searched MEDLINE, EMBASE, Global Health, PsycINFO, EconLit, Scopus, Web of Science and Social Policy and Practice databases. Search terms covered all LMIC names and 'sexual harassment' in titles or abstracts published in English from 1990 until April 2020. We also conducted a meta-analysis on studies that focused on the association between sexual harassment and depression.

Results: From 49 included studies, 40 studies focussed on workplaces and educational institutions and nine on public places. The definition of sexual harassment was unclear in many studies. Many studies did not deploy a validated measurement tool and either used a direct question or a series of behavioural questions to elicit information on acts considered offensive or defined as sexual harassment. Educational institutions had a higher prevalence of sexual harassment than workplaces although there was high heterogeneity in prevalence estimates across studies. Our meta-analysis showed some evidence of an association between sexual harassment and depression (OR: 2.22, 95% CI, 1.67-2.94, $p < 0.001$) although there were only three studies with a high risk of bias.

Conclusion

To our knowledge, this is the first systematic review to assess measurement approaches and estimate the prevalence of sexual harassment across settings in LMICs. We also contribute a pooled estimate of the association between sexual harassment and depression in LMICs. Overall, there is limited definitional clarity, and rigorously designed prevalence studies that use validated measures for sexual

1
2
3 harassment in LMICs. Improved measurement will enable us to obtain more accurate prevalence
4
5 estimates of sexual harassment across different settings to design effective interventions and policies.
6
7
8

9
10 **Strengths and Limitations of this study**

- 11
12 • This is the first systematic review to assess measurement approaches and estimate the
13 prevalence of sexual harassment across settings (workplace, educational and public places) in
14 LMICs.
15
16
17
18 • We also contribute the first pooled estimate of the association between sexual harassment and
19 depression in LMICs.
20
21
22 • We identified several conceptual and methodological issues in the included studies that limit
23 the conclusions that can be drawn from the review. Further, heterogeneity in prevalence
24 estimates is likely to further reduce the comparability of findings.
25
26
27
28 • Most studies used non-probability sampling and did not provide information on the
29 representativeness of their samples.
30
31
32
33 • If sexual harassment did not feature in the abstract and was a secondary objective in studies,
34 this review might have missed it resulting in publication bias.
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Introduction

In the last two decades, the pervasiveness and costs of sexual harassment has become a growing concern globally [1]. This has been precipitated by the #MeToo and Times Up movements in the mid-2010s that increased global awareness of offending actions that women and girls experience in their daily personal and working lives. The discussions around these movements, however, have predominantly taken place in high income countries or affluent urban areas in low and middle income countries (LMIC) [2]. Depending on the setting, sexual harassment can encompass a range of behaviours and practices of a sexual nature, such as unwanted sexual comments or advances, sexual jokes, displaying pictures or posters objectifying women, physical contact or sexual assault [3]. Sexual harassment is frequent in occupational and educational settings, with women more likely to experience sexual harassment than men [2].

The World Health Organisation (WHO) defines sexual harassment as ‘any unwelcome sexual advance, unwelcome request for sexual favour, verbal or physical conduct or gesture of a sexual nature, or any other behaviour of a sexual nature that might reasonably be expected or be perceived to cause offence, humiliation or intimidation to the person’ [4]. Further, institutions like the International Labour Organisation (ILO) have used a similar definition with an explicit mention of the workplace and two additional categories: ‘quid pro quo’ or ‘hostile working environment’. Quid pro quo sexual harassment is when a worker is asked for a sexual favour and submitting to or rejecting that request is used to decide about that worker’s employment. Hostile working environment harassment covers conduct that creates an intimidating, hostile or humiliating working environment [5]. Sexual harassment may be perpetrated by different individuals, including teachers, colleagues, supervisors, subordinates and third parties [3]. In line with the ILO definition, the hierarchical and gendered power relations within occupational or educational settings have naturalised a sexual contract in which some male colleagues or academics consider it a right to demand sex with female juniors or students in return for career progression or grades [6].

1
2
3 Some studies, primarily from high income settings, have shown that those who report experiencing
4 sexual harassment in the workplace typically report decreased job satisfaction [7], psychological
5 distress including anxiety, anger, and depression [8], as well as physical distress such as weight loss,
6 fatigue, and even symptoms of post-traumatic stress disorder [9]. Economic hardship due to job loss
7 can occur when victims quit their position or are fired as retaliation for reporting; this, alongside lost
8 opportunities for career advancement are serious economic consequences of sexual harassment.
9 Organisations in which harassment is prevalent suffer from absenteeism, increased staff turnover, lower
10 job performance and productivity, increased legal fees, and negative public image [10]. Sexual
11 harassment on university campuses has been shown to be a factor impeding female participation and
12 satisfaction with their studies [6]. A recent systematic review from studies from the United States of
13 America (USA) showed that exposure to sexual harassment in higher education leads to physical and
14 psychological consequences for individuals, such as irritation, anger, depression, stress, discomfort,
15 feelings of powerlessness and degradation [11], physical pain [12], unwanted pregnancies and sexually
16 transmitted diseases [13] and increased alcohol use [14].
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34

35 Most scientific research focused on sexual harassment has historically focused on high income countries
36 (e.g., USA) [15], [16]. For example, the 1992 U.S. National Health and Social Life Survey found a
37 prevalence of workplace sexual harassment of 41% in women and 32% in men [17]. Similarly, a recent
38 meta-analytic review using probability samples from the US found that approximately 58% of women
39 had experienced sexual harassment in the workplace [15]. The measurement tools for estimating the
40 prevalence of sexual harassment have mainly been developed and tested in high income countries—
41 with uncertain relevance for women in the Global South. Relatedly, the ILO and the WHO measurement
42 tools to measure abuses globally are applicable only for specific spheres of life, e.g. work, or education
43 [18]. There has been less research on sexual harassment prevalence in other countries and spheres of
44 lives. An epidemiological survey in China found that 12.5% of women overall had experienced sexual
45 harassment within the past year [19]. Conversely, a study of college employees in Ethiopia found a
46 much higher prevalence of sexual harassment, with 47% of women faculty and staff reporting they
47 experienced sexual harassment in the workplace [9]. Differences in prevalence rates of sexual
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 harassment across cultures likely reflect cultural differences in the frequency of harassment, as well as
4 differences in the likelihood of labelling specific behaviours as harassment, particularly among studies
5 that do not use behaviourally specific descriptions of sexual harassment.
6
7
8

9
10
11 Further, methodological differences across studies make direct comparisons in prevalence measures
12 challenging, including different definitions of harassment, different survey methods and measures, the
13 use of convenience versus representative samples, and studies of employees in different types of
14 organisations [11], [15]. The consequence of these challenges is that prevalence measures for sexual
15 harassment may vary widely. In order to estimate the true percentage of women experiencing sexual
16 harassment in different settings and countries across the Global South there is a need to systematically
17 synthesise the current published evidence, comparing across contexts with a view to providing insights
18 to improve measurement practices for future studies. To date, no study has systematically reviewed
19 prevalence estimates in peer-reviewed research on sexual harassment across different settings
20 (workplace, education, public spaces) in LMICs. The purpose of this study is to address this gap through
21 the review and synthesis of prevalence studies on sexual harassment published from January 1990 to
22 April 2020 to highlight evidence gaps for measurement and programmatic considerations.
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38

39 **Methods**

40 *Search strategy and selection criteria*

41
42 Our systematic review protocol was registered on the PROSPERO international prospective register of
43 systematic reviews, with the record number CRD42020176881. We searched key public health, health
44 sciences and health economics databases – MEDLINE, EMBASE, Global Health, PsycINFO, EconLit,
45 Scopus, Web of Science and Social Policy and Practice on April 14, 2020. Search terms were the names
46 of all countries in low and middle income settings and the term ‘sexual harassment’ in any abstract or
47 title published in English on or after 1 January 1990. We also screened the reference lists of included
48 papers. Our detailed search strategy is included as [Appendix 1](#).
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 Studies were eligible for inclusion if they: (1) were published in English, (2) were conducted in low and
4 middle income countries (as defined by World Bank country classifications at any point from 1 January
5 1990 to April 2020); (3) measured the prevalence of sexual harassment in peer-reviewed research based
6 on either a cross-sectional survey, case control study, or cohort study; (4) included female or male
7 participants aged 14 and over; and (5) conceptualised sexual harassment as an independent or dependant
8 variable. Studies were excluded if they were: (1) non-English studies, (2) conducted in high income
9 countries, (3) case studies, legal/policy frameworks, theoretical pieces, qualitative studies, conference
10 abstracts, dissertation abstracts, theses, and book chapters; or (4) studies focused on groups such as
11 those in military services, in war zones, or in refugee camps as these were population groups and
12 situations with a higher prevalence of sexual harassment owing to their unique situation.
13
14
15
16
17
18
19
20
21
22
23
24
25

26 ***Data screening, extraction, and quality appraisal***

27
28 The first author (MR) and last author (HS) initially screened records by title and abstract according to
29 the inclusion and exclusion criteria. Full text articles were then reviewed by one reviewer (MR) for
30 eligibility and then double-checked by a second reviewer (HS). Disagreements about inclusion of
31 articles were discussed by MR and HS until consensus was reached on articles to include. For instance,
32 during the full text screening, we excluded studies on health care professionals (e.g., nurses and doctors)
33 as this population was well-studied with two meta-analyses focused exclusively on this group in China
34 [20], [21]. The final set of included full-text articles were formally appraised by two reviewers (MR and
35 HS). Data from full-text sources were extracted using the following headings: first author and year;
36 country; study setting; description of study sample; study design and sample number; information
37 provided on sexual harassment –study definition, measurement approach, reporting period, prevalence
38 estimates, frequency of acts and main perpetrator; outcomes (if measured), outcome direction and
39 nature of effect. We also excluded five studies that did not include a measure of sexual harassment or
40 did not include the prevalence estimate despite a mention in the abstract [22]–[26]. The study selection
41 process, including the number of study abstracts and full texts screened with reasons for exclusion, is
42 depicted in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)
43 flowchart as [Figure 1](#).
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 Using criteria adapted from Hoy et al. (2012) [27], the Joanna Briggs Institute (JBI) checklist [27] and
4 our own study criteria, two reviewers appraised the quality of included studies. The completed quality
5 appraisal table (please see [Appendix 2](#)) includes nine questions about study quality: whether studies
6 answered our research question, sampling strategy, participation rates, and any bias in the measurement
7 of prevalence of sexual harassment and reported results. Papers received a grade of either 0 (low) or 1
8 (high) for each question, giving a maximum total score of 9. Studies with a total score 0-3 were
9 considered low quality, 4-6 were of moderate quality and 7-9 were of high quality. No studies were
10 included or excluded from the review based on their quality score. We have followed PRISMA
11 guidelines for this review and include the completed checklist (please see [Appendix 3](#)).
12
13
14
15
16
17
18
19
20
21
22
23

24 ***Data Analysis***

25
26 We used a narrative synthesis textual approach to synthesise data as our study was focused on resolving
27 questions for measuring the prevalence of sexual harassment and not the effectiveness of an intervention
28 [28]. We grouped studies around measures used to report prevalence estimates of sexual harassment
29 and assessed this across different studies. We also compared the findings with our conceptual
30 understandings of sexual harassment to interpret the findings. We presented the results after assessing
31 the methodological quality of the included studies, and critically reflected on the strengths and
32 weaknesses of the approaches used, including limitations such as evidence gaps, quality of the evidence
33 and biases in the review process.
34
35
36
37
38
39
40
41
42
43
44

45 Given the high heterogeneity across studies, we conducted a meta-analysis of only three studies that
46 presented odds ratios (ORs) for exposure to sexual harassment with the outcome of poor mental health,
47 namely depression. For this, a random-effects meta-analysis was conducted to provide a pooled OR
48 using Stata 15, specifically the 'metan' command. This pooled OR was calculated based on the results
49 of three studies [9], [29], [30]; which, in total, provided four ORs (one study had two ORs) for the risk
50 of depression among sexually harassed women. We used a random-effects model due to the perceived
51 variability in populations and methods used in the included studies.
52
53
54
55
56
57
58
59
60

Ethics Statement

All data used in this review were already in the public domain and ethical approval was not required.

Patient and public involvement

No patient involved as this is a systematic review.

Results

The study selection process is presented in [Figure 1](#). Our literature searches returned 485 unique records, of which 310 were excluded after screening titles and abstracts. Full text copies of the remaining 175 references that met the inclusion criteria were retrieved. After further screening, 49 papers were retained for inclusion. Of the 49 papers, 48 were identified from searches of electronic databases and one from a citation search.

<Insert Figure 1: PRISMA flowchart for study selection >

Description of included studies

[Table 1](#) provides a summary of the characteristics of all included studies. Except for two studies published between 2000 and 2020; a majority (n=35) of the studies were published after 2010. In terms of geographic spread, most studies were either from Asia (n=26) and sub-Saharan Africa (SSA) (n=22) with only three studies from Latin America and four from the Middle East and North Africa region. Studies (75%, n=43) were primarily focused on either a workplace or educational setting, with only ten studies focused on public spaces, such as public transport, streets or the community. Among educational settings, most were higher educational institutions with four studies [31]–[34] focused on adolescents at secondary schools. All, but two studies were observational with cross-sectional surveys; only two studies had a longitudinal design [35], [36]. Most studies (n=41) focused on surveys representative of the population in specific settings; samples of males and females working in universities, in public sector jobs, or male and female students at schools or universities. Seven studies focused on special populations with increased vulnerabilities based on their occupation or life situation, for instance, female bar workers [29], frontline hotel employees [35], homeless individuals [37], female migrant

1
2
3 workers in garment factories [38], female domestic workers [38] or clergy members [39]. Most studies
4 had small sample sizes with less than 500 participants (n=33), some were medium size samples of 500-
5 5000 (n=19) and a handful of studies with sample sizes above 5000 (n=3). Only four studies were
6 nationally representative [19], [34], [40], [41].
7
8
9

10 11 12 13 Definition of sexual harassment

14
15 Despite an intention to measure sexual harassment, 35% (n=17) of identified articles had no listed
16 definition of sexual harassment. This rendered their conceptualisation of sexual harassment as unclear.
17 For studies that defined sexual harassment, these varied from a two-part objective (the identification of
18 the activity) and subjective (the person's perception) definition of sexual harassment, to a 'lay'
19 definition of sexual harassment that included types or classes of behaviour; 'unwanted sexual related
20 behaviour' or 'unwelcome conduct of a sexual nature' or 'intimidating verbal or physical sexual
21 advances'. These studies sought to find out behaviours that constitute harassment, and those that do not
22 (for instance, Fitzgerald and colleagues, 1995) [16]. Despite not having an explicit definition of sexual
23 harassment, one study (Tripathi et al., 2016) acknowledged that a range of acts ranging in severity can
24 come under its purview, for example, from passing comments about a girl amongst a group of friends
25 to sexual assault and that there are subjective perceptions of whether the actions are sexual harassment
26 or not, especially where no physical contact is involved [5].
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42

43 Eight studies in this review drew on the definition by Fitzgerald et al., 1995 that assumes classes of
44 behaviours that constitute sexual harassment. This definition was initially conceptualised for the
45 workplace but is applicable to other settings. It is composed of three related but conceptually distinct
46 dimensions, gender harassment, unwanted sexual attention and sexual coercion.
47
48
49
50
51
52

53 Gender harassment is considered as the most common type of sexual harassment. It consists of insulting
54 verbal and nonverbal behaviours conveying derogatory, hostile, or degrading attitude toward women
55 based on their gender; unwanted sexual attention consists of verbal and nonverbal behaviours that are
56 offensive, unwanted, and unreciprocated; sexual coercion entails sexual advances, and makes the
57
58
59
60

1
2
3 conditions of employment (or education, for students) contingent upon sexual cooperation [16]. In line
4
5 with the ILO definition, harassing behaviours can be either direct (targeted at an individual) or ambient
6
7 (a general level of sexual harassment in an environment). Furthermore, a harasser may be male or
8
9 female, and harassment is not limited to men harassing women, although this is the most common.”
10
11 [16]. Please see [Appendix 4](#) for a range of study-specific definitions of sexual harassment.
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

For peer review only

Table 1: Summary characteristics of included studies (n=49)

Reference	Publication year			Study setting				Sample size		SH definit ion.	Measurement approach			Scales		Sex disaggre gated	Perpetra tor informat ion	Frequency of acts/experi ence	
	1990-1999	2000-2010	2010-2020	Workplace	Educational	Public places	Community/other	General	Special populations		Less than 500	More than 500	Included	Direct query	List of behaviours or acts				Categories of physical, non-verbal, verbal
Luo 1996 [42]	x			x				x		x		x			x		x	x	
Tang et al., 1996 [43]	x				x			x		x			x		x		x	x	
Mayekiso et al., 1997 [44]	x				x			x		x		x			x		x	x	
Shumba et al., 2002 [45]		x			x			x		x		x			x		x	x	
Fineran et al., 2003 [33]		x			x			x		x		x			x		x	x	
Fawole et al., 2005 [36]		x		x				x		x		x			x		x	x	
Okoro et al., 2005 [46]		x					x	x		x		x			x		x	x	
Parish et al., 2006 [19]		x					x	x		x			x		x		x	x	
Puri et al 2007 [38]		x		x				x		x		x			x		x	x	
Merkin 2008 [7]		x		x				x		x		x			x		x	x	
Marsh et al., 2009 [9]		x		x				x		x		x	x		x				
De Souza et al., 2009 [47]		x		x				x		x		x			x				
Owoaje et al., 2009 [48]		x			x			x		x		x			x		x	x	
Koehlmoos et al., 2009 [37]		x					x	x		x		x			x		x	x	
Premadasa et al., 2011 [49]			x		x			x		x			x		x		x	x	
Owoaje et al., 2011 [50]			x		x			x		x			x		x		x	x	
Lahsaeizadeh et al., 2012 [51]			x		x			x		x			x		x		x	x	
Dhlomo et al., 2012 [52]			x		x			x		x			x		x				
Hutagalang et al., 2012 [53]			x		x			x		x				x					
Norman et al., 2012 [54]			x		x			x		x			x		x		x	x	
Fernandes et al., 2012 [30]			x				x	x		x		x			x				
Norman et al., 2013 [39]			x		x			x		x			x		x		x	x	
de Puisseau et al., 2013 [32]			x		x			x		x			x		x		x		
Norman et al., 2013 [55]			x		x			x		x			x		x		x	x	
Haile et al., 2013 [56]			x		x			x							x				
Park et al., 2013 [40]			x		x			x				x			x				
Austrian et al., 2014 [31]			x				x	x				x			x		x	x	

Reference	Publication year			Study setting				Sample		SH definit ion.	Measurement approach			Scales		Sex disaggregated	Perpetra tor informat ion	Frequency of acts/experi ence	
	1990-1999	2000-2010	2010-2020	Workplace	Educational	Public places	Community/other	General	Special populations		Less than 500	More than 500	Included	Direct query	List of behaviours or acts				Categories of physical, non-verbal, verbal
Maurya et al., 2014 [57]	x			x				x		x			x			x			x
Mamaru et al., 2015 [58]		x			x			x		x				x				x	
Tobar et al., 2015 [59]		x			x			x		x			x					x	
Kunwar et al., 2015 [60]		x		x				x		x				x				x	
Vuckovic et al., 2016 [3]		x		x				x		x			x			x		x	
Sahraian et al., 2016 [61]		x			x			x		x			x			x		x	
Tripathi et al., 2016 [62]		x		x				x		x			x					x	
Zhang et al., 2016 [41]		x				x		x		x				x			x		
Talboys et al., 2017 [63]		x				x		x		x			x					x	
Xie et al., 2017 [64]		x			x			x		x				x				x	
Tripathi et al., 2017 [65]		x				x		x		x				x				x	
Dar et al., 2018 [66]		x					x	x		x			x					x	
Aina et al., 2018 [67]		x			x			x		x			x					x	
Mabetha et al., 2018 [34]		x			x			x		x			x					x	
Ul Haq et al., 2018 [68]		x			x			x		x			x			x		x	
Akoku et al., 2019 [29]		x		x				x		x			x					x	
Murshid et al., 2019 [69]		x				x		x		x			x					x	
Zhu et al., 2019 [35]		x		x				x		x			x					x	
Saberi et al., 2019 [70]		x		x				x		x			x					x	
Gautam et al., 2019 [71]		x				x		x		x				x				x	
Huang et al., 2019 [72]		x			x			x		x				x			x	x	
Oni et al., 2019 [73]		x			x			x		x				x				x	

Measurement approach for sexual harassment

The measurement approach used by included studies was either a direct query method with the question “have you been sexually harassed?” (n=14) [3], [9], [66]–[68], [30]–[32], [40], [42], [57], [61], [62] [7] or a series of questions where participants had to indicate whether they had experienced behaviours or acts consistent with sexual harassment (n=26) [9], [29], [45], [46], [48], [50], [52], [54], [55], [59], [63], [69], [33], [70], [72], [73], [34]–[37], [39], [43], [44]. There were nine studies [19], [41], [49], [53], [58], [60], [64], [65], [71] that conceptualised sexual harassment as physical, verbal and non-verbal acts; *physical* consisted of purposely bumping or hurting someone, acting indecently, and inappropriate touching, *verbal* consisted of inappropriate sexual comments about body parts, telling sexual or dirty jokes and asking a favour for having sexual intercourse; and *non-verbal* consisted of displaying inappropriate pictures through email/social media, inappropriate eye contact. In terms of the conceptualisation for sexual harassment and its measurement, we excluded three studies that mentioned measuring sexual harassment but measured sexual violence explicitly defined and measured as sexual violence or sexual abuse in the study with forced sex or rape [74]–[76] (See [Table 1](#)).

In terms of measurement scales, many studies did not deploy a validated tool, but either used a direct question or a series of behavioural questions to elicit information on acts that are considered offensive or defined as sexual harassment (see [Table 1](#)). These were preceded sometimes with a single ‘gate question’ to assess an entire class of events where only respondents with a positive response receive additional questions to clarify the nature of the event(s). Sixteen studies used existing sexual harassment scales from studies conducted in high income settings, particularly North America. Examples of some of the scales are listed in [Table 2](#):

Table 2: Sexual harassment scales validated in high income setting used in prevalence studies across LMIC settings

Validated scales	Description	Study references
Adapted version of the 25-item Sexual Experiences Questionnaire (SEQ) (Fitzgerald, et al 1995) [16], Berdahl and Moore (2006) [76], Murry and	A questionnaire that combines a series of questions across three dimensions: <ul style="list-style-type: none"> gender harassment, most common type of sexual harassment. It refers to a broad range of verbal and nonverbal behaviours not aimed at sexual cooperation but that convey insulting, hostile, and degrading attitudes about 	8 studies [35], [39], [47], [52], [54], [55], [57], [72]

Validated scales	Description	Study references
Sivasubramaniam [77], Stark 2002 [79] for workplace and educational	<p>members of one gender (e.g., demeaning jokes or comments about women),</p> <ul style="list-style-type: none"> • unwanted sexual attention includes expressions of romantic or sexual interest that are unwelcome, unreciprocated, and offensive to the target (e.g., staring, whistling in a sexual way) • sexual coercion entails sexual advances, and makes the conditions of employment (or education, for students) contingent upon sexual cooperation (e.g., implied faster promotion for sex) <p>These were combined into a single estimate of sexual harassment and by categories.</p> <p>Three studies included an additional final direct question on whether they consider any of the above as sexual harassment.</p>	
Modified version of the American Association of University Women (AAUW) Educational Foundation questionnaire on sexual harassment in college campuses [80]	<p>Sexual harassment experiences were asked across four categories:</p> <ul style="list-style-type: none"> • Whether they experienced sexual harassment (Y/N) • Form of sexual harassment (physical or non-physical) • Type of non-physical (e.g., unwanted sexual comments, ask for sexual exchange for favours, leering, leave sexual pictures) • Type of physical (e.g., unwanted sexual touching, forced kissing, clothes pulled in a sexual way, intentional brushing against a person in a sexual way) 	3 studies [46], [48], [68]
Eve Teasing Questionnaire–Mental Health (ETQ-MH) in public places	<p>Consisted of questions about: (a) eve teasing exposure, nature, timing, and intensity; (b) chronicity that delineates one time or on-going harassment</p> <p>Actual questions were:</p> <ol style="list-style-type: none"> Have you ever been eve-teased? When was the last time you were eve-teased? I am going to read you this list of behaviours. As I read each one, can you tell me if you have been the target of any of these in the past year by men/boys: staring; stalking; making vulgar gestures; passing an insulting or threatening comment; pushing or brushing by accident 	1 study [63]
Sexual harassment question in Workplace Violence questionnaire created by the International Labour Organisation/World Health Organisation/International Council of Nurses/Public Services International (ILO/WHO/ICN/PSI) [18]	<p>Direct question on experiencing sexual harassment in the past year:</p> <ol style="list-style-type: none"> 1) In the last 12 months, have you been sexually harassed in your workplace? Y/N 2) How often have you been sexually harassed in the last 12 months? all the time, sometimes, once 3) Please think of the last time you were sexually harassed in your place of work. Who sexually harassed you? (client, staff member, external colleague, relatives of patient/client, supervisor, general public, other) 4) Do you consider this to be a typical incident of sexual harassment in your workplace? Y/N 	2 studies [61], [70]
WHO's adolescent's sexual behaviour questionnaire. [81]	<p>Questions on sexual harassment:</p> <ol style="list-style-type: none"> 1) Young boys/girls are sometimes touched on the breast or some other parts of the body when they do not want it, by a stranger, relative or an older person. <ol style="list-style-type: none"> a) Has this ever happened to your friends? b) Has this ever happened to you? 	1 study [38]

Validated scales	Description	Study references
	2) Young boys/girls are sometimes forced to have sexual intercourse against their will by a stranger, relative or an older person, teacher, owner etc. a) Has this ever happened to your friends? b) Has this ever happened to you? IF YES "When did it happen?" "If yes, then please say by whom?"	
Rautio et al (2005) Medical Student questionnaire [82]	1) If you have been subjected to sexual harassment or discrimination, what form did it take? (Check all that apply): denied opportunities, exchange of rewards for sexual favours; sexual advances; sexist slurs; sexist materials; malicious gossip, favouritism, poor evaluations. 2) How often, if ever, have any of the following persons subjected you to sexual harassment or discrimination (e.g. favouritism, advances, slurs, sexist teaching material)?: Fellow students, consultants, registrars, assistants, lecturers, nurses, laboratory workers. 3) All of the above perpetrators asked in terms of frequency (never, rarely (1-2 times), sometimes (3-4 times), often (5 or more times).	1 study [50]
Braine et al (1995) sexual harassment questionnaire adapted for university students [83]	11 behaviours that may constitute sexual harassment (uncategorised): <ul style="list-style-type: none"> • unwelcome touching and fondling, • sexually directed remarks about clothing, body, sexual activities • unwanted sexual remarks/jokes • unwanted sexual advances • staring, suggestive looks at parts of the body • pressure for dates and sexual favours despite refusing • sexually loaded noises, gestures or comments • derogatory remarks about women • unwanted letters, phone calls or materials of a sexual nature • wolf-whistling, embarrassing whistling, howling 	1 study [44]

Most studies (n=35) did not ask about frequency of behavioural acts at all. None of the studies provided information on cases of sexually harassing behaviours that could present a better indication of the pervasiveness of the behaviour. For example, an unwanted comment received once differs from one received regularly over a month or few months. Thus, an emphasis on specific patterns of behaviour rather than just a focus on singular incidents is a better measure for pervasiveness. Studies that used the adapted versions of the SEQ scale assessed the number of times or the frequency with which different types of harassment are experienced on a Likert scale, either 0-4 or 0-5 (0 = never, 1 = rarely, 2 = sometimes, 3 = often, 4 = almost always) or the ETQ-MH scale delineated one time versus on-going. Perpetrator data is important to understand sexual harassment perpetration and the power differential

1
2
3 with the survivor of sexual harassment. Fifteen studies did not ask for any information about
4 perpetrators. In workplace settings, 11 studies mentioned perpetrators of the opposite sex and more
5 often a superior at the workplace. In educational settings, when the study was collecting information
6 from students, most studies (n=7) reported that most students reported a superior (lecturer or a senior
7 student) [34], [39], [43]–[45], [48], [49]. In some studies (n=2) with staff members, it was often a head
8 of department of the opposite sex. In public places and community settings, three studies referred to
9 strangers of the opposite sex as perpetrators [31], [65], [71].

20 ***Prevalence of sexual harassment***

21
22 The definition and the measurement approach used by studies is crucial to determining prevalence rates.
23 However, the measurement dimensions and techniques used to measure prevalence rates across these
24 studies are heterogenous with no international comparability. This presented a challenge for calculating
25 an overall estimate or measuring a range.
26
27
28
29

30
31
32 Table 3 provides prevalence measures by measures, scale, setting and population. In studies that used
33 only the direct query method, the prevalence of sexual harassment (as defined by the studies) ranged
34 from 0.6-26.1%. Among studies where questions were based on behavioural acts, the prevalence range
35 was wide-ranging from 14.5-98.8% indicating that studies were able to capture a higher prevalence for
36 certain individual behaviours or acts, such as suggestive comments, inappropriate staring, unwanted
37 touching and sexual calls. Only three studies [9], [55], [72] had a list of behavioural questions, followed
38 by a direct question about whether participants thought ‘they had been sexually harassed?’ or ‘whether
39 they consider the above behaviours as sexual harassment?’. It appeared that the prevalence rates for
40 experiencing offensive acts was higher when followed up in the survey with the direct question. In
41 studies that asked questions based on physical, verbal and non-verbal categories the ranges were:
42 physical (1.6%-42.3%), verbal (8.3%-90.4%), non-verbal (11.3%-80.1%) (see table 3). There was
43 variation in prevalence rates by the type of validated scale, as seen in the following examples. For
44 studies that adapted different types of the SEQ scale with a range in the types of questions included, the
45 overall prevalence range from six studies was 6.2%-28% with only one study [72] reporting 78%; the
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

modified version of the AAUW, the range was high from 69.8%-83%, the ETQ-MH for one study where the prevalence was 48.3% ever experienced and 37.1% past year experience; for the direct query method in the ILO/WHO/ICN/PSI studies were 26.1% aggregate in one study [61] and 12% females in another study [70] (see table 3).

There was variation in prevalence rates by type of setting; workplace settings ranged from 1-52% depending on the context of the workplace and the population group. However, the methods or techniques used to calculate prevalence varies noticeably across studies in these settings. In educational settings, it ranged from 14.4%-73% , but studies measured or categorised dimensions differently and it was also based on the type of study population, such as adolescent girls and boys. In the three studies [37], [65], [71] done in public places the range was 25-78%. In the seven studies done in the community, the prevalence range was 11.9%-83% [19], [30], [31], [41], [46], [63], [69]. In studies that used special populations (n=7) who are more vulnerable to experiencing sexual harassment based on their occupation or life situation, average prevalence rates were reported to be higher than when studies used a general sample which had lower estimates of prevalence. For example, the prevalence of sexual harassment among female bar workers was 98.8% and among clergy and lay members 73% (see table 3). For further details on study characteristics and information on sexual harassment, please see [Appendix 5](#).

Table 3: Prevalence of sexual harassment by measures, setting and population

Type	Prevalence range	Reference
Measurement approach		
Direct query method	0.6% - 26.1%	[3], [7], [62], [66]–[68], [9], [30]–[32], [40], [42], [57], [61]
List of behaviours or acts (wide-ranging behaviours). Most common below:	14.5%–98.8%	[9], [29], [45], [46], [48], [50], [52], [54], [55], [59], [63], [69], [33], [70], [72], [73], [34]–[37], [39], [43], [44]
Suggestive comments	85-90%	
Inappropriate staring	70-90%	
Unwanted touching	46-70%	
Categories (physical, sexual, non-verbal, verbal)		[19], [41], [49], [53], [58], [60], [64], [65], [71]
Physical	1.6%-42.3%	

Type	Prevalence range	Reference
Verbal	8.3%-90.4%	
Non-verbal	11.3%-80.1%	
Settings		
Workplace	1-52%	[3], [29], [35], [38], [40], [47], [57], [62], [84][9], [36], [42], [53], [60], [70]
Educational	14.4%-73%	[32], [33], [48], [49], [52], [58], [59], [64], [67][34], [43]–[45], [50], [56], [68], [72], [73]
Public places/ Community/Other	25-78% 11.9%-83%	[37], [65], [71] [19], [30], [31], [41], [52], [53], [61]
Special populations		
Female bar workers	98.8% in the past 3 months	[29]
Homeless adult population	62.9% in the time-period of being homeless	[37]
Clergy and lay members	73% in the past 12 months	[39]
Female domestic workers	25% in the past 12 months	[47]
Female migrant workers	12.2% ever experience	[38]
Female apprentices (hairdressers, tailors)	22.9% (time-period not specified)	[36]
Female patients in hospitals (with mental health issues) *	65% (time-period not specified)	[66]

*as reported by relatives

Sexual harassment and associations with mental health

Of the 49 studies, 13 studies measured outcomes associated with sexual harassment. These were positive associations with symptoms of poor mental health (n=8) [9], [29], [30], [35], [54], [55], [57], [58], risky sexual behaviours (n=1) [34], work related life satisfaction or stress (n=2) [40], [53], student's quality of life (n=1) [64] and loss of trust in other religious members (n=1) [39]. Of the studies that measured symptoms of poor mental health with extractable information, three studies showed associations with symptoms of depression (Akoku, 2019, Fernandes et al., 2012 and Marsh et al., 2009) [9], [29], [30], one study showed associations with psychological distress (Mamaru et al., 2015) [58] and one with work related sleep problems [40] (see [table 4](#)).

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Author, year	Outcome	Instrument & threshold to Assess Mental distress	OR and 95% CI
--------------	---------	--	---------------

For peer review only

1 2 3 4 5 6 7 8 9	Akoku et al. (2019)	Depressive symptoms	Five-item Mental Health Inventory scale (MHI-5)	Experienced inappropriate staring from male customers (aOR: 3.08; CI: 1.9-5.0); Repeated demands for dates despite a rejection (aOR 1.61, 1.04-2.49).
10 11 12 13 14 15	Fernandes et al. (2012)	Common mental disorders (CMDs) defined usually by depression (including unipolar major depression), anxiety and somatoform disorders	General health questionnaire with 12 items (GHQ-12). Cut off score=5 and above.	Sexual harassment: aOR: 2.25; CI: 1.63–3.1
16 17 18 19 20 21 22	Marsh et al. (2009)	Depression	Patient Health Questionnaire (PHQ-9) quick depression assessment tool. 0=never, 1=several weeks in the past year, 2=more than half of past year, 3 =nearly the whole year. Summative score divided into summative categories.	Workplace abuse and sexual harassment: OR: 8.0; 95% CI: 1.1-60.8
23 24 25 26	Mamaru et al. (2015)	Psychological distress	Self-reported questionnaire (SRQ-20) (World Health Organisation)	Physical sexual harassment (aOR: 3.9; CI: 1.9-7.9) Non-verbal sexual harassment (aOR: 12.1; CI: 5.2-28.2)
27 28 29	Park et al. (2013)	Work related sleep problems	Sleep problems assessed by single item 'Do you currently suffer from work-related sleep problems?'	Sexual harassment: aOR: 6.99 (CI: 3.87–12.6)

Table 4: Prevalence and risk of depression, psychological distress and work related sleep problems among sexually harassed women

aOR: adjusted odd ratio

One study showed that students who were physically harassed [aOR = 3.950, 95% CI: 1.979, 7.884] and nonverbally harassed [aOR = 12.1, 95% CI: 5.190, 28.205] had four and 12 times higher odds of experiencing psychological distress respectively [58]. Another study in the workplace showed that those who experienced sexual harassment experienced close to seven times higher odds of work related sleep problems [40].

For the association between sexual harassment and symptoms of depression, we calculated a random-effects meta-analysis to obtain a pooled odds ratio. The pooled OR was 2.22 (95% CI 1.67, 2.94; $p < 0.001$), showing a significant relationship between exposure to sexual harassment and symptoms of depression. This pooled OR showed a heterogeneity of 23.9%, with a p -value of 0.268 suggesting that there was no significant heterogeneity. A forest plot presenting the results of the random effects meta-

1
2
3 analysis of three studies presenting a total of four odds ratios for the association between sexual
4 harassment and symptoms of depression is shown in Figure 2.
5
6
7
8

9 <Insert Figure 2>
10
11
12

13 **Discussion**

14
15 In our systematic review on sexual harassment in LMICs, most studies were published in the past decade
16 (>2010) indicating that the issue of sexual harassment has gained prominence in LMICs more recently.
17
18 Studies were primarily convenience samples focused on either a workplace or educational setting and
19 were from Asia and SSA, with only three studies from Latin America. All the studies were cross-
20 sectional surveys, only two studies had a longitudinal design and four were nationally representative.
21
22 The review showed that a third of the studies intended to measure the prevalence of sexual harassment
23 without a clear definition. Even when studies included a definition, from the WHO or the ILO or
24 Fitzgerald's (1995) definition, there was variation between studies on the conceptualisation of sexual
25 harassment and the measurement focus of the study was ambiguous. In particular, due to the subjective
26 nature of sexual harassment, and how a participant might perceive their experience, versus what the
27 legal definition is, there were challenges to measuring sexual harassment and obtaining a true
28 prevalence measure [85]. To emphasise the ambiguity with definitions, in our literature search, three
29 studies conflated sexual harassment with sexual violence when discussing their measurement of sexual
30 harassment. We excluded these studies in the final review but wanted to raise the issue of unclear
31 conceptualisation of sexual harassment. We acknowledge that sexual harassment and sexual violence
32 might overlap, especially regarding the unwanted sexual nature of physical contact, and we should not
33 expect to clearly distinguish them in every case as they appear to lie on a continuum of severity.
34
35 However, sexual violence tends to be more severe acts such as forced sex or attempted rape. Further, a
36 conflation of the sexual harassment and sexual violence has implications for measurement, as
37 individuals may not report the non-penetrative experiences that characterises sexual harassment.
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 In terms of prevalence rates of sexual harassment there was variation by the type of setting with higher
4 educational institutions having a higher range than the workplace, however as most studies used
5 convenience samples with small sample sizes it is difficult to draw conclusions. For the 30 studies that
6 were conducted on males and females, 19 studies disaggregated prevalence rates by sex and in all
7 studies, except one study [68], females reported a higher prevalence of sexual harassment than males.
8
9 In the one study [68] when there was higher reporting by males, it was related to the age difference
10 between the individuals and the perpetrators who were in positions of authority. This aligns with
11 evidence from high-income settings that some behaviours are more likely to be perceived as harassing
12 by both sexes if they are engaged in by someone who has higher status or formal authority over the
13 harassed. When there is no status differential the immediate threat is not apparent, which may elicit
14 actual gender differences in how events are interpreted; men may perceive the behaviour as harmless
15 social interaction, women may perceive an element of threat [86]

16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31 There was also wide variation by the type of measurement approach (direct query versus behavioural
32 acts or categories). Studies were able to capture a higher prevalence for certain individual behaviours
33 or acts, such as suggestive comments, inappropriate staring, unwanted touching and sexual calls, than
34 with only a direct question asking if they have been sexually harassed. Further, three studies that used
35 the SEQ scale used a combination approach that included the list of offensive behaviours, followed by
36 one question on whether the individual who responded positively to one or more instances of
37 inappropriate behaviour *acknowledges* that they have experienced sexual harassment. Surprisingly, the
38 studies show that a high percentage of individuals have experienced two or more harassing behaviours
39 (e.g., unwanted touching, suggestive comments), but a lower percentage acknowledge that their
40 experience is sexual harassment. For example, in Huang et al. (2019), while 78% of 1,075 respondents
41 experienced at least one situation of harassment listed in SEQ-China, only 43% reported having been
42 sexually harassed [72]. This suggests the need to consider other factors for this discrepancy, such as
43 cultural norms and normalisation of the practice or the power dynamic between the perpetrator and the
44 victim. This is also clarified by Stockdale et al. (1995) who describe this discrepancy between reporting
45 a harassment-like experience and reporting that one has been sexually harassed as *the acknowledgment*

1
2
3 *process* [87]. They found that acknowledgment was more likely if someone had experienced unwanted
4 sexual attention, such as sexual looks, gestures, or touching, if (a) the offences were frequent and
5 pervasive, (b) the respondent was harassed by a higher status perpetrator, and (c) the respondent was a
6 woman [87]. Thus, individuals harassed by perpetrators higher in status (and thus having more power)
7 would be more likely to label their experience as sexual harassment than individuals harassed by
8 perpetrators of the same or lower status. In this review, if the information on perpetrators was available,
9 most studies indicated offensive behaviour by lower status perpetrators compared to higher status
10 perpetrators. Students and co-workers were the most frequently mentioned type of perpetrator in
11 educational and workplace settings. Moreover, in those studies that measure it, peer harassment is far
12 more common than harassment by superiors [33], [34], [43]. One explanation for low acknowledgment
13 is that most incidents involve offensive behaviour by perpetrators not considered to be sexual harassers
14 (e.g., peer). This, however, does not change the fact that the behaviours they experienced were offensive
15 and unacceptable behaviours.
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

33 There is strong agreement that the consequences of sexual harassment are manifold and serious,
34 irrespective of whether the focus of research is employees in working life or students and staff in higher
35 education [11]. In our review, 13 studies measured outcomes associated with sexual harassment. The
36 pooled odds ratio calculated in the random-effects meta-analysis shows that based on three studies
37 identified in this review, there is evidence of a significant association between sexual harassment and
38 depression but there needs to be more research in this area by setting.
39
40
41
42
43
44
45
46
47

48 *Strengths and Limitations*

49 To our knowledge, this is the first systematic review to assess the prevalence and measurement of sexual
50 harassment in LMICs, with the first pooled estimate of the association between sexual harassment and
51 depression in LMICs. In terms of limitations, our review has not included non-peer reviewed literature
52 or articles not published in English, potentially leading to an underrepresentation of non-English
53 speaking countries. Using a low, moderate and high cut-off for methodological quality could imply that
54 all criteria carry equal weight, and some studies may have been misclassified as regards their overall
55
56
57
58
59
60

1
2
3 quality. We also identified several conceptual and methodological issues in the included studies that
4 limit the conclusions that can be drawn from the review. Following quality appraisal by two reviewers,
5 17 of the 49 included papers scored <4/9 (low/moderate) on questions relating to selection bias. Further,
6 we found that most studies used non-probability sampling and did not provide information on the
7 representativeness of their samples. Finally, heterogeneity in studies' definitions of sexual harassment
8 is likely to further reduce the comparability of findings. A further definitional complexity is around the
9 conflation of sexual harassment with sexual violence by some studies. While there are overlaps between
10 sexual harassment and sexual violence particularly around unwanted sexual comments or advances,
11 sexual violence tends to encompass more coercive and severe penetrative behaviours such as rape,
12 whereas sexual harassment tends to focus on less physically severe but offensive behaviours that can
13 create a hostile environment for victims of sexual harassment. By conflating sexual violence and sexual
14 harassment, we risk the under-reporting or non-measurement of sexual harassment with negative
15 impacts on women and girls. Also, if sexual harassment was only a secondary objective of studies and
16 did not feature in the abstract, this review might have missed it resulting in publication bias. Finally,
17 our meta-analysis of sexual harassment and depression must be interpreted with caution. First, the three
18 studies were deemed homogeneous enough to be included in a meta-analysis because they all presented
19 odds ratios for the association between sexual harassment and depression; however, in each of these
20 studies, different definitions of sexual harassment were used, along with different methods of assessing
21 symptoms of poor mental health. Second, both Akoku et al. (2019) and Fernandes et al. (2015) were
22 concluded in the quality assessment to have a high risk of bias, with Marsh et al. (2009) concluded as
23 showing a moderate risk of bias. Both Marsh et al. (2009) and Akoku et al. (2019) did not use random
24 samples in their study and were not representative of their target population. In Fernandes et al. (2012),
25 the study lacked both clear definitions of sexual harassment and clear descriptions of how it was
26 measured. Finally, only four measures of effect (from three studies) were included and one of which
27 (Marsh et al., 2009) presented only a non-significant unadjusted odds ratio for the association between
28 sexual harassment and depression. The aforementioned points mean that, although the results of this
29 study as a whole may suggest there is a significant association between sexual harassment and
30 symptoms of depression, there is a lack of strong evidence to support this and more research is needed.
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Conclusions

Overall, this review provides a needed summary of the state of the evidence on sexual harassment in LMICs. Despite a dramatic increase in the profile of sexual harassment over the past decade, definitional clarity and rigorously designed prevalence studies that use validated measures for sexual harassment from LMICs is limited. Nevertheless, this review confirms that the prevalence of sexual harassment is high across workplace, educational, and public settings and women experience a higher prevalence than men. Questions that capture behavioural acts over the direct query method seem to be more effective in garnering a response, but this needs to be cognitively tested more widely. Our analysis also indicates that sexual harassment is associated with symptoms of poor mental health. We need higher quality studies that explore the consequences of sexual harassment. As there is no sign that sexual harassment is abating, there is an urgent need to improve the measurement of sexual harassment and improved measures are particularly critical for large, repeat nationally representative surveys.

1
2
3 **Declarations**
4

5 **Ethics approval**
6

7 Not applicable
8

9 **Consent for publication**
10

11 Not applicable
12

13 **Availability of data and material**
14

15 All data generated or analysed during this study are included in this published article [and its
16 supplementary files].
17

18 **Competing interests**
19

20 The authors declare that they have no competing interests.
21

22 **Funding**
23

24 **The study received funding from** the British Academy Sustainable Development Grant Programme
25 (grant number SDP2\100069). British Academy did not contribute to study design, data collection and
26 analysis, interpretation of data or writing the manuscript.
27

28 **Authors' contributions**
29

30 Conceived and designed the study: MR, HS, JW. Data collection: MR. Analysed the data: MR, HS, IP.
31 Wrote the first draft of the manuscript: MR. Contributed to the writing of the manuscript: MR, HS, JW,
32 IP. Agreed with manuscript results and conclusions: MR, HS, JW, IP.
33

34 **Acknowledgements**
35

36 None
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

References

- [1] World Health Organization 2016, "Working for health and growth: investing in the health workforce. Report of the High-Level Commission on Health Employment and Economic Growth.," Geneva, Switzerland, 2016.
- [2] Littleton H, Abrahams N, Bergman M, Berliner L, and B. M. et Al, "Sexual assault, sexual abuse, and harassment: Understanding the mental health impact and providing care for survivors.," 2018. [Online]. Available: www.istss.org/sexual-assault%0ASexual. [Accessed: 01-Oct-2020].
- [3] M. Vuckovic, A. Altvater, L. H. Sekei, and K. Kloss, "Sexual harassment and gender-based violence in Tanzania's public service: A study among employees in Mtwara Region and Dar es Salaam," *Int. J. Work. Heal. Manag.*, vol. 10, no. 2, pp. 116–133, 2017.
- [4] World Health Organisation, "Violence against women – Intimate partner and sexual violence against women.," Geneva, Switzerland, 2011.
- [5] International Labour Office, "Ending violence and harassment against women and men in the world of work," Geneva, Switzerland, 2018.
- [6] Morley L, "Sex , grades and power in higher education in Ghana and Tanzania," *Cambridge J. Educ.*, vol. 41, no. 1, pp. 101–115, 2011.
- [7] Merkin RS, "The impact of sexual harassment on turnover intentions, absenteeism, and job satisfaction: findings from Argentina, Brazil and Chile," *J. Int. Women's Stud.*, vol. 10, no. 2, pp. 73–91, 2008.
- [8] Friberg MK *et al.*, "Workplace sexual harassment and depressive symptoms : a cross-sectional multilevel analysis comparing harassment from clients or customers to harassment from other employees amongst 7603 Danish employees from 1041 organizations," *BMC Public Health*, vol. 17, no. 675, pp. 1–12, 2017.
- [9] J. Marsh *et al.*, "Prevalence of workplace abuse and sexual harassment among female faculty and staff," *J. Occup. Health*, vol. 51, no. 4, pp. 314–322, 2009.
- [10] International Labour Organization, "Stop violence at work – International Woman's Day," Geneva, 2013.
- [11] Bondestam F and Lundqvist M, "Sexual harassment in higher education – a systematic review," *Eur. J. High. Educ.*, vol. 0, no. 0, pp. 1–23, 2020.
- [12] Chan DS, Chun BL, Yee Chow S, and Cheung SF, "Examining the job-related, psychological and physical outcomes of workplace sexual harassment: A meta-analytic review," *Psychol. of Women Quarterly*, vol. 32, pp. 362–376, 2008.
- [13] M. Philpart, B. Gelaye, M. A. Williams, and Y. Berhane, "Prevalence and Risk Factors of Gender-Based Violence Committed by Male College Students," *Violence Vict.*, vol. 24, no. 1, 2009.
- [14] Fedina L, Holmes JL, and Backes BL, "Campus Sexual Assault : A Systematic Review of Prevalence Research From 2000 to 2015," *Trauma, Violence, Abus.*, vol. 19, no. 1, pp. 76–93, 2018.
- [15] R. Ilies, N. Hauserman, S. Schwochau, and J. Stibal, "Reported incidence rates of work-related sexual harassment in the united states: Using meta-analysis to explain reported rate disparities," *Pers. Psychol.*, vol. 56, no. 3, pp. 607–631, 2003.
- [16] L. F. Fitzgerald, M. J. Gelfand, and F. Drasgow, "Measuring Sexual Harassment: Theoretical and Psychometric Advances," *Basic Appl. Soc. Psych.*, vol. 17, no. 4, pp. 425–445, 1995.

- 1
2
3 [17] A. Das, "Sexual Harassment at Work in the United States," *Arch. Sex. Behav.*, vol. 38, no. 6,
4 pp. 909–921, 2009.
5
6 [18] World Health Organisation, "Joint Programme on Workplace Violence in the Health Sector -
7 questionnaire," *Hum. Rights*, pp. 1–14, 2003.
8
9 [19] W. L. Parish, A. Das, and E. O. Laumann, "Sexual harassment of women in urban China,"
10 *Arch. Sex. Behav.*, vol. 35, no. 4, pp. 411–425, 2006.
11
12 [20] L. N. Zeng *et al.*, "Prevalence of sexual harassment of nurses and nursing students in China: A
13 meta-analysis of observational studies," *Int. J. Biol. Sci.*, vol. 15, no. 4, pp. 749–756, 2019.
14
15 [21] L. Lu *et al.*, "Prevalence of Workplace Violence Against Health-Care Professionals in China:
16 A Comprehensive Meta-Analysis of Observational Surveys," *Trauma, Violence, Abus.*, vol.
17 21, no. 3, pp. 498–509, 2020.
18
19 [22] G. A. Adejuwon and A. M. Lawal, "Perceived Organisational Target Selling, Self-Efficacy,
20 Sexual Harassment and Job Insecurity as Predictors of Psychological Wellbeing of Bank
21 Employees in Nigeria," *Ife Psychol.*, vol. 21, no. 1, pp. 17–29, 2013.
22
23 [23] M. A. Shaffer, J. R. W. Joplin, M. P. Bell, T. Lau, and C. Oguz, "Gender Discrimination and
24 Job-Related Outcomes: A Cross-Cultural Comparison of Working Women in the United States
25 and China," *J. Vocat. Behav.*, vol. 57, no. 3, pp. 395–427, 2000.
26
27 [24] M. Salman, F. Abdullah, and A. Saleem, "Sexual Harassment at Workplace and its Impact on
28 Employee Turnover Intentions," *Bus. Econ. Rev.*, vol. 8, no. 1, pp. 87–102, 2016.
29
30 [25] A. Oyefabi and B. Yahuza, "Ethical issues in knowledge, perceptions, and exposure to hospital
31 hazards by patient relatives in a tertiary institution in North Western Nigeria," *Niger. J. Clin.
32 Pract.*, vol. 19, no. 5, pp. 622–631, 2016.
33
34 [26] S. A. Wasti, M. E. Bergman, T. M. Glomb, and F. Drasgow, "Test of the cross-cultural
35 generalizability of a model of sexual harassment," *J. Appl. Psychol.*, vol. 85, no. 5, pp. 766–
36 778, 2000.
37
38 [27] D. Hoy, P. Brooks, A. Woolf, F. Blyth, L. March, and C. Bain, "Assessing risk of bias in
39 prevalence studies: modification of an existing tool and evidence of interrater agreement," *J.
40 Clin. Epidemiol.*, vol. 65, pp. 934–939, 2012.
41
42 [28] Ryan R and Cochrane Consumers and Communication Review Group, "Cochrane Consumers
43 and Communication Review Group: data synthesis and analysis," *Cochrane Consumers and
44 Communication*, 2013. [Online]. Available: <http://cccr.org.cochrane.org>. [Accessed: 28-Sep-
45 2020].
46
47 [29] D. A. Akoku, M. A. Tihnje, T. A. Vukugah, E. E. Tarkang, and R. E. Mbu, "Association
48 between Male Customer Sexual Harassment and Depressive Symptoms among Female Bar
49 Workers in Yaounde , Cameroon : A Cross-sectional Study," *Am. J. Public Heal. Res.*, vol. 7,
50 no. 2, pp. 41–47, 2019.
51
52 [30] A. C. Fernandes, R. D. Hayes, and V. Patel, "Abuse and other correlates of common mental
53 disorders in youth: A cross-sectional study in Goa, India," *Soc. Psychiatry Psychiatr.
54 Epidemiol.*, vol. 48, no. 4, pp. 515–523, 2013.
55
56 [31] K. Austrian and E. Muthengi, "Can economic assets increase girls' risk of sexual harassment?
57 Evaluation results from a social, health and economic asset-building intervention for
58 vulnerable adolescent girls in Uganda," *Child. Youth Serv. Rev.*, vol. 47, no. P2, pp. 168–175,
59 2014.
60
61 [32] B. Waubert de Puiseau and J. Roessel, "Exploring sexual harassment and related attitudes in
62 Beninese high schools: A field study," *Psychol. Crime Law*, vol. 19, no. 8, pp. 707–726, 2013.

- 1
2
3 [33] S. Fineran, L. Bennett, and T. Sacco, "Peer sexual harassment and peer violence among
4 adolescents in Johannesburg and Chicago," *Int. Soc. Work*, vol. 46, no. 3, pp. 387–401, 2003.
5
6 [34] K. Mabetha and N. De Wet, "Sexual harassment in South African schools: Is there an
7 association with risky sexual behaviours?," *SAJCH South African J. Child Heal.*, vol. 12, no.
8 Special Issue, pp. S10–S14, 2018.
9
10 [35] H. Zhu, Y. Lyu, and Y. Ye, "Workplace sexual harassment, workplace deviance, and family
11 undermining," *Int. J. Contemp. Hosp. Manag.*, vol. 31, no. 2, pp. 594–614, 2019.
12
13 [36] O. I. Fawole, A. J. Ajuwon, and K. O. Osungbade, "Evaluation of interventions to prevent
14 gender-based violence among young female apprentices in Ibadan, Nigeria," *Health Educ.*,
15 vol. 105, no. 3, pp. 186–203, 2005.
16
17 [37] T. P. Koehlmoos, M. J. Uddin, A. Ashraf, and M. Rashid, "Homeless in Dhaka: Violence,
18 sexual harassment, and drug-abuse," *J. Heal. Popul. Nutr.*, vol. 27, no. 4, pp. 452–461, 2009.
19
20 [38] M. Puri and J. Cleland, "Assessing the factors associated with sexual harassment among young
21 female migrant workers in Nepal," *J. Interpers. Violence*, vol. 22, no. 11, pp. 1363–1381,
22 2007.
23
24 [39] I. D. Norman, M. Aikins, and F. N. Binka, "Faith-Based Organizations: Sexual Harassment
25 and Health in Accra-Tema Metropolis," *Sex. Cult.*, vol. 17, no. 1, pp. 100–112, 2013.
26
27 [40] J. B. Park, A. Nakata, N. G. Swanson, and H. Chun, "Organizational factors associated with
28 work-related sleep problems in a nationally representative sample of Korean workers," *Int.*
29 *Arch. Occup. Environ. Health*, vol. 86, no. 2, pp. 211–222, 2013.
30
31 [41] H. Zhang *et al.*, "A study of violence among hong kong young adults and associated substance
32 use, risky sexual behaviors, and pregnancy," *Violence Vict.*, vol. 31, no. 5, pp. 985–996, 2016.
33
34 [42] Tsun-Yin Luo, "Sexual Harassment in the Chinese Workplace - Attitudes toward and
35 experiences of sexual harassment among workers in Taiwan," *Violence Against Women*, vol. 2,
36 no. 3, pp. 284–301, 1996.
37
38 [43] C. S. K. Tang, M. S. M. Yik, F. M. C. Cheung, P. K. Choi, and K. C. Au, "Sexual harassment
39 of Chinese college students," *Arch. Sex. Behav.*, vol. 25, no. 2, pp. 201–215, 1996.
40
41 [44] T. V. Mayekiso and K. Bhana, "Sexual harassment: Perceptions and experiences of students at
42 the University of Transkei," *South African J. Psychol.*, vol. 27, no. 4, pp. 230–235, 1997.
43
44 [45] A. Shumba, A. Erinas, and M. Matina, "Sex Education : Sexuality , Society and Learning
45 Sexual Harassment of College Students by Lecturers in Zimbabwe Sexual Harassment of
46 College Students by Lecturers in Zimbabwe," vol. 1811, 2010.
47
48 [46] Okoro FI and Obozokhai O, "Sexual Harassment : The Experience of Out-Of- School
49 Teenagers in Benin City , Nigeria," *Afr. J. Reprod. Health*, vol. 9, no. 3, pp. 118–127, 2005.
50
51 [47] E. R. DeSouza and E. Cerqueira, "From the kitchen to the bedroom: Frequency rates and
52 consequences of sexual harassment among female domestic workers in Brazil," *J. Interpers.*
53 *Violence*, vol. 24, no. 8, pp. 1264–1284, 2009.
54
55 [48] E. Owoaje and O. Olusola-Taiwo, "Sexual harassment experiences of female graduates of
56 Nigerian tertiary institutions," *Int. Q. Community Health Educ.*, vol. 30, no. 4, pp. 337–348,
57 2010.
58
59 [49] I. G. Premadasa, N. C. Wanigasooriya, L. Thalib, and A. N. B. Ellepola, "Harassment of
60 newly admitted undergraduates by senior students in a Faculty of Dentistry in Sri Lanka,"
Med. Teach., vol. 33, no. 10, 2011.

[50] E. T. Owoaje, O. C. Uchendu, and O. K. Ige, "Experiences of mistreatment among medical

- students in a university in south west Nigeria,” *Niger. J. Clin. Pract.*, vol. 15, no. 2, pp. 214–219, 2012.
- [51] Lahsaeizadeh A and Yousefinejad E, “Social Aspects of Women ’ s Experiences of Sexual Harassment in Public Places in Iran,” *Sex. Cult.*, vol. 16, pp. 17–37, 2012.
- [52] T. Dhlomo, R. M. Mugweni, G. Shoniwa, L. Maunganidze, and T. Sodi, “Perceived sexual harassment among female students at a Zimbabwean institution of higher learning,” *J. Psychol. Africa*, vol. 22, no. 2, pp. 269–272, 2012.
- [53] F. Hutagalung and Z. Ishak, “Sexual Harassment: A Predictor to Job Satisfaction and Work Stress among Women Employees,” *Procedia - Soc. Behav. Sci.*, vol. 65, no. ICIBSoS, pp. 723–730, 2012.
- [54] I. D. Norman, M. Aikins, and F. Binka, “Traditional and Contrapower Sexual Harassment in Public Universities and Professional Training Institutes of Ghana,” *Int. J. Acad. Res.*, vol. 4, no. 2, pp. 85–95, 2012.
- [55] I. D. Norman, M. Aikins, and F. N. Binka, “Sexual harassment in public medical schools in Ghana,” *Ghana Med. J.*, vol. 47, no. 3, pp. 128–136, 2013.
- [56] R. T. Haile, N. D. Kebeta, and G. M. Kassie, “Prevalence of sexual abuse of male high school students in Addis Ababa, Ethiopia,” *BMC Int. Health Hum. Rights*, vol. 13, no. 1, 2013.
- [57] M. K. Maurya and M. Agarwal, “Relationship between Perceived Workplace Harassment, Mental Health Status and Job Satisfaction of Male and Female Civil Police Constables,” *Indian J. Community Psychol.*, vol. 10, no. 1, pp. 162–177, 2014.
- [58] A. Mamaru, K. Getachew, and Y. Mohammed, “Prevalence of physical, verbal and nonverbal sexual harassments and their association with psychological distress among Jimma University female students: a cross-sectional study,” *Ethiop. J. Health Sci.*, vol. 25, no. 1, pp. 29–38, 2015.
- [59] S. Tobar, E. Elsheshtawy, and H. Taha, “Harassment-related maladaptive cognitions in a sample of Mansoura University students, Egypt,” *Middle East Curr. Psychiatry*, vol. 22, no. 3, pp. 171–177, 2015.
- [60] Kunwar LB, Kunwar BB, Thapa P, Sharma I, Dhami SS, and Rokaya LJ, “Sexual Harassment in Female at Working Place in Dhangadhi Municipality Kailali District of Nepal,” *Indian J. Public Heal. Res. Dev.*, vol. 6, no. 4, 2015.
- [61] Sahraian A, Hemyari C, Ayatollahi M, and Zomorodian K, “Workplace violence against medical students in Shiraz, Iran,” *Shiraz E-Med*, vol. 17, no. 4-5: e35754, 2016.
- [62] P. Tripathi, R. R. Tiwari, and R. Kamath, “Workplace violence and gender bias in unorganized fisheries of Udupi, India,” *Int. J. Occup. Environ. Med.*, vol. 7, no. 3, pp. 181–185, 2016.
- [63] S. L. Talboys, M. Kaur, J. VanDerslice, L. H. Gren, H. Bhattacharya, and S. C. Alder, “What is eve teasing? A mixed methods study of sexual harassment of young women in the rural Indian context,” *SAGE Open*, vol. 7, no. 1, 2017.
- [64] Z. Xie, J. Li, Y. Chen, and K. Cui, “The effects of patients initiated aggression on Chinese medical students’ career planning,” *BMC Health Serv. Res.*, vol. 17, no. 1, pp. 1–8, 2017.
- [65] K. Tripathi, H. Borrión, and J. Belur, “Sexual harassment of students on public transport: An exploratory study in Lucknow, India,” *Crime Prev. Community Saf.*, vol. 19, no. 3–4, pp. 240–250, 2017.
- [66] L. K. Dar and S. Hasan, “Traumatic experiences and dissociation in patients with conversion disorder,” *J. Pak. Med. Assoc.*, vol. 68, no. 12, pp. 1776–1781, 2018.

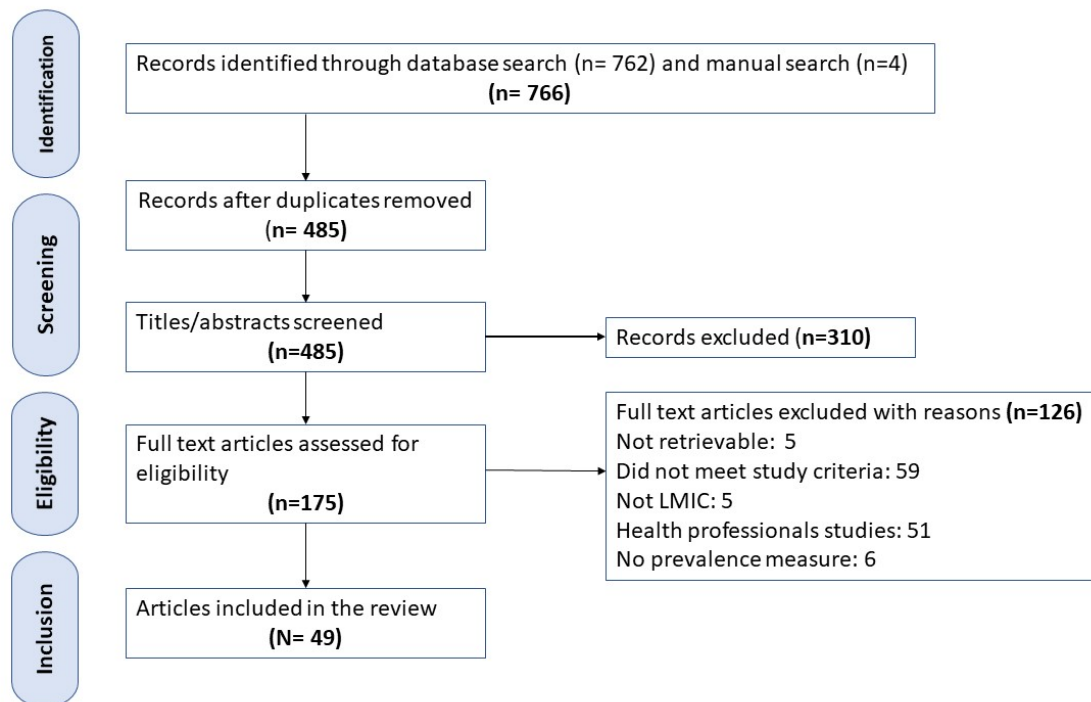
- 1
2
3 [67] A. D. Aina and P. Kulshrestha, "Sexual Harassment in Educational Institutions in Delhi' NCR
4 (India): Level of Awareness, Perception and Experience," *Sex. Cult.*, vol. 22, no. 1, pp. 106–
5 126, 2018.
6
7 [68] I. U. L. Haq, M. Adeel, A. Abbas, N. Saddique, and A. W. Qazi, "Perceived abuse in
8 undergraduate medical students of Lahore , Pakistan : a cross-sectional study," *PJMHS*, vol.
9 12, no. 3, pp. 1046–1049, 2018.
10
11 [69] K. A. S. Murshid and N. S. Murshid, "Adolescent exposure to and attitudes toward violence:
12 Empirical evidence from Bangladesh," *Child. Youth Serv. Rev.*, vol. 98, no. September 2018,
13 pp. 85–95, 2019.
14
15 [70] H. R. Saberi, M. Motalebi Kashani, and A. Dehdashti, "Occupational violence among female
16 workers in an Iranian industrial area," *Women Heal.*, vol. 59, no. 9, pp. 1075–1087, 2019.
17
18 [71] N. Gautam, N. Sapakota, S. Shrestha, and D. Regmi, "Sexual harassment in public
19 transportation among female student in Kathmandu valley," *Risk Manag. Healthc. Policy*, vol.
20 12, pp. 105–113, 2019.
21
22 [72] Z. Huang *et al.*, "Life and crisis: sexual harassment among Chinese college students," *Int. J.*
23 *Clin. Exp. Med.*, vol. 12, no. 5, pp. 4673–4684, 2019.
24
25 [73] H. T. Oni, T. G. Tshitangano, and H. A. Akinsola, "Sexual harassment and victimization of
26 students: A case study of a higher education institution in South Africa," *Afr. Health Sci.*, vol.
27 19, no. 1, pp. 1478–1485, 2019.
28
29 [74] D. Tarekegn, B. Berhanu, and Y. Ali, "Prevalence and Associated Factors of Sexual Violence
30 among High School Female Students in Dilla Town, Gedeo Zone SNNPR, Ethiopia,"
31 *Epidemiol. Open Access*, vol. 07, no. 04, 2017.
32
33 [75] T. Dias, A. Kociejowski, S. Rathnayake, S. Kumarasiri, S. Abeykoon, and T. Padeniya,
34 "Sexual violence against women: a challenge," *Ceylon Med. J.*, vol. 59, no. 3, pp. 107–108,
35 2014.
36
37 [76] C. El Khoury *et al.*, "Sexual Violence in Childhood and Post-Childhood: The Experiences of
38 Young Men Who Have Sex With Men in Beirut," *J. Interpers. Violence*, pp. 1–20, 2019.
39
40 [77] J. L. Berdahl and C. Moore, "Workplace harassment: Double jeopardy for minority women,"
41 *J. Appl. Psychol.*, vol. 91, no. 2, pp. 426–436, 2006.
42
43 [78] W. D. Murry, N. Sivasubramaniam, and P. H. Jacques, "Supervisory support, social exchange
44 relationships, and sexual harassment consequences: a test of competing models," *Leadersh. Q.*,
45 vol. 12, no. 1, pp. 1–29, 2001.
46
47 [79] S. Stark, O. S. Chernyshenko, A. R. Lancaster, F. Drasgow, and L. F. Fitzgerald, "Toward
48 Standardized Measurement of Sexual Harassment: Shortening the SEQ-DoD Using Item
49 Response Theory," *Mil. Psychol.*, vol. 14, no. 1, pp. 49–72, 2002.
50
51 [80] A. L. Bryant, "Hostile Hallways: The AAUW Survey on Sexual Harassment in America's
52 Schools," *J. Sch. Health*, vol. 63, no. 8, pp. 355–357, Oct. 1993.
53
54 [81] Cleland J, Ingham R, and Stone N, "Asking young people about sexual and reproductive
55 behaviours: WHO Illustrative Core Instruments." 2001.
56
57 [82] A. Rautio, V. Sunnari, M. Nuutinen, and M. Laitala, "Mistreatment of university students most
58 common during medical studies," *BMC Med. Educ.*, vol. 5, pp. 1–12, 2005.
59
60 [83] J. D. Braine, C. Bless, and P. M. C. Fox, "How do students perceive sexual harassment? An
investigation on the University of Natal, Pietermaritzburg campus," *South African J. Psychol.*,
vol. 25, no. 3, pp. 140–149, Sep. 1995.

- 1
2
3 [84] R. S. Merkin, "Cross-cultural differences in perceiving sexual harassment: Demographic
4 incidence rates of sexual harassment/sexual aggression in Latin America," *N. Am. J. Psychol.*,
5 vol. 10, no. 2, pp. 277–290, 2008.
6
7 [85] B. A. Gutek, "How Subjective Is Sexual Harassment? An Examination of Rater Effects,"
8 *Basic Appl. Soc. Psych.*, vol. 17, no. 4, pp. 447–467, 1995.
9
10 [86] Rotundo M, Nguyen DH, and Sackett PR, "A Meta-Analytic Review of Gender Differences in
11 Perceptions of Sexual Harassment," *J. Appl. Psychol.*, vol. 86, no. 5, pp. 914–922, 2001.
12
13 [87] M. S. Stockdale, A. Vaux, and J. Cashin, "Acknowledging Sexual Harassment: A Test of
14 Alternative Models," *Basic Appl. Soc. Psych.*, vol. 17, no. 4, pp. 469–496, 1995.
15
16

Figures

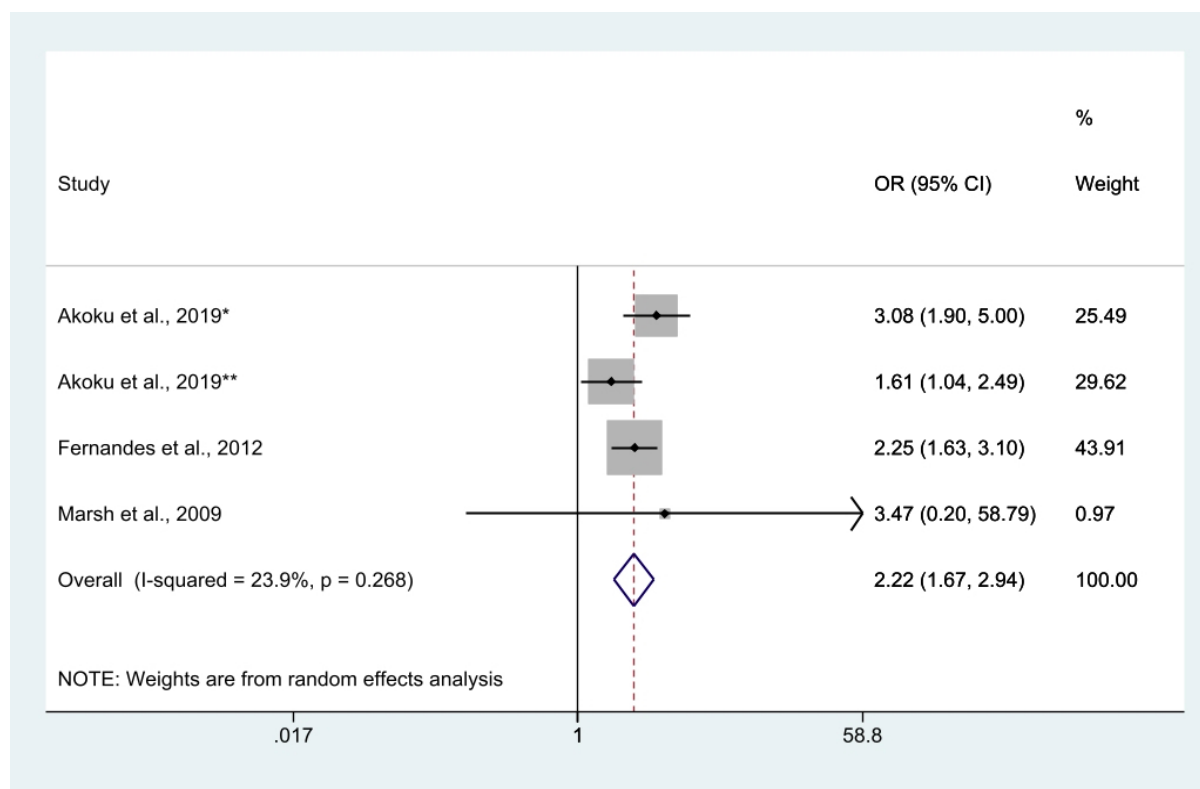
17
18
19 Figure 1: PRISMA flowchart for study selection
20

21 Figure 2: Forest plot for the association between sexual harassment and symptoms of depression
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Figure 1: PRISMA flowchart for study selection

review only

Figure 2: Forest plot for the association between sexual harassment and symptoms of depression



* ** Akoku et al., 2019 presented two adjusted ORs, Akoku et al.,2019* refers to the OR for sexual harassment defined as 'Experiencing inappropriate staring from male customers'; Akoku et al., 2019** refers to the OR for sexual harassment defined as 'Repeated demands for dates despite a rejection'. Both adjusted ORs were included in the pooled estimate as both definitions of sexual harassment met the inclusion criteria for this study.

Appendices

Appendix 1: Search terms used for Ovid Medline, EMBASE, and PSYCInfo.

1. ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj (economy or economies)).ti,ab.
2. ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj (countr* or nation? or population? or world)).ti,ab.
3. (low* adj (gdp or gnp or gross domestic or gross national)).ti,ab.
4. (low adj3 middle adj3 countr*).ti,ab.
5. (Imic or Imics or third world or lami countr*).ti,ab.
6. transitional countr*.ti,ab.
7. global south.ti,ab.
8. Developing Countries/
9. "africa south of the sahara"/ or africa, central/ or africa, eastern/ or africa, southern/ or africa, western/
10. ("africa south of the sahara" or sub-saharan africa or central africa or eastern africa or southern africa or western africa).ti,ab.
11. "Democratic People's Republic of Korea"/
12. (north korea or (democratic people* republic adj2 korea)).ti,ab.
13. Cambodia/
14. cambodia.ti,ab.
15. Indonesia/
16. indonesia.ti,ab.
17. Micronesia/
18. Kiribati.ti,ab.
19. Laos/
20. (laos or (lao adj1 democratic republic)).ti,ab.
21. (marshall island* or caroline island* or ellice island* or gilbert island* or johnston island* or mariana island* or micronesia or pacific island*).ti,ab.
22. Mongolia/
23. mongolia.ti,ab.
24. Myanmar/
25. (myanmar or burma).ti,ab.
26. Papua New Guinea/
27. Papua New Guinea.ti,ab.
28. Philippines/
29. Philippines.ti,ab.
30. Timor-Leste/
31. Timor-Leste.ti,ab.
32. Vanuatu/
33. Vanuatu.ti,ab.
34. Vietnam/
35. (Viet Nam or Vietnam).ti,ab.
36. American Samoa/
37. american samoa.ti,ab.
38. exp China/
39. china.ti,ab.
40. Fiji/

- 1
- 2
- 3 41. fiji.ti,ab.
- 4 42. Malaysia/
- 5 43. malaysia.ti,ab.
- 6 44. marshall islands.ti,ab.
- 7 45. nauru.ti,ab.
- 8 46. samoa/
- 9 47. "independent state of samoa"/
- 10 48. ("independent state of samoa" or (samoa not american samoa) or western samoa or navigator
- 11 islands or samoan islands).ti,ab.
- 12 49. Thailand/
- 13 50. Thailand.ti,ab.
- 14 51. Tonga/
- 15 52. tonga.ti,ab.
- 16 53. Tuvalu.ti,ab.
- 17 54. Armenia/
- 18 55. Armenia.ti,ab.
- 19 56. "Georgia (Republic)"/
- 20 57. Kosovo/
- 21 58. Kosovo.ti,ab.
- 22 59. Kyrgyzstan/
- 23 60. (kyrgyzstan or kyrgyz republic or kirghizia or kirghiz).ti,ab.
- 24 61. Moldova/
- 25 62. Moldova.ti,ab.
- 26 63. Tajikistan/
- 27 64. tajikistan.ti,ab.
- 28 65. Ukraine/
- 29 66. Ukraine.ti,ab.
- 30 67. Uzbekistan/
- 31 68. Uzbekistan.ti,ab.
- 32 69. Albania/
- 33 70. Albania.ti,ab.
- 34 71. Azerbaijan/
- 35 72. Azerbaijan.ti,ab.
- 36 73. "Republic of Belarus"/
- 37 74. (belarus or byelarus or belorussia).ti,ab.
- 38 75. Bosnia-Herzegovina/
- 39 76. (bosnia or herzegovina).ti,ab.
- 40 77. Bulgaria/
- 41 78. Bulgaria.ti,ab.
- 42 79. Kazakhstan/
- 43 80. (Kazakhstan or kazakh).ti,ab.
- 44 81. "Macedonia (Republic)"/
- 45 82. Macedonia.ti,ab.
- 46 83. Montenegro/
- 47 84. Montenegro.ti,ab.
- 48 85. Romania/
- 49 86. Romania.ti,ab.
- 50 87. exp Russia/
- 51 88. USSR/
- 52 89. (Russia or Russian Federation or USSR or Union of Soviet Socialist Republics or Soviet Union).mp.
- 53 90. Serbia/
- 54
- 55
- 56
- 57
- 58
- 59
- 60

- 1
- 2
- 3 91. serbia.ti,ab.
- 4 92. Turkey/
- 5 93. turkey.ti,ab. not animal/
- 6 94. Turkmenistan/
- 7 95. Turkmenistan.ti,ab.
- 8 96. Yugoslavia/
- 9 97. yugoslavia.ti,ab.
- 10 98. Haiti/
- 11 99. Haiti.ti,ab.
- 12 100. Bolivia/
- 13 101. Bolivia.ti,ab.
- 14 102. El Salvador/
- 15 103. El Salvador.ti,ab.
- 16 104. Guatemala/
- 17 105. Guatemala.ti,ab.
- 18 106. Honduras/
- 19 107. Honduras.ti,ab.
- 20 108. Nicaragua/
- 21 109. Nicaragua.ti,ab.
- 22 110. Belize/
- 23 111. Belize.ti,ab.
- 24 112. Brazil/
- 25 113. Brazil.ti,ab.
- 26 114. Colombia/
- 27 115. Colombia.ti,ab.
- 28 116. Costa Rica/
- 29 117. Costa Rica.ti,ab.
- 30 118. Cuba/
- 31 119. Cuba.ti,ab.
- 32 120. Dominica/
- 33 121. Dominica.ti,ab.
- 34 122. Dominican Republic/
- 35 123. Dominican Republic.ti,ab.
- 36 124. Ecuador/
- 37 125. Ecuador.ti,ab.
- 38 126. Grenada/
- 39 127. Grenada.ti,ab.
- 40 128. Guyana/
- 41 129. Guyana.mp.
- 42 130. Jamaica/
- 43 131. Jamaica.ti,ab.
- 44 132. Mexico/
- 45 133. Mexico.ti,ab.
- 46 134. Paraguay/
- 47 135. Paraguay.mp.
- 48 136. Peru/
- 49 137. Peru.ti,ab.
- 50 138. Saint Lucia/
- 51 139. (St Lucia or Saint Lucia).ti,ab.
- 52 140. "Saint Vincent and the Grenadines"/
- 53 141. Grenadines.ti,ab.
- 54
- 55
- 56
- 57
- 58
- 59
- 60

- 1
- 2
- 3 142. Suriname/
- 4 143. Suriname.ti,ab.
- 5 144. Venezuela/
- 6 145. Venezuela.ti,ab.
- 7 146. Djibouti/
- 8 147. (Djibouti or French Somaliland).ti,ab.
- 9
- 10 148. Egypt/
- 11 149. Egypt.ti,ab.
- 12 150. Jordan/
- 13 151. Jordan.ti,ab.
- 14 152. Morocco/
- 15 153. Morocco.ti,ab.
- 16 154. Syria/
- 17 155. (Syria or Syrian Arab Republic).ti,ab.
- 18 156. Tunisia/
- 19 157. tunisia.mp.
- 20 158. Gaza.ti,ab.
- 21 159. Yemen/
- 22 160. Yemen.ti,ab.
- 23 161. Algeria/
- 24 162. Algeria.ti,ab.
- 25 163. Iran/
- 26 164. Iran.ti,ab.
- 27 165. Iraq/
- 28 166. Iraq.ti,ab.
- 29 167. Jordan/
- 30 168. Jordan.ti,ab.
- 31 169. Lebanon/
- 32 170. Lebanon.ti,ab.
- 33 171. Libya/
- 34 172. Libya.ti,ab.
- 35 173. Afghanistan/
- 36 174. Afghanistan.ti,ab.
- 37 175. Nepal/
- 38 176. Nepal.ti,ab.
- 39 177. Bangladesh/
- 40 178. Bangladesh.ti,ab.
- 41 179. Bhutan/
- 42 180. Bhutan.ti,ab.
- 43 181. exp India/
- 44 182. India.ti,ab.
- 45 183. Pakistan/
- 46 184. Pakistan.ti,ab.
- 47 185. Sri Lanka/
- 48 186. Sri Lanka.ti,ab.
- 49 187. Indian Ocean Islands/
- 50 188. Maldives.ti,ab.
- 51 189. Benin/
- 52 190. (Benin or Dahomey).ti,ab.
- 53 191. Burkina Faso/
- 54 192. (Burkina Faso or Burkina Fasso or Upper Volta).ti,ab.
- 55
- 56
- 57
- 58
- 59
- 60

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

193. Burundi/
194. Burundi.ti,ab.
195. Central African Republic/
196. (Central African Republic or Ubangi-Shari).ti,ab.
197. Chad/
198. Chad.ti,ab.
199. Comoros/
200. (Comoros or Comoro Islands or Mayotte or Iles Comores).ti,ab.
201. "Democratic Republic of the Congo"/
202. ((democratic republic adj2 congo) or belgian congo or zaire).ti,ab.
203. Eritrea/
204. Eritrea.ti,ab.
205. Ethiopia/
206. Ethiopia.ti,ab.
207. Gambia/
208. Gambia.ti,ab.
209. Guinea/
210. (Guinea not (New Guinea or Guinea Pig* or Guinea Fowl)).ti,ab.
211. Guinea-Bissau/
212. (Guinea-Bissau or Portuguese Guinea).ti,ab.
213. Liberia/
214. Liberia.ti,ab.
215. Madagascar/
216. (Madagascar or Malagasy Republic).ti,ab.
217. Malawi/
218. (Malawi or Nyasaland).ti,ab.
219. Mali/
220. Mali.ti,ab.
221. Mozambique/
222. (Mozambique or Mocambique or Portuguese East Africa).ti,ab.
223. Niger/
224. (Niger not (Aspergillus or Peptococcus or Schizothorax or Cruciferae or Gobius or Lasius or Agelastes or Melanosuchus or radish or Parastromateus or Orius or Apergillus or Parastromateus or Stomoxys)).ti,ab.
225. Rwanda/
226. (Rwanda or Ruanda).ti,ab.
227. Senegal/
228. senegal.ti,ab.
229. Sierra Leone/
230. Sierra Leone.mp.
231. Somalia/
232. Somalia.ti,ab.
233. South Sudan/
234. south sudan.ti,ab.
235. Tanzania/
236. (Tanzania or Tanganyika or Zanzibar).ti,ab.
237. Togo/
238. (Togo or Togolese Republic).ti,ab.
239. Uganda/
240. Uganda.ti,ab.
241. Zimbabwe/

- 1
- 2
- 3 242. (Zimbabwe or Rhodesia).ti,ab.
- 4 243. Angola/
- 5 244. angola.ti,ab.
- 6 245. Cameroon/
- 7 246. Cameroon.ti,ab.
- 8 247. Cape Verde/
- 9 248. (Cape Verde or Cabo Verde).ti,ab.
- 10 249. Congo/
- 11 250. (congo not ((democratic republic adj3 congo) or congo red or crimean-congo)).ti,ab.
- 12 251. Cote d'Ivoire/
- 13 252. (Cote d'Ivoire or Ivory Coast).ti,ab.
- 14 253. Ghana/
- 15 254. (Ghana or Gold Coast).ti,ab.
- 16 255. Kenya/
- 17 256. kenya.mp.
- 18 257. Lesotho/
- 19 258. (Lesotho or Basutoland).ti,ab.
- 20 259. Mauritania/
- 21 260. Mauritania.ti,ab.
- 22 261. Nigeria/
- 23 262. Nigeria.ti,ab.
- 24 263. Atlantic Islands/
- 25 264. (sao tome adj2 principe).ti,ab.
- 26 265. Sudan/
- 27 266. (Sudan not south sudan).ti,ab.
- 28 267. Swaziland/
- 29 268. Swaziland.ti,ab.
- 30 269. Zambia/
- 31 270. (Zambia or Northern Rhodesia).ti,ab.
- 32 271. Botswana/
- 33 272. (Botswana or Bechuanaland or Kalahari).ti,ab.
- 34 273. Equatorial Guinea/
- 35 274. (Equatorial Guinea or Spanish Guinea).ti,ab.
- 36 275. Gabon/
- 37 276. (Gabon or Gabonese Republic).ti,ab.
- 38 277. Mauritius/
- 39 278. (Mauritius or Agalega Islands).ti,ab.
- 40 279. Namibia/
- 41 280. Namibia.ti,ab.
- 42 281. South Africa/
- 43 282. South Africa.ti,ab.
- 44 283. or/1-282 [ALL COUNTRIES DESIGNATED AS LMIC]
- 45 284. sexual harassment.ab,ti.
- 46 285. 283 and 284
- 47 286. remove duplicates from 285
- 48
- 49
- 50
- 51
- 52
- 53
- 54
- 55
- 56
- 57
- 58
- 59
- 60

Appendix 2: Quality assessment of included studies (n=49)

Study author and year	Research focus on SH (as detailed in the objective)	Clear definition of SH	Clear description of measurement approach/tool for SH	Representativeness of target population to national population	Representativeness of sampling frame	Random sample?	Non-response bias minimal?	SH prevalence included in results	Numerator & denominator clear or appropriate?	Score / 9	Rating
Luo (1996)	Y	Y	Y	N	Y	N	Y	Y	N	6	Moderate
Tang, et al (1996)	Y	N	Y	N	N	N	N	Y	Y	4	Moderate
Mayekiso et al (1997)	Y	Y	Y	N	N	N	N	Y	N	4	Moderate
Shumba et al (2002)	Y	Y	N	N	N	Y	Y	Y	Y	6	Moderate
Fineran et al (2003)	Y	Y	Y	N	Y	N	N	Y	N	5	Moderate
Fawole, et al (2005)	Y	Y	N	N	Y	N	N	Y	Y	5	Moderate
Okoro et al (2005)	Y	Y	Y	N	Y	N	Y	Y	Y	7	High
Parish et al (2006)	Y	N	Y	Y	Y	Y	N	Y	N	6	Moderate
Puri et al (2007)	Y	N	Y	N	Y	Y	Y	Y	N	6	Moderate
Merkin (2008)	Y	Y	Y	N	Y	Y	N	Y	N	6	Moderate
Marsh, et al (2009)	Y	Y	Y	N	Y	N	N	Y	Y	6	Moderate
De Souza et al (2009)	Y	Y	Y	N	Y	N	Y	Y	Y	7	High

Study author and year	Research focus on SH (as detailed in the objective)	Clear definition of SH	Clear description of measurement approach/tool for SH	Representativeness of target population to national population	Representativeness of sampling frame	Random sample?	Non-response bias minimal?	SH prevalence included in results	Numerator & denominator clear or appropriate?	Score / 9	Rating
Owoaje et al (2009)	Y	Y	Y	N	N	N	Y	Y	Y	6	Moderate
Koehlmoos et al (2009)	Y	N	N	N	Y	Y	N	Y	Y	5	Moderate
Premadasa et al (2011)	Y	Y	Y	N	N	N	N	Y	Y	5	Moderate
Owoaje, et al (2011)	Y	N	Y	N	N	N	Y	Y	N	4	Moderate
Lahsaiezadeh et al (2012)	Y	Y	Y	N	Y	N	N	Y	Y	5	Moderate
Dhlomo et al (2012)	Y	Y	Y	N	Y	N	N	Y	N	4	Moderate
Hutagalang et al (2012)	Y	Y	Y	N	N	Y	NP	Y	N	5	Moderate
Norman et al (2012)	Y	Y	Y	N	N	N	Y	Y	N	6	Moderate
Fernandes et al (2012)	N	N	N	Y	Y	Y	Y	Y	Y	6	High
Norman et al (2013)	Y	N	Y	N	N	N	N	Y	N	3	Low
de Puiseau et al (2013)	Y	Y	Y	N	Y	N	N	Y	Y	5	Moderate
Norman et al (2013)	Y	N	Y	N	N	N	N	Y	N	3	Low
Haile, et al (2013)	Y	N	N	N	Y	Y	Y	Y	N	5	Moderate

1
2
3
4
5
6
7
8
9
1011
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
3940
41
42
43
44
45
46

Study author and year	Research focus on SH (as detailed in the objective)	Clear definition of SH	Clear description of measurement approach/tool for SH	Representativeness of target population to national population	Representativeness of sampling frame	Random sample?	Non-response bias minimal?	SH prevalence included in results	Numerator & denominator clear or appropriate?	Score / 9	Rating
Park et al (2013)	N	N	Y	Y	Y	Y	Y	Y	Y	7	High
Austrian et al (2014)	Y	N	Y	N	Y	N	Y	Y	Y	6	Moderate
Maurya et al (2014)	Y	N	Y	N	N	N	N	N	N	2	Low
Mamaru et al (2015)	Y	Y	Y	N	Y	Y	Y	Y	Y	8	High
Tobar et al (2015)	N	Y	Y	N	Y	N	Y	Y	N	5	Moderate
Kunwar et al (2015)	Y	Y	N	N	N	N	N	Y	N	3	Low
Vuckovic et al (2016)	Y	Y	N	Y	Y	Y	Y	Y	Y	8	High
Sahraian et al (2016)	N	Y	Y	N	N	N	N	Y	Y	4	Moderate
Tripathi et al (2016)	N	N	N	N	N	N	N	Y	Y	2	Low
Zhang, et al (2016)	Y	Y	Y	Y	Y	Y	Y	Y	N	8	High
Talboys et al (2017)	Y	Y	Y	N	N	N	N	Y	N	4	Moderate
Xie et al (2017)	N	N	N	Y	N	N	Y	Y	Y	4	Moderate
Tripathi et al (2017)	Y	N	N	N	N	N	Y	Y	N	3	Low

Study author and year	Research focus on SH (as detailed in the objective)	Clear definition of SH	Clear description of measurement approach/tool for SH	Representativeness of target population to national population	Representativeness of sampling frame	Random sample?	Non-response bias minimal?	SH prevalence included in results	Numerator & denominator clear or appropriate?	Score / 9	Rating
Dar et al (2018)	N	N	Y	N	N	N	Y	Y	N	3	Low
Aina et al (2018)	Y	Y	N	N	N	Y	N	Y	N	3	Low
Mabetha et al (2018)	Y	N	Y	Y	Y	Y	Y	Y	Y	8	High
Ul Haq et al (2018)	Y	N	Y	N	N	N	N	Y	N	3	Low
Akoku et al (2019)	Y	Y	Y	N	Y	N	Y	Y	Y	7	High
Murshid et al (2019)	N	N	N	Y	Y	Y	Y	Y	N	5	Moderate
Zhu et al (2019)	Y	Y	Y	N	Y	N	Y	Y	Y	7	High
Saberi et al (2019)	Y	N	Y	N	Y	Y	Y	Y	N	6	Moderate
Gautam, et al (2019)	Y	Y	N	N	N	Y	Y	Y	Y	6	Moderate
Huang et al (2019)	Y	Y	Y	Y	Y	Y	Y	Y	N	8	High
Oni et al (2019)	Y	Y	N	N	N	N	N	Y	N	3	Low

Appendix 3: PRISMA Checklist 2009

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	4-6
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	6
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	6 (CRD42020176881)
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	6-7
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	6-7
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	6 and Appendix 1
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	7, 8, figure 1
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	7,8

Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	9
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	7, 8 and Appendix 2
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	8
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	8-21, figure 2

For peer review only

Appendix 4: Definitions of sexual harassment by study.

Study author	Definition of sexual harassment (if included)
Akoku et al 2019	Sexual harassment is any unwelcome sexual advance, unwelcome request for sexual favour, verbal or physical conduct or gesture of a sexual nature, or any other behaviour of a sexual nature that might reasonably be expected or be perceived to cause offence, humiliation or intimidation to the person (adapted from UN Women).
Xie et al 2017	No definition provided.
Sahraian et al 2016	Sexual harassment was defined as any unwanted or unwelcome behaviour of a sexual nature such as standing too close, staring and focusing more than usual, undesirable sexual words and questions, insisting on a private invitation and direct sexual offers that are offensive to the person involved and that cause the person to feel vulnerable or embarrassed (adapted from the WHO definition).
Tripathi et al (2016)	No definition provided
Mamaru et al 2015	Sexual harassment is commonly defined as unwanted and unwelcome sexual behaviour in a work or educational setting affecting both physical and psychological well-being of a person. It could be evident in three different ways: verbal, physical and nonverbal forms
Fernandes (2012)	No definition provided
Norman et al (2013)	No definition provided
Norman et al (2012)	The unwanted sex-related behaviour at work that is appraised by the recipient as offensive, exceeding her resources, or threatening well-being
Owoaje (2009)	Unwelcome sexual advances, requests for sexual favours, and other verbal or physical conduct of a sexual nature, constitute sexual harassment. An act/conduct is considered to constitute sexual harassment when any one of the following is true: submission to such conduct is made either explicitly or implicitly a term or condition of a person's employment or academic advancement; submission to or rejection of such conduct by an individual is used as the basis for employment decisions or academic decisions affecting the person and such conduct has the purpose or effect of unreasonably interfering with a person's work or academic performance or creating an intimidating, hostile, or offensive working, learning, or social environment
Koehlmoos (2009)	No definition provided
Tobar et al 2015	Fitzgerald et al 1997 definition: a behavioural construct consisting of three dimensions: (i) general harassment – insulting verbal and nonverbal behaviours conveying derogatory, hostile, or degrading attitude toward women; (ii) unwanted sexual attention – verbal and nonverbal behaviours that are offensive, unwanted, and unreciprocated; (iii) sexual coercion – behaviours using bribes or threats contingent upon sexual cooperation. Furthermore, a harasser may be male or female, and harassment is not limited to men harassing women, although this is the most common
Parish et al (2006)	No definition provided
Murshid et al (2019)	No definition provided

Study author	Definition of sexual harassment (if included)
Zhu et al (2019)	Workplace sexual harassment (WSH) refers to any form of unwelcome conduct of a sexual nature (verbal, non-verbal or physical) that is perceived by the recipient as hostile, humiliating or threatening his/her well-being (Fitzgerald, 1997)
Aina et al (2018)	An unwanted conduct with sexual undertones if it occurs or which is persistent and which demeans, humiliates or creates a hostile and intimidating environment or is calculated to induce submission by actual or threatened adverse consequences and includes any one or more or all of the following unwelcome acts or behaviour (whether directly or by implication), namely; - (a) Any unwelcome physical, verbal or non-verbal conduct of sexual nature; (b) demand or request for sexual favours; (c) making sexually coloured remarks (d) physical contact and advances; or (e) showing pornography
Tripathi et al (2017)	Definition is not clear, but recognition that a range of acts can come under its purview (from passing comments amongst a group of friends about a girl, to a sexual assault) but also because of differences in the perception of actions as sexual harassment or not, especially where no physical contact is involved.
Vuckovic et al (2016)	Authors say that sexual harassment is considered part of gender-based violence. Draw on the International Labour Organization (2010) definition. Highlights two forms of sexual harassment specific to the workplace: when a job benefit is made conditional on the victim acceding to demands to engage in some form of sexual behaviour; and hostile working environment in which the conduct creates conditions that are intimidating or humiliating for the victim.
Talboys et al (2017)	Sexual harassment involves nonverbal, verbal, physical, or visual sexual attention, intimidation, or coercion that is unwelcome and unwanted and often has a negative impact on the psychosocial health of the victim.
Austrian (2014)	No definition provided
Maurya (2014)	No definition provided
Norman et al (2013)	No definition provided
de Puisseau & Roessel (2013)	In line with the legal definition and also according to the conceptualisations by Fitzgerald, Gelfand, and Drasgow (1995), they refer to sexual harassment as including general harassment, unwanted sexual attention, and sexual coercion.
Lahsaeizadeh (2012)	Sexual harassment'' is a kind of gender discrimination that women in different societies experience in various forms and restricts their liberty. Bowman (1993: 520) suggests that the liberty of women is substantially limited by street harassment, which reduces their physical and geographical mobility, and often prevents them from appearing alone in public places.
Dhlomo et al (2012)	Fitzgerald et al. (1997) proposed a tripartite model of sexual harassment that includes three behaviours: gender harassment, unwanted sexual attention and sexual assault and coercion. These occur mostly with the hostile environment form of sexual demands on another person.

Study author	Definition of sexual harassment (if included)
Premadasa et al (2011)	Unwanted sexual advances, requests for sexual favours or other verbal or physical conduct of a sexual nature in a setting in which noncompliance, refusal or protest could have a negative effect on negative standing (e.g., marks). Examples include: being stared or leered at, ogled; unwelcome remarks, jokes, innuendo, or taunting about a person's body, attire, age or marital status; Display of pornographic, sexually offensive or derogatory pictures; unnecessary physical contact such as touching, pinching and patting; sexual intimacy with or without actual intercourse. (Moscarello R et al (1994)
De Souza et al(2009)	Unwanted sex-related behaviour at work that is appraised by the recipient as offensive, exceeding her resources, or threatening her well-being (Fitzgerald, Swan, & Magley, 1997, p. 15)
Merkin (2008)	Sexual harassment is defined as behaviour that is unwelcome and of a sexual nature.
Puri et al (2007)	No definition provided
Fawole, et al (2005)	Sexual harassment - unwanted body contact, sending apprentices on dates with male friends, taking to parties
Fineran et al (2003)	Unwanted or unwelcome behaviours, such as making sexual comments, jokes, gestures or looks, showing sexual pictures, photographs, illustrations, messages or notes, writing sexual messages or graffiti on bathroom walls or locker rooms; spreading sexual rumours; calling someone gay or lesbian in a malicious manner; touching, grabbing, or pinching in a sexual way; pulling at clothing in a sexual way; intentionally brushing against someone in a sexual way; pulling clothing off or down; blocking or cornering in a sexual way; and, forcing a kiss, or forcing other unwelcome sexual behaviour other than kissing.
Shumba et al (2002)	Any unwanted, unsolicited and/or repeated verbal or sexual advances, sexually derogatory statements or sexually discriminatory remarks made by a member of the University community in respect of another member of the University community, whether in or outside the University, which are offensive or objectionable to the recipient, or which cause the recipient discomfort or humiliation, or which the recipient believes interfere with the performance of his or her job or study, undermine job security or prospects or create a threatening or intimidating work or study environment.
Mayekiso et al (1997)	Sexual harassment means unwanted conduct of a sexual nature or conduct based on sex which is offensive to the recipient
Saber et al (2019)	No definition provided
Dar et al (2018)	No definition provided
Gautam et al (2019)	Sexual harassment is an action within men and women, which is related to unwelcome behaviour on sex. It is characterized by a wide range of offensive manners including teasing, staring, winking, groping, pinching, sexual comments, telling jokes of a sexual nature, spreading sexual rumours, displaying porn videos, drawing pictures of a sexual nature, and squeezing or touching the private organs of women.
Huang et al (2019)	Sexual harassment is unwanted and unwelcome sexual behaviour which interferes with your life. Sexual harassment is not behaviours that you like or want (for example wanted kissing, touching or flirting)

Study author	Definition of sexual harassment (if included)
Oni et al (2019)	Sexual harassment refers to as persistent, unsolicited, and unwelcomed sexual advances which could be visual, physical, verbal and non-verbal gestures and it is seen as a disease of present-day learning institutions.
Ul Haq et al (2018)	No definition provided
Mabetha et al (2018)	No definition provided
Zhang, et al (2016)	Sexual harassment (unwelcome sexual advances, requests for sexual favours, and other verbal or physical harassment of a sexual nature).
Kunwar et al (2015)	ILO (2005) Unwelcome sexual advances or verbal or physical conduct of a sexual nature which has the purpose or effect of unreasonably interfering with the individual's work performance or creating an intimidating, hostile, abusive or offensive working environment
Haile, et al (2013)	No definition provided
Owoaje, et al (2011)	No definition provided
Marsh, et al (2009)	Sexual harassment is understood as a collection of verbal and physical actions, including intimidation, bribery and threats of sexual nature. Unwanted sexual advances may be subtle as innuendo and patronisation or as overt as blatant sexual comments and advances.
Okoro et al (2005)	The United States Equal Employment Opportunity Commission (EEOC) defines sexual harassment as "unwelcome sexual advances, requests for sexual favours, and other verbal or physical conduct of a sexual nature". Sexual harassment has also been defined as a continuum of behaviours, with physical sexual assault at one extreme and non-verbal sexually suggestive behaviour at the other extreme.
Luo 1996	Sexual harassment refers to any unwanted/unwelcome sexual attention and advances considered intrusive, offensive or harassing by the recipient. This includes (a) unwelcome sexual jokes or remarks; (b) unwelcome sexual materials or gestures; (c) unwelcome deliberate touching or physical closeness; (d) unwelcome pressure for a date; (e) verbal coercion for sexual activities; and (f) physical coercion for sexual activities, for example rape or attempted rape
Tang, et al (1996)	No definition provided
Hutagalang et al (2012)	Sexual harassment is generally recognized as encompassing all forms of unwanted conduct of a sexual nature, whether verbal or physical, the Malaysian Code of Practise specifically defines sexual harassment as any unwanted conduct of a sexual nature that may be perceived by an individual (a) as a condition on one's employment, (b) as an offence or humiliation, or (c) as a threat to one's well-being.

Appendix 5: Description of included studies

First author, year	Location, Country	Study setting	Study sample	Study design/sample size	Sexual Harassment						Outcomes measured	
					Definition included	Measurement approach	Reporting period	Prevalence estimates (%)	Frequency of acts asked (if available)	Main perpetrator		
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	Duo (1996)	Taipei, Taiwan	Workplace	Male and female workers across different occupational categories	Cross-sectional survey (n=927)	yes	Definition was first read out. Participants were asked to report the most severe form of sexual harassment he/she ever experienced in a work related situation.	Ever	25% of sample experienced some form of sexual harassment in the workplace. Females almost three times (36% 177/493) more likely than male workers (13% (51/415) to report having experienced unwanted/unwelcome sexual attention or advances in work related situations.	Not asked	Status and sex of harasser asked. More than half of victims in the sample reported co-workers particularly of the opposite sex.	Not applicable
41 42 43 44 45 46	Tang et al (1996)	Hong Kong	Educational	Male and female Chinese students at a local university in Hong Kong	Cross-sectional survey (n=859), 368 males, 491 females.	No	Sexual harassment scale: a 16-item behavioural scale to assess students' definition, awareness and experiences of sexual harassment by opposite sex faculty members or peers. <i>Faculty-student sexual harassment scale</i> consists of three items: sexual coercion, physical seduction and gender harassment.	Not specified	<i>Faculty-student harassment:</i> Females reported experiencing more incidents than males. Women: ~12% reported teachers' misogynistic comments, 5% of women reported sexist comments about their body, unwanted pressure for dates and sexually suggestive looks from their teachers. <i>Peer sexual harassment:</i> Women	Not asked	Faculty-student and peer sexual harassment	Not applicable

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

Peer sexual harassment consists of four items: sexual coercion, physical seduction, non-physical seduction and gender harassment.

Sum total of yes responses represents index. Low index indicates low level experience of harassment.

twice as much being sexual harassed as men.
Men: 13% sexist remarks and 5-6% experienced both physical and non-physical seductive behaviours.
Women: 20-26% reported experiencing various forms of physical seductive behaviours, and gender harassment.

Mayekiso et al (1997)	Transkei, South Africa	Educational	Male and female university students	Cross-sectional survey (n=827)	Yes	Modified version of the Sexual Harassment Questionnaire (Braine et al, 1995). The questionnaire consists of 11 specific categories of behaviour that may constitute sexual harassment, ranging from unwelcome touching, unwanted sexual remarks, unwanted sexual advances, sexually loaded noises or gestures, unwanted letter, pressure for dates and sexual favours despite refusals, and rape or date rape.	Not specified	Females: 43%-66% Males: 33%-55%	Not asked	Males/females and staff/students	Not applicable
Shumba et al (2002)	Zimbabwe	Educational	First and third year students from	Cross-sectional survey (n=83)	Yes	30-item 'Sexual Harassment Questionnaire' was	School year.	66% (40/61) females indicated they have been asked for sexual	Not asked	Lecturers	Not applicable

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

			an institution of higher education				adapted and modified from a previous study on sexual harassment of female students in colleges of higher education in Zimbabwe (Zindi, 1994). Questions ranged from general perceptions on the nature and extent of sexual harassment perpetrated by lecturers. There were 4 questions focused on student's individual experiences and the rest on general perceptions.		favours by some lecturer. 95% (21/22) of males disagreed with statement. No males and 66% of females said they have submitted to sexual advances by a lecturer. 50% (12/22) male and 49% (30/61) females students indicated having sexual feelings for lecturer.		
Fineran et al (2003)	Johannesburg, South Africa	Educational	Students in four urban schools (males and females)	Cross-sectional survey (n=208)	Yes	School year	This measure is the sum of 12 ordinal items on a 5-point scale (never to frequently). It was the frequency of 12 behaviours that they experienced during their school year. These were: 1) made sexual comments, jokes, gestures or looks; 2) showed, gave you sexual pictures, photographs, illustrations, messages, or notes; 3) wrote sexual	Overall prevalence: 79% Males: 73% Females: 83%	5 point likert scale: never to daily.	Classmates they knew casually, or they had dated; or whom they were dating or students who attended their school whom they did not know. Most prevalent among girls were peers they did not know and peer they dated. Boys perpetrated more sexual harassment towards a dating partner.	Not applicable

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

messages/graffiti about you on bathroom walls, in locker rooms; 4) spread sexual rumours about you; 5) said you were gay or lesbian; 6) spied on you as you dressed or showered at school; 7) flashed or 'mooned' you?; 8) touched, grabbed or pinched you in a sexual way; 10) intentionally brushed against you in a sexual way; 11) pulled your clothing off or down; 12) forced you to do something other than kissing.

Sexual harassment measured separately, but grouped as part of sexual forms of violence (e.g., rape). Although actual measure used is unclear.

Questions were on acts of harassment: touching parts of the body, taking on dates, making sexual advances or sexually suggestive remarks.

Fawole, et al (2005)	Ibadan, Nigeria	Workplace	Female apprentices receiving vocational training (e.g., tailors, hairdressers) at workshops	Baseline and follow-up survey after training (n=350)	Basic, but yes.	Sexual harassment measured separately, but grouped as part of sexual forms of violence (e.g., rape). Although actual measure used is unclear.	Unclear	Baseline: 22.9% (80/359) of females. Endline: 19.7% of females (40/350). The types of harassment consisted of touching parts of the body, taking on dates, making sexual advances or sexually suggestive remarks.	Not asked.	Persons well know to the girl, such as male partners at baseline and close associate or neighbour at endline.	Not applicable
----------------------	-----------------	-----------	---	--	-----------------	---	---------	--	------------	---	----------------

1												
2												
3	Okoro &	Benin city,	Community	Out of school	Cross-	Yes	Adopted from the	Ever	Any form of	Not asked	Not asked	Not
4	Obozokhai	Nigeria		teenagers	sectional		American		harassment: 83%			applicabl
5	(2005)			(males and	survey		Association of		(296/357) of females			
6				females)	(n=650 - 293		University Women		and 62% (182/293)			
7					males, 357		(AAUW)'s		of males.			
8					females)		Educational					
9							Foundation		Verbal assaults more			
10							questions.		common in females			
11							Sexual harassment		(83% compared to			
12							experiences were in		21% males) as was			
13							four categories:		unwanted touching			
14							verbal		of private parts (parts			
15							intimidation/threats;		71% for the females			
16							physical unwanted		and 43% of males).			
17							touch of private					
18							areas, hand holding					
19							or kiss; deceit					
20							tending towards					
21							attempted sexual					
22							demand or activity;					
23							and actual sexual					
24	Parish et al	Mainland	Community	General adult	Population	No	Two sexual	Past 12	Nationwide sample:	Not asked	Co-worker, neighbor, or	Not
25	(2006)	China		population	based		harassment	months	Females: 12.5%		other peer (7.0%) was the	applicabl
26					national		questions included		Males: 7.8%		most common.	
27					sample		in the Chinese					
28					(n=3821)		Health and Family		Urban areas:		Asked about different	
29							Life Survey (CHFLS)		All females: 15.1%		categories: 1) older	
30							:		Males: 6.4%		(supervisor,	
31							<u>Physical</u>		Younger females (20-		teacher, senior); 2) colleague,	
32							<u>harassment</u> : "In the		45y): 19.2%		schoolmate etc 3) boyfriend	
33							past				4) family member 5) stranger	
34							12 months, did					
35							someone sexually					
36							harass you (e.g.,					
37							touch you, act					
38							indecently towards					
39							you, or take					
40							advantage of you					
41							with a sexual					
42							intent)"?					
43							<u>Verbal harassment</u> :					

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

						In the past 12 months, has anyone said anything sexually offensive to you"? Coding was a combined measure as numbers were small to separate them.					
Puri et al (2007)	Kathmandu, Nepal	Workplace	Female migrant workers in carpet and garment factories	Cross-sectional survey (n=550)	No	Questionnaire format based on WHO's adolescents sexual behaviour questionnaire. Questions to measure sexual harassment: 1) Young boys/girls are sometimes touched on the breast or some other parts of the body when they do not want it, by a stranger, relative or an older person. a)Has this ever happened to your friends? b)Has this ever happened to you? 2) Young boys/girls are sometimes forced to have sexual intercourse against their will by a stranger, relative or an older person, teacher, owner etc. a)Has this ever happened to your friends?	Ever	Respondent ever experienced sexual harassment (12.2%) Aware of friends who experienced sexual harassment (27.6%) Aware of friends who have been raped/coerced sex (11.3%) Respondent has been raped/coerced sex (2.2%)	Kept open ("when did it happen?")	Coworkers, boyfriends, employers, and relatives. Appears to be mostly co-workers or boyfriends/husbands.	Not applicable

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

b)Has this ever happened to you?
IF YES "When did it happen?" "If yes, then please say by whom?"

Merkin (2008)	Latin America (Argentina, Brazil, Chile)	Workplace	Employed female and male workers part of International Labour Organisation (ILO)'s InFocus Programme on Socio-Economic Security	Cross-sectional survey (ILO's People's Social Survey (PSS). (Total N=8198, Argentina-n=2800, Brazil-n=4000, Chile - n=1180)	Yes	Survey used a global measure similar to the Navy Equal Opportunity/Sexual Harassment Survey (NEOSH). Direct question: During the past 2 years, have you experienced sexual harassment at work or school?	Past 2 years	Chile (8.7%), Brazil (4.8%), Argentina (3.5%)	For each of the behaviours: asked never, once, once a month or less, 2-4 times a month, once a week or more.	Asked whether: immediate supervisor, higher level supervisor, co-worker, subordinate.	Not applicable
Owoaje et al (2009)	Ibadan, Nigeria	Educational	Female graduates in higher learning institutions	Cross-sectional survey (n=398)	Yes	Modified version of the American Association of University Women (AAUW) Educational Foundation questionnaire on sexual harassment in college campuses. Sexual harassment experiences were asked by four categories: - verbal intimidation/threats;	Past 12 months	Overall prevalence: 69.8% (278/398); 65.3% (260/398) experienced non-physical sexual harassment 48.2% (192/398) experienced physical types of sexual harassment.	Not asked	Male classmates (61.9%) and lecturers (59.7%)	Not applicable

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

- physical unwanted touch of private areas, hand holding or kiss;
- deceit tending towards attempted sexual demand or activity; and
- actual sexual activity (intercourse), by coercion or force.

For peer review only

Koehlmoos et al (2009)	Dhaka, Bangladesh	Street and public place	Homeless adult men and women	Community based cross-sectional survey (n=896)	No	Only asked to female respondent. First asked if they were approached for unwanted physical contact or sexually propositioned while walking or lying in public spaces. Victims also asked to describe types of harassment such as: unwanted physical contact, unwanted sexual advances, touching, leering, rude gestures and rape.	During the time period of being homeless.	62.9% (282/448) of women experienced some form of unwanted physical contact or sexual proposition during their time as homeless women.	74% (208/228) reported frequently.	Husbands/boyfriends	Not applicable
------------------------	-------------------	-------------------------	------------------------------	--	----	--	---	--	------------------------------------	---------------------	----------------

1
2

3	De Souza et al (2009)	Porto Alegre, Brazil	Workplace	Female domestic workers (16-60 years)	Cross-sectional survey (n=376)	Yes	Shortened version of the Sexual Experiences Questionnaire (SEQ) (Stark et al 2002) - asks about 16 different behaviours initiated by either men or women at the workplace based on 5 categories: sexist hostility, sexual hostility, unwanted sexual attention, sexual coercion and gender harassment.	Past 12 months	25% (94/376) reported some form of past year sexual harassment. Of these, 68% (n = 64/94) reported sexist hostility, followed by 59% (55/94) sexual hostility, 46% unwanted sexual attention (n = 43/94), 30% sexual coercion (n = 28/94). About 54% (n = 51/94) reported having experienced two or more types of sexual harassment, with 17% (n = 16/94) reporting having experienced all four types of sexual harassment.	Five point scale: 1 = never, 2 = once or twice, 3 = sometimes, 4 = often, and 5 = many times. Next, if participants had experienced a sexually harassing behavior at least once, they were asked how bothersome it was on a 5-point scale. Higher scores represented higher reported levels of feeling bothered by such incidents.	Not asked, but sex of perpetrator asked.	Not applicable
29	Marsh et al (2009)	Awassa, Ethiopia	Workplace	Female administrative and faculty staff from colleges.	Cross-sectional survey (n=387)	Yes	<u>First asked five questions:</u> 1) Made you feel like you might get some reward if you engaged in sexual behaviour (no/yes) 2) Made you feel like you might get punished in some way if you weren't sexually cooperative; 3) Made unwanted	Past 12 months	46.8% (181/387) of sample reported experiencing at least one type of sexual harassment. Of this sample (n=181), only 8% (31 /181) believed they had been sexually harassed at their workplace	Not asked	Not asked	Depressio

For peer review only

41
42
43
44
45
46

suggestions about or references to sexual activity;
 4) On the job, have you experienced unwanted physical contact, included sexual contact?
 5) Have you felt mistreated at work because of your gender?
 and one direct single item question:
 Do you believe you have been sexually harassed at work?
 Summary score computed by adding up items with at least one experience of sexual harassment (0-5).

For peer review only

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Premadasa et al (2011)	Peradeniya, Sri Lanka	Educational	Dental undergraduate students (male and females)	Cross-sectional survey (n=65)	Yes	Adapted from Moscarello et al (1994)'s survey instrument. Students were asked about six types of sexual 'mistreatment' as they worded it on staring; unwelcome comments; being shown pornographic or sexually offensive pictures; unwanted sexual advances and unnecessary touching; sexual	Since being at University	Any type of sexual harassment: 23.2% (15/65); Females: 17.1% (7/44) Males: 38.1% (8/21) Ranged from 1.6% for sexual intimacy to 18.4% for unwelcome sexual comments. In this setting, males experienced a higher prevalence of sexual harassment than females.	Not asked.	Senior student (most common), lecturer, outsider.	Not applicable
------------------------	-----------------------	-------------	--	-------------------------------	-----	---	---------------------------	---	------------	---	----------------

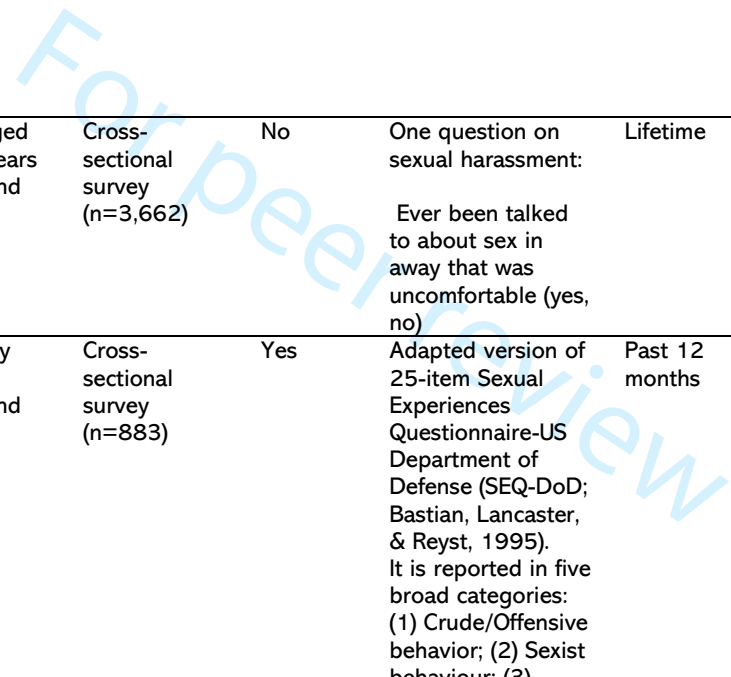
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

intimacy, unwanted touching of genitals or breasts.

Owoaje, et al (2011)	Ibadan, Nigeria	Educational	Male and female medical students	Cross-sectional study (n=269)	No	Adapted from Rautio et al (2005): 1) If you have been subjected to sexual harassment or discrimination, what form did it take? (Check all that apply): denied opportunities, exchange of rewards for sexual favours; sexual advances; sexist slurs; sexist material; malicious gossip, favouritism, poor evaluations; 2) How often, if ever, have any of the following persons subjected you to sexual harassment or discrimination (e.g. favouritism, advances, slurs, sexist teaching material)? Fellow students, consultants, registrars, assistants, lecturers, nurses, laboratory workers. 3) All of the above perpetrators asked in terms of	Not specified	Overall prevalence: 33.8% Females: 40.4% Males (29.7%). Most common type of sexual harassment was unwanted sexual advances.	Most common: 2-3 times.	Resident doctors, and consultants	Not applicable
----------------------	-----------------	-------------	----------------------------------	-------------------------------	----	--	---------------	--	-------------------------	-----------------------------------	----------------

For peer review only

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46



frequency (never, rarely (1-2 times), sometimes (3-4 times), often (5 or more times).

14	Fernandes et al (2012)	Goa, India	Community survey in urban and rural areas	Youth aged 16-24 years (males and females)	Cross-sectional survey (n=3,662)	No	One question on sexual harassment: Ever been talked to about sex in away that was uncomfortable (yes, no)	Lifetime	11.9% (n=414) Not disaggregated by sex.	Not asked	Not asked	Common mental disorders
21	Norman et al (2012)	Ghana	Educational (19 public universities)	University students (males and females)	Cross-sectional survey (n=883)	Yes	Adapted version of 25-item Sexual Experiences Questionnaire-US Department of Defense (SEQ-DoD; Bastian, Lancaster, & Reyst, 1995). It is reported in five broad categories: (1) Crude/Offensive behavior; (2) Sexist behaviour; (3) Unwanted sexual attention; (4) Sexual coercion; and (5) Sexual assault. Final question on whether they consider the above as sexual harassment.	Past 12 months	Overall prevalence: 6.2% (55/883); Females: 4% of total (36/893) and 66% of those sexually harassed (36/55) Males: 2.1% of total (19/883) and 34% of those sexually harassed (19/55).	Majority reported few times (2-5 times)	Other students (asked from list of: classmate, other student, lecturer/instructor/supervisor, other school staff)	Range of health effects ranging from psychological trauma to irritability loss of trust in friends

1												
2												
3	Lahsaeizadeh et al (2012)	Shiraz, Iran	Educational, but asked about experience in public places	Female university students	Cross-sectional survey (n=369)	Yes	13 item sexual harassment questions categorised by visual harassment, verbal harassment, following, and touching harassment.	Past 2 years	No overall prevalence, but acts. Staring most prevalent (97% 358/369); shoving or touching (87% 321/369), eyeing the woman's body up and down (86% 315/369), comment on the woman's appearance (85% 315/369), and sitting too close to women or not giving them enough space in a taxi (85% 315/369) most prevalent kinds of harassment.	These were asked but not reported	Strangers	Not applicable
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20	Dhlomo et al (2012)	Zimbabwe	Educational	Female students (21-35y)	Cross-sectional survey (n=136)	No	15 items of the Sexual Experiences Questionnaire (SEQ) adapted from Fitzgerald et al., (1995). The measure of perceived sexual harassment had three domains: gender harassment (3 items), unwanted sexual attention (5 items), and sexual coercion (7 items). Participants also asked to describe the action after the sexual harassment experience.	Ever	Overall, 31% (43/136) sexually harassed. <u>Gender harassment:</u> Suggestive stories and offensive jokes most common mode of harassment (46%). <u>Unwanted sexual attention:</u> ~ 46% been told suggestive stories and jokes, 30% shown sexist or suggestive materials, and 24% subjected to crude or offensive remarks. <u>Sexual coercion:</u> 25%Unwanted attempts to have sex; 18% implied better grades or favours if you were sexually cooperative.	Not asked	Not asked	Not applicable
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Hutagalang et al (2012)	Klang Valley, Malaysia	Workplace	Female employees at three universities	Cross-sectional survey (n=1423)	Yes	Sex and the Workplace Questionnaire developed by Gutek (1985) developed using 8 question items related to verbal and non-verbal sexual harassment. The marking scheme used 3 scales, ranging from 1(never) - 3 (ever) .	Ever	52.7% (750/1423) experienced sexual harassment. No further breakdown provided.	Not asked	Not asked	Job satisfaction and work stress
Park et al (2013)	South Korea	Workplace	National working population sample, aged 15-65 (males and females)	Cross-sectional survey (N=10,039)	No	Direct question in the Korean Working Conditions Survey (KWCS) and SH was included as a covariate in this study: Over the past 12 months, have you been subjected to sexual harassment at work? (yes/no)	Past 12 months	n=63 (0.6%) Not disaggregated by sex.	Not asked	Not asked	Work-related sleep problems
Norman et al (2013)	Ghana	Educational (4 medical schools)	Medical students (males and females)	Cross-sectional survey (n=409)	No	Adapted version of 25-item Sexual Experiences Questionnaire-US Department of Defense (SEQ-DoD; Bastian, Lancaster, & Reyst, 1995). It is reported in five broad categories: (1) Crude/Offensive behavior; (2) Sexist behaviour; (3) Unwanted sexual attention; (4) Sexual	Past 12 months	Overall: 14.4% (n=59/409) females: 8.8% (36/409) males: 5.6% (23/409) Most prevalent form in females was inappropriate or unwanted gifts for sex (71.4%) and unwanted sexual	Not shown in paper	Lecturer (asked from list of: classmate, other student, lecturer/instructor/supervisor, other school staff)	Psychological distress

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

						coercion; and (5) Sexual assault. Final question on whether they consider the above as sexual harassment.		comments or jokes (57.1%).			
Norman et al (2013)	Accra, Ghana	Faith Based Organisations	Clergy and lay members (male and female); 18-60 years	Cross-sectional survey (n=600)	No	Adapted version of 25-item Sexual Experiences Questionnaire-US Department of Defense (SEQ-DoD; Bastian, Lancaster, & Reyst, 1995). It is reported in five broad categories: (1) Crude/Offensive behavior; (2) Sexist behaviour; (3) Unwanted sexual attention; (4) Sexual coercion; and (5) Sexual assault.	Past 12 months	Females: 73% ; Males: 27% Sexually harassed when attending a religious activity but numerator and denominator unclear. Primarily reported unwanted physical contact or comments or jokes, inappropriate gifts, and even rape.	Not asked	Both female on male and male on female harassment was common (and main perpetrators were members of the clergy)	Loss of trust of other religious members; fear of the general public; feelings of anger.
Poiseau et al (2013)	Benin	Educational	Students from 7 high schools across urban and rural areas in Benin (males and females)	Cross-sectional survey (n=249)	Yes	Three questions about sexual harassment (used the French term <i>harcelement sexuel</i> in the questionnaires). (1) whether participants had experienced sexual harassment at school (personal; among peers only;	Lifetime	Overall 41% among males (72/176) and females (30/73) (similar proportion among both males and females).	Not asked	Not asked	Not applicable

41
42
43
44
45
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

no; don't know).(2) indicate their self-perceived probability of experiencing sexual harassment at school on a scale ranging from 0 (not likely at all) to 10 (very likely); (3) whether participants feared experiencing sexual harassment at school (3 much fear; 2 some fear; 1 little fear; 0 no fear).

Haile et al (2013)	Addis Ababa, Ethiopia	Educational	Male secondary students	Cross-sectional study (n=830)	No	Sexual harassment asked but question unclear. Also, seems to be part of questions on sexual abuse and sexual coercion.	Lifetime and 12 month	Males: Lifetime: 68.2% 12 month: 21.4%	Not asked	Not asked	Not applicable
Austrian et al (2014)	Kampala, Uganda	Low income community areas	Adolescent girls (ages 10-19)	Two treatment (savings plus and savings only) and comparison (two wave) trial (n=1064)	No	Sexual harassment was constructed using two dichotomous variables indicating girls who agreed with the statements: (1) In the past six months I have been touched indecently by someone of the opposite sex in my neighborhood, and (2) In my neighborhood, people of the	Past 6 months	<u>Savings plus:</u> Proportion of girls who experienced indecent touching: 8%. Proportion who were teased by members of the opposite sex: 24%. <u>Savings only:</u> Proportion of girls who experienced indecent touching: 15%. Proportion who were teased by members of the opposite sex: 25%.	Not asked	Members of the opposite sex	Not applicable

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

opposite
sex tease me as I
go about my day.

Maurya et al (2014)	Uttar Pradesh, India	Workplace	Civil police officers (male and female)	Cross-sectional survey (n=118)	No	Sexual harassment measured as part of the Workplace Harassment scale developed by Berdahl and Moore (2006). From this scale, 14 items focused on traditional sexual harassment (sexist and sexual comments, unwanted sexual attention, and sexual coercion); 11 of the 14 questions were based on items from the Sexual Experiences Questionnaire (SEQ; Fitzgerald, et al, 1995)	Past 2 years	Traditional sexual harassment Females: 9.7% Males: 6.7%	Result not clear. Scale from 0 (never) to 4 (most of the time).	Not specified	Mental health
---------------------	----------------------	-----------	---	--------------------------------	----	--	--------------	---	--	---------------	---------------

For peer review only

1
2
3 Mamaru et al
4 (2015)
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Jimma, Ethiopia	Educational	Jimma University female students	Cross- sectional survey (n=385)	Yes	Pre-tested questionnaire containing acts of physical, verbal and nonverbal SH items. <u>Physical:</u> purposely bumping or hurting someone, raping, attempting rape, and inappropriate touching. <u>Verbal:</u> Inappropriate sexual comments about body parts, telling sexual or dirty jokes and asking a favor for having sexual intercourse. <u>Non-verbal:</u> displaying inappropriate pictures through email/social media, inappropriate eye contact.	Lifetime	Physical: 78.2% Verbal: 90.4% Non-verbal: 80.0%	Not asked	University students (asked from list: university students, off campus boys, university teachers, total administrative staff)	Psychology distress
--------------------	-------------	---	--	-----	---	----------	---	-----------	--	------------------------

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

3Tobar et al (2015)	Mansoura, Egypt	Educational	University students (males and females)	Cross-sectional survey (n=744)	Yes	Two forms: one form for male participants (16 items) and the other for female participants (12 items); both were in Arabic. It included items on perception of the problem of harassment, frequency of occurrence and direct experience, and feelings and attitudes toward harassment. Men were not asked the question on whether they experienced sexual harassment.	Lifetime	Overall prevalence in females was 73% (258/354).	Appears to be collected as ever in their lifetime and more than half of the sample of women reported experiecing SH 1-3 times.	Unclear, but study mention male harassers	Not applicabl
2Kunwar et al (2015)	Kailali district, Nepal	Workplace	Female respondents in public sector employment	Cross-sectional survey (n=92)	Yes	No measure specified.	Ever or lifetime	Overall prevalence : 77.2% (71/92) Verbal (teasing or vulgar jokes): 56.3% (40/92) Physical (unwanted touching) 16.9% (12/92) Non-verbal: 11.3% (8/92) Emotional: 7.0% (5/92)	Not asked	Co-worker (52.1%), immediate supervisor (19.7%), manager (12.7%)	Not applicabl

1
2

3	Sahraian et al (2016)	Shiraz, Iran	Educational/Teaching hospital	Medical students (males and females)	Cross-sectional survey (n=193)	Yes	Direct question on sexual harassment - have they been sexually harassed? Asked by frequency: never, sometimes, several times Taken from the Workplace violence questionnaire created by ILO/WHO/ICN/PSI.	Past 12 months	26.1% (49/193) reported sexual harassment; 33.6% female students; 10.3% male students	56.3% sometimes experienced physical sexual harassment; 77% verbal sexual harassment. Choice asked: once, sometimes, several times.	Physician colleagues	Not applicable
16	Prapathi et al (2016)	Udupi, India	Workplace	Workers from fisheries in the Malpe harbour (males and females)	Cross-sectional survey (n=171)	No	Questionnaire that asked about the occurrence of any events of verbal abuse, physical abuse and a direct question on sexual harassment (have they been sexually harassed?)	Past 12 months	Female workers: 0.6% (n=1)	Not asked	Male fishermen	Not applicable
25	Vuckovic et al (2016)	Mtwara and Dar Es Salaam, Tanzania	Public sector workplaces	Male and female civil servants in rural and urban areas	Cross-sectional survey (n=1,593)	Yes	Unclear, but appears to be a direct question: Have you ever been sexually harassed? Also, have a follow-up question on their reaction to being sexually harassed.	Lifetime	Females: 20.5% (129/629 females) Males: 12% (116/964 males). Figure among females was 27.8% when asked about avoiding the person who sexually harassed them, suggesting a discrepancy due to under-reporting.	Not asked	Male superiors, especially heads of departments. Asked from a list of: supervisors or leaders, heads of facilities/departments.	Not applicable

37
38
39
40
41
42
43
44
45
46

1
2

3	Zhang et al 4(2016)	Hong Kong	Community	Population based, young adults (males and females)	Cross-sectional survey (Youth Sexuality Study) (n=1223)	Yes	Sexual harassment questions: experienced unwelcome sexual advances; experienced requests for sexual favour; and experienced other verbal or physical harassment of a sexual nature.	Lifetime and 6 months	Females: 2.3% (6-month) & 13.2% (lifetime) Males: 0.6% (6-month) to 3.6% (lifetime)	Asked if 0 (none), 1 (once), and 2 (twice or more).	Males towards females	Pregnanc
5												
6												
7												
8												
9												
10												
11												
12												
13												
14	Xie et al 15(2017)	Western China	Educational	Medical students (males and females)	Cross sectional survey (n=157)	No	Self-administered questionnaire. Details of questions not included. Brief indication of question on verbal sexual harassment (patients flirted with students) and physical sexual harassment (patients physically touched students). Sexual harassment was measured as verbal and physical sexual harassment.	Past 12 months	Verbal: 8.3% Physical: 1.6%	Not asked	Patients	Student's quality of (SF-36 sc
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29	Tripathi et al 30(2017)	Lucknow, India	Public transport	Third year university female students aged 18-29 years	Cross-sectional survey (n=200)	Yes, but not explicit	Designed a victimisation survey. To overcome measurement issues around acts and differences in perceptions of acts considered to be SH, the survey used descriptive categories of sexual crimes against women added to	Past 6 months	25% of the students have experienced more than ten incidents per month	Not asked	Strangers	Not applicabl
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

the Indian law after the 2012 Delhi gang rape case. Acts were: (a) Any unwelcome physical, verbal or non-verbal conduct of sexual nature; (b) demand or request for sexual favors; (c) making sexually colored remarks (d) physical contact and advances; or (e) showing pornography.

Eve Teasing Questionnaire– Mental Health (ETQ-MH).The questionnaire included questions about (a) eve teasing exposure, nature, timing, and intensity; (b) chronicity, which delineates onetime or ongoing harassment. Actual questions were:
a) Have you ever been eve-teased?
b) When was the last time you were eve-teased?
c) I am going to read you this list of behaviours. As I read each one, can you tell me if you have been the target of any of

17	Falboys et al (2017)	Punjab, India	Rural community	Rural, young females aged 18-26	Cross-sectional survey (n=89)	Yes			48.3% (43/89) (Ever eve-teased)	30.6% reported as on-going versus one-time	Men or boys known to the victim	Not applicable
----	----------------------	---------------	-----------------	---------------------------------	-------------------------------	-----	--	--	---------------------------------	--	---------------------------------	----------------

Scale that ranged from past week. Past month, <3 months, 3-7 months, 7-12 months, > year.

48.3% (43/89) (Ever eve-teased)
37.1% (33/89) (past year)

1
2
3
4
5
6
7
8
9
10
11

						these in the <u>past year</u> by men/boys: staring; stalking; making vulgar gestures; passing an insulting or threatening comment; pushing or brushing by accident						
12 13 14 15 16 17 18 19 20	Aina et al (2018)	Delhi, India	Educational	Male and female private and public university students	Cross-sectional survey (n=430)	Yes	Direct question: Have you experienced any form of sexual harassment in your institution?	Ever or lifetime	16.3% (35/215) (private university), 18.6% (40/215) (public university)	Not asked	Not asked	Not applicable
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	Dar et al (2018)	Lahore, Pakistan	Hospital	Female patients diagnosed with conversion disorder at three public hospitals	Cross-sectional survey (n=51)	No	3 questions on sexual harassment included in the Urdu version of the Traumatic Experiences Checklist (TEC). The questions are direct questions on sexual harassment enquiring on the family. These are: 1) Sexual harassment (acts of a sexual nature that DO NOT involve physical contact) by your parents, brothers, or sisters. Y/N 2) Sexual harassment by more distant	Ever (not specified)	65% (33/51) reported sexual harassment.	Not asked	The main perpetrator was outside the family	Not applicable

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29

30
31
32
33
34
35
36
37
38
39
40

41
42
43
44
45
46

						members of your family. Y/N						
						3) Sexual harassment by non-family members. Y/N						
						FOR EACH, how much of an impact did this have on you? 1-5 (none to an extreme amount).						
Ul Haq et al (2018)	Lahore, Pakistan	Educational	1st and 2nd year medical students (male and female)	Cross-sectional study (n=358)	No	Direct question from the Medical School Graduation Questionnaire (developed by the American Association of Medical Colleges) : Have you experienced any form of sexual harassment in your institution? The responses consisted of a Likert scale ranging from never, once, occasionally, frequently.	Ever	Overall, 2.5% (9/358) experienced sexual harassment once, 4.2% (15/358) occasionally, and 3.6% (13/358) frequently. Sexual harassment was reported more frequently in male students as opposed to female students (56.8%>43.2%)	Occasionally	Facult and classmates	Not applicable	
Mabetha et al (2018)	South Africa	Educational	School-going adolescents, male and female (aged 10-19 years)	Cross sectional survey (South African National HIV, Behaviour and Health Survey (2011/2012). N=219,456	No	Having experienced sexual harassment using the following criteria: (i) boys sexually harassing girls by touching, threatening or making rude remarks to them; (ii) girls sexually harassing boys by touching,	Past 12 months	30.1% of respondents had experienced peer sexual harassment and 6.2 had experienced teacher sexual harassment.	Not asked	Peers and teachers.	Risky sex behaviour (non use of condom) multiple sexual partners	

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

threatening or making rude remarks to them; (iii) male educators proposing relationships with female learners; (iv) female educators proposing relationships with male learners, and (v) educators proposing relationships with learners of the same sex. 'Peer perpetrated sexual harassment' refers to positive responses ('always' or 'often') to criterion i or ii, while positive responses to criterion iii, iv or v were coded as 'teacher-perpetrated sexual harassment' using principle component analysis.

31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Akoku et al (2019)	Yaounde, Cameroon	Workplace	Female bar workers (FBW) (Median age: 29 years)	Cross-sectional survey (n=410)	Yes .	Definition of sexual harassment read out and respondents asked if they had experienced any behaviour of that sort from male customers in <3 months. If yes, then read out	Past 3 months	Most prevalent forms: Sexual advances including requesting telephone numbers to contact them later for a date (90.9%), sexually suggestive comments or jokes that made FBWs felt offended (76.3%), Inappropriate staring	Not asked	Male customers	Depressive symptom (five-item mental health inventory scale)				

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

a list of 7 behaviours likely to constitute sexual harassment by male customers: sexual advances asking for a date ; sexually suggestive and offensive comments; inappropriate staring that made you feel uncomfortable; repeated demands for a date despite your rejection; touching parts of your body like buttocks or breasts; asking intrusive questions about your private and physical appearance; unwelcome physical contact from male customers including hugging or forcibly kissing.

or leering that made FBWs felt uncomfortable (70.7%).

Summary: 98.8% (405/410) experienced one or more forms of sexual harassment in the < 3 months.

Measures not clearly stated, but mention five items relating to experiencing sexual harassment or “eve teasing” and insecurity.

Murshid et al (2019)	Urban and rural Bangladesh	Community	Adolescent boys and girls (age 12-19)	Household level survey (n=520)	No	Measures not clearly stated, but mention five items relating to experiencing sexual harassment or “eve teasing” and insecurity.	Not clear	Females and males: 64%	Not asked	Not asked	Not applicable
								Not disaggregated by sex.			

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

Zhu et al (2019)	Shangdong, China	Workplace	Frontline hotel employees (male and female)	Three phase field survey (n=266)	Yes	21 items scale adapted by Murry et al. (2001) from the scale created by Fitzgerald et al. (1995). Comprise of four dimensions: <i>gender harassment</i> (e.g., treating someone differently because of their sex), <i>crude and offensive behaviours</i> (making offensive sexual gestures), <i>unwanted sexual attention</i> (staring, whistling in a sexual way) and <i>sexual coercion</i> (implied faster promotion for sex).	Ever or lifetime	~14% (36/266) of the respondents reported experiencing workplace sexual harassment. 28 % reporting moderate to severe levels.	Not asked	Supervisors/co-workers/customers	Depression and work related interpersonal deviance
------------------	------------------	-----------	---	----------------------------------	-----	--	------------------	--	-----------	----------------------------------	--

23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

1
2

3	Saberi et al 4(2019)	Kashan, Iran	Workplace	Female workers in the industrial sector	Cross-sectional survey (n=817)	No	ILO/WHO/INA workplace violence questionnaires translated into Persian. 78 items on violence at work. The section that focused on sexual harassment asked about unwanted behaviors and actions in which the individual might experience sexual abuse, offense or threats to her health, including sexual comments, deliberately touching, suggestive looks, unwelcome letters and phone calls and acting for sexual favors.	Past 12 months	Overall 12% of females reported sexual harassment. Sexual comments and remarks (14.3%), deliberately touched (23.8%), suggestive looks (23.8%), unwelcome letters or phone calls (16.6%).	Seldom, monthly weekly, daily. Most females reported seldom exposure to sexual harassment.	Co-workers most frequent perpetrators (61%). Others were supervisors and office employees.	Not applicable
24	Gautam, et al 25(2019)	Kathmandu, Nepal	Public transport	Female students (public health and nursing students)	Cross-sectional survey (n=280)	Yes	Questions not provided, but mention of information on type of harassment (verbal, non-verbal and physical), effect of harassment (physical and psychological), type of public transport, time of harassment and perpetrator was collected.	Past 12 months	78.2% (219/280) of females using public transport reported being harassed. Among unmarried (54%) and married (46%). <i>Unmarried:</i> Physical (42.3%), verbal (14.4%) and non-verbal (43.2%). <i>Married:</i> Physical (38.6%), verbal (14.9%) and non-verbal (46.5%).	Not asked	Male passenger (93%)	Not applicable

37
38
39
40
41
42
43
44
45
46

1												
2												
3	Huang et al	Mainland	Educational	College	Nationwide	Yes	Modified version of	Ever	78% females and	Not reported	Students (79.3%);	Not
4	(2019)	China		students	cross-		SEQ-DOD (SEQ-		67.3% males		Strangers (31.3%)	applicabl
5				(male and	sectional		China).25 items of		reported			
6				female)	study		the original SEQ-		experiencing some			
7					(n=2080)		DOD were adapted;		form of sexual			
8							23 close-ended		harassment.			
9							questions and then					
10							2 open-ended		For the four			
11							questttons.		categories:			
12							- Have you ever		<i>Sexist hostility</i> : Males			
13							experienced other		(28.6%)females			
14							offences, please		(39.5%)			
15							describe it;		<i>Sexual hostility</i> :			
16							- Have you ever		Males (63%), females			
17							been sexually		(71.2%)			
18							harassed?		<i>Unwanted sexual</i>			
19							Options were never,		<i>attention</i> : Males			
20							once, more than		(37.4%), females			
21							once. If once or		(57.1%)			
22							more than once,		Sexual coercion:			
23							then coded yes and		Males (5.6%),			
24							also asked to		females (5.9%).			
25							rprovide gender of		29.7% reported			
26							harasser. As a		having been sexually			
27							follow up:		harassed			
28							Those who reported					
29							experiencing sexual					
30							harassment "more					
31							than once" were					
32							asked to express					
33	Oni et al	Limpopo,	Educational	College	Cross-	Yes	Questions not	Unclear	Unwanted touching:	Not asked	Not asked	Not
34	(2019)	South Africa		students	sectional		mentioned. Authors		males (17.3%),			applicabl
35				residing on	survey		mention that it is a		females (25.3%);			
36				campus (male	(n=342)		structured		Personally			
37				and female)			questionnaire		experienced			
38							developed based		rape: males (1.3%),			
39							on extensive		females (2.7%);			
40							literature review,		Verbal harassment			
41							coupled with expert		(unwanted sexual			

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

consultation to ensure sensitive questions were valid.

advance, sex-related jokes): Males (12.2%) and females (18.4%)

For peer review only

BMJ Open

Measurement and prevalence of sexual harassment in low and middle income countries: a systematic review and meta-analysis

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2020-047473.R1
Article Type:	Original research
Date Submitted by the Author:	06-Apr-2021
Complete List of Authors:	Ranganathan, Meghna; London School of Hygiene and Tropical Medicine Faculty of Public Health and Policy, Global Health and Development Wamoyi , Joyce ; National Institute for Medical Research Muhimbili Research Centre, Pearson, Isabelle; London School of Hygiene & Tropical Medicine, Global Health and Development Stöckl, Heidi; London School of Hygiene and Tropical Medicine Faculty of Public Health and Policy, Global Health and Development
Primary Subject Heading:	Sexual health
Secondary Subject Heading:	Sexual health, Sociology
Keywords:	Depression & mood disorders < PSYCHIATRY, PUBLIC HEALTH, Sexual and gender disorders < PSYCHIATRY

SCHOLARONE™
Manuscripts



I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our [licence](#).

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which [Creative Commons](#) licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

1
2
3 **Measurement and prevalence of sexual harassment in low- and middle-income countries: a**
4 **systematic review and meta-analysis**
5
6

7 Meghna Ranganathan^{1*}, Joyce Wamoyi², Isabelle Pearson¹, Heidi Stöckl¹
8
9

10
11 ¹ London School of Hygiene and Tropical Medicine, Faculty of Public Health and Policy, Department
12 of Global Health and Development
13

14
15 ² National Institute for Medical Research, Department of Sexual and Reproductive Health, Mwanza,
16 Tanzania
17
18

19
20
21
22 ***Corresponding author**
23

24 Dr. Meghna Ranganathan
25

26 The London School of Hygiene and Tropical Medicine
27

28 15-17 Tavistock Place,
29

30 London WC1H 9SH
31

32 Email: Meghna.Ranganathan@lshtm.ac.uk
33
34

35
36
37 **Key words:** Sexual harassment, Gender discrimination, unwanted sexual attention
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Abstract

Objectives: We synthesise evidence on sexual harassment from studies in LMICs to estimate its prevalence and conduct a meta-analysis of the association between sexual harassment and depressive symptoms

Methods: We searched eight databases. We included peer-reviewed studies published in English from 1990 until April 2020 if they measured sexual harassment prevalence in LMICs, included female or male participants aged 14 and over, and conceptualised sexual harassment as an independent or dependant variable. We appraised the quality of evidence, used a narrative syntheses approach to synthesise data, and conducted a random effects meta-analysis.

Results: From 49 included studies, 38 focussed on workplaces and educational institutions and 11 on public places. Many studies used an unclear definition of sexual harassment and did not deploy a validated measurement tool. Studies either used a direct question or a series of behavioural questions to elicit information on acts considered offensive or defined as sexual harassment. Prevalence was higher in educational institutions than in workplaces although there was high heterogeneity in prevalence estimates across studies with no international comparability. This posed a challenge for calculating an overall estimate or measuring a range. Our meta-analysis showed some evidence of an association between sexual harassment and depressive symptoms (OR: 1.75 (95% CI: 1.11, 2.76; p=0.016) although there were only three studies with a high risk of bias.

Conclusion: To our knowledge, this is the first systematic review to assess measurement approaches and estimate the prevalence of sexual harassment across settings in LMICs. We also contribute a pooled estimate of the association between sexual harassment and depressive symptoms in LMICs. There is limited definitional clarity, and rigorously designed prevalence studies that use validated measures for sexual harassment in LMICs. Improved measurement will enable us to obtain more accurate prevalence estimates across different settings to design effective interventions and policies.

Strengths and Limitations of this study

- This is the first systematic review to assess measurement approaches and estimate the prevalence of sexual harassment across settings (workplace, educational and public places) in LMICs.
- We also contribute the first pooled estimate of the association between sexual harassment and depressive symptoms in LMICs.
- We identified several conceptual and methodological issues in the included studies that limit the conclusions that can be drawn from the review. Further, heterogeneity in prevalence estimates is likely to further reduce the comparability of findings.
- Most studies used non-probability sampling and did not provide information on the representativeness of their samples.
- If sexual harassment did not feature in the abstract and was a secondary objective in studies, this review might have missed it resulting in publication bias.

Introduction

In the last two decades, the pervasiveness and costs of sexual harassment has become a growing concern globally [1]. This has been precipitated by the #MeToo and Times Up movements in the mid-2010s that increased global awareness of offending actions that women and girls experience in their daily personal and working lives. The discussions around these movements, however, have predominantly taken place in high income countries or affluent urban areas in low-and middle-income countries (LMIC) [2]. Depending on the setting, sexual harassment can encompass a range of behaviours and practices of a sexual nature, such as unwanted sexual comments or advances, sexual jokes, displaying pictures or posters objectifying women, physical contact or sexual assault [3]. Sexual harassment is often experienced in the workplace or in educational settings and women are more likely to experience sexual harassment than men [2].

The World Health Organisation (WHO) defines sexual harassment as ‘any unwelcome sexual advance, unwelcome request for sexual favour, verbal or physical conduct or gesture of a sexual nature, or any other behaviour of a sexual nature that might reasonably be expected or be perceived to cause offence, humiliation or intimidation to the person’ [4]. Further, institutions like the International Labour Organisation (ILO) have used a similar definition with an explicit mention of the workplace and two additional categories: ‘quid pro quo’ or ‘hostile working environment’. Quid pro quo sexual harassment is when a worker is asked for a sexual favour and submitting to or rejecting that request is used to decide about that worker’s employment. Hostile working environment harassment covers conduct that creates an intimidating, hostile or humiliating working environment [5]. Sexual harassment may be perpetrated by different individuals, including teachers, colleagues, supervisors, subordinates and third parties [3]. In line with the ILO definition, the hierarchical and gendered power relations within occupational or educational settings have naturalised a sexual contract in which some male colleagues or academics consider it a right to demand sex with female juniors or students in return for career progression or grades [6].

1
2
3 Some studies, primarily from high income settings, have shown that those who report experiencing
4 sexual harassment in the workplace typically report decreased job satisfaction [7], psychological
5 distress including anxiety, anger, and depression [8], as well as physical distress such as weight loss,
6 fatigue, and even symptoms of post-traumatic stress disorder [9]. Economic hardship due to job loss
7 can occur when victims quit their position or are fired as retaliation for reporting; this, alongside lost
8 opportunities for career advancement are serious economic consequences of sexual harassment.
9 Organisations in which harassment is prevalent suffer from absenteeism, increased staff turnover, lower
10 job performance and productivity, increased legal fees, and negative public image [10]. Sexual
11 harassment on university campuses has been shown to be a factor impeding female participation and
12 satisfaction with their studies [6]. A recent systematic review from studies from the United States of
13 America (USA) showed that exposure to sexual harassment in higher education leads to physical and
14 psychological consequences for individuals, such as irritation, anger, depression, stress, discomfort,
15 feelings of powerlessness and degradation [11], physical pain [12], unwanted pregnancies and sexually
16 transmitted diseases [13] and increased alcohol use [14].

17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35 Historically, research on sexual harassment focused on the workplace in high income countries, like the
36 USA [15], [16]. For instance, the U.S. National Health and Social Life Survey (1992) showed that 41%
37 of women and 32% of men experienced workplace sexual harassment [2], [17]. Likewise, a recent meta-
38 analysis of workplace sexual harassment in the USA revealed that 58% of women had been affected
39 [2], [15]. The measurement tools for estimating the prevalence of sexual harassment have been
40 primarily developed and tested in high income countries—with uncertain relevance for women in the
41 Global South [16]. Relatedly, the ILO and the WHO measurement tools to measure abuses globally are
42 applicable only for specific spheres of life, e.g. work, or education [18]. There is less research on the
43 prevalence of sexual harassment in LMICs and across different spheres of lives. The limited research
44 has shown important differences across countries in prevalence rates. For example, a survey of the
45 general population in China found that 12.5% of all women had experienced past year sexual
46 harassment [2], [19]. In contrast, a higher prevalence (47%) of workplace sexual harassment was found
47 among women faculty and staff, in a study of college employees in Ethiopia [2], [9]. These differences
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 likely reflect cultural differences in the frequency of harassment. But they can also reflect differences
4 in the labelling of specific behaviours as harassment. This is especially likely when studies do not ask
5 specific questions about types of behaviour that may constitute sexual harassment [2].
6
7
8

9
10
11 Furthermore, it is difficult to make direct comparisons in prevalence rates across countries because of
12 methodological differences between studies [2] in, for example, the way that sexual harassment is
13 defined, the way that samples are collected (e.g. convenience vs representative), the type of workplace
14 setting, and the way the survey questions are worded and grouped together [11], [15]. The consequence
15 of these challenges is that prevalence measures for sexual harassment may vary widely. In order to
16 estimate the true percentage of women experiencing sexual harassment in different settings and
17 countries across the Global South there is a need to systematically synthesise the current published
18 evidence, comparing across contexts with a view to providing insights to improve measurement
19 practices for future studies. To date, no study has systematically reviewed prevalence estimates in peer-
20 reviewed research on sexual harassment across different settings (workplace, education, public spaces)
21 in LMICs. The purpose of this study is to address this gap through the review and synthesis of
22 prevalence studies on sexual harassment published from January 1990 to April 2020 to highlight
23 evidence gaps for measurement studies.
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

41 **Methods**

42 *43 Search strategy and selection criteria*

44
45 Our systematic review protocol was registered on the PROSPERO international prospective register of
46 systematic reviews, with the record number CRD42020176881. We searched key public health, health
47 sciences and health economics databases – MEDLINE, EMBASE, Global Health, PsycINFO, EconLit,
48 Scopus, Web of Science and Social Policy and Practice on April 14, 2020. Search terms were the names
49 of all countries in low and middle income settings and the term ‘sexual harassment’ in any abstract or
50 title published in English on or after 1 January 1990. We also screened the reference lists of included
51 papers. Our detailed search strategy is included as [Appendix 1](#).
52
53
54
55
56
57
58
59
60

1
2
3 Studies were eligible for inclusion if they: (1) were published in English, (2) were conducted in low and
4 middle income countries (as defined by World Bank country classifications) [20] at any point from 1
5 January 1990 to April 2020; (3) measured the prevalence of sexual harassment in peer-reviewed studies
6 based on either a cross-sectional survey, case control study, or cohort study; (4) included female or male
7 participants aged 14 and over; and (5) conceptualised sexual harassment as an independent or dependant
8 variable. Studies were excluded if they were: (1) non-English studies, (2) conducted in high income
9 countries, (3) case studies, legal/policy frameworks, theoretical pieces, qualitative studies, conference
10 abstracts, dissertation abstracts, theses, and book chapters; or (4) studies focused on groups such as
11 those in military services, in war zones, or in refugee camps as these were population groups and
12 situations with a higher prevalence of sexual harassment owing to their unique situation. We also
13 excluded five studies that did not include a measure of sexual harassment or did not include the
14 prevalence estimate despite a mention in the abstract [21]–[25].
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

31 ***Data screening, extraction, and quality appraisal***

32 The first author (MR) and last author (HS) initially screened records by title and abstract according to
33 the inclusion and exclusion criteria. Full text articles were then reviewed by one reviewer (MR) for
34 eligibility and then double-checked by a second reviewer (HS). Disagreements about inclusion of
35 articles were discussed by MR and HS until consensus was reached on articles to include. For instance,
36 during the full text screening, we excluded studies on health care professionals (e.g., nurses and doctors)
37 as this population was well-studied with two meta-analyses focused exclusively on this group in China
38 [26], [27] and one on nurses globally [28]. The final set of included full-text articles were formally
39 appraised by two reviewers (MR and HS). Data from full-text sources were extracted using the
40 following headings: first author and year; country; study setting; description of study sample; study
41 design and sample number; information provided on sexual harassment –study definition, measurement
42 approach, reporting period, prevalence estimates, frequency of acts and main perpetrator; outcomes
43 (e.g., sleep disorders or mental health effects, if measured), outcome direction and nature of effect. The
44 study selection process, including the number of study abstracts and full texts screened with reasons for
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 exclusion, is depicted in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses
4 (PRISMA) flowchart as [Figure 1](#).
5
6
7
8

9 Using criteria adapted from Hoy et al. (2012) [29], the Joanna Briggs Institute (JBI) checklist [29] and
10 our own study criteria, two reviewers appraised the quality of included studies. The completed quality
11 appraisal table (please see [Appendix 2](#)) includes nine questions about study quality: whether studies
12 answered our research question, sampling strategy, participation rates, and any bias in the measurement
13 of prevalence of sexual harassment and reported results. Papers received a grade of either 0 (low) or 1
14 (high) for each question, giving a maximum total score of 9. Studies with a total score 0-3 were
15 considered low quality, 4-6 were of moderate quality and 7-9 were of high quality. No studies were
16 included or excluded from the review based on their quality score. We have followed PRISMA
17 guidelines for this review and include the completed 2020 checklist (please see [Appendix 3](#)).
18
19
20
21
22
23
24
25
26
27
28
29

30 ***Data Analysis***

31 We used a narrative synthesis textual approach to synthesise data as our study was focused on resolving
32 questions for measuring the prevalence of sexual harassment and not the effectiveness of an intervention
33 [30]. We grouped studies around measures used to report prevalence estimates of sexual harassment
34 and assessed this across different studies. We also compared the findings with our conceptual
35 understandings of sexual harassment to interpret the findings. We presented the results after assessing
36 the methodological quality of the included studies, and critically reflected on the strengths and
37 weaknesses of the approaches used, including limitations such as evidence gaps, quality of the evidence
38 and biases in the review process.
39
40
41
42
43
44
45
46
47
48
49

50
51 Given the high heterogeneity across studies, we conducted a meta-analysis of only three studies that
52 presented odds ratios (ORs) for exposure to sexual harassment on the outcome of poor mental health,
53 namely depressive symptoms. We focused on depressive symptoms, as from all the studies that
54 measured symptoms of poor mental health, only three studies were similar in their study definition, had
55 extractable information and showed associations with symptoms of depression. A random-effects meta-
56
57
58
59
60

1
2
3 analysis was conducted to provide a pooled OR and 95% confidence intervals using Stata 15,
4 specifically the 'metan' command. This pooled OR was calculated based on the results of three studies
5 [9], [31], [32]; which, in total, provided three ORs for the risk of depression among sexually harassed
6 women. We used a random-effects model due to the perceived variability in populations and methods
7 used in the included studies.
8
9
10
11
12

13 14 15 16 ***Ethics Statement***

17 All data used in this review were already in the public domain and ethical approval was not required.
18
19

20 21 22 ***Patient and public involvement***

23 No patient and public involvement as this is a systematic review.
24
25
26
27

28 29 **Results**

30 The study selection process is presented in [Figure 1](#). Our literature searches returned 485 unique records,
31 of which 310 were excluded after screening titles and abstracts. Full text copies of the remaining 175
32 references that met the inclusion criteria were retrieved. After further screening, 49 papers were retained
33 for inclusion. Of the 49 papers, 48 were identified from searches of electronic databases and one from
34 a citation search.
35
36
37
38
39
40
41
42

43 <Insert Figure 1: PRISMA flowchart for study selection >
44
45
46
47

48 49 ***Description of included studies***

50 [Table 1](#) provides a summary of the characteristics of all included studies. Except for two studies
51 published between 2000 and 2020; a majority (n=35) of the studies were published after 2010. In terms
52 of geographic spread, most studies were either from Asia (n=26) and sub-Saharan Africa (SSA) (n=22)
53 with only three studies from Latin America and four from the Middle East and North Africa region.
54 Studies (77.5%, n=38) were primarily focused on either a workplace or educational setting, with only
55 eleven studies focused on public spaces, such as public transport, streets or the community. Among
56
57
58
59
60

1
2
3 educational settings, most were higher educational institutions with four studies [33]–[36] focused on
4 adolescents at secondary schools. All, but two studies were observational with cross-sectional surveys;
5 only two studies had a longitudinal design [37], [38]. Most studies (n=41) focused on surveys
6 representative of the population in specific settings; samples of males and females working in
7 universities, in public sector jobs, or male and female students at schools or universities. Seven studies
8 focused on special populations with increased vulnerabilities based on their occupation or life situation,
9 for instance, female bar workers [31], frontline hotel employees [37], homeless individuals [39], female
10 migrant workers in garment factories [40], female domestic workers [40] or clergy members [41]. Most
11 studies had small sample sizes with less than 500 participants (n=28), some were medium size samples
12 of 500-5000 (n=18) and a handful of studies with sample sizes above 5000 (n=3). Only four studies
13 were nationally representative [19], [36], [42], [43].
14
15
16
17
18
19
20
21
22
23
24
25
26
27

28 Definition of sexual harassment

29
30 Despite an intention to measure sexual harassment, 35% (n=17) of identified articles had no listed
31 definition of sexual harassment. This rendered their conceptualisation of sexual harassment as unclear.
32 For studies that defined sexual harassment, these varied from a two-part objective (the identification of
33 the activity) and subjective (the person's perception) definition of sexual harassment, to a 'lay'
34 definition of sexual harassment that included types or classes of behaviour; 'unwanted sexual related
35 behaviour' or 'unwelcome conduct of a sexual nature' or 'intimidating verbal or physical sexual
36 advances'. These studies sought to find out behaviours that constitute harassment, and those that do not
37 (for instance, Fitzgerald and colleagues, 1995) [16]. Despite not having an explicit definition of sexual
38 harassment, one study (Tripathi et al., 2016) acknowledged that a range of acts ranging in severity can
39 come under its purview, for example, from passing comments about a girl amongst a group of friends
40 to sexual assault and that there are subjective perceptions of whether the actions are sexual harassment
41 or not, especially where no physical contact is involved [5].
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57

58 Eight studies in this review drew on the definition by Fitzgerald et al., 1995 that assumes classes of
59 behaviours that constitute sexual harassment. This definition was initially conceptualised for the
60

1
2
3 workplace but is applicable to other settings. It is composed of three related but conceptually distinct
4
5 dimensions, gender harassment, unwanted sexual attention and sexual coercion.
6
7
8

9 Gender harassment is considered as the most common type of sexual harassment. It consists of insulting
10
11 verbal and nonverbal behaviours conveying derogatory, hostile, or degrading attitude toward women
12
13 based on their gender; unwanted sexual attention consists of verbal and nonverbal behaviours that are
14
15 offensive, unwanted, and unreciprocated; sexual coercion entails sexual advances, and makes the
16
17 conditions of employment (or education, for students) contingent upon sexual cooperation [16]. In line
18
19 with the ILO definition, harassing behaviours can be either direct (targeted at an individual) or ambient
20
21 (a general level of sexual harassment in an environment). Furthermore, a harasser may be male or
22
23 female, and harassment is not limited to men harassing women, although this is the most common.”
24
25 [16]. Please see Appendix 4 for a range of study-specific definitions of sexual harassment.
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Table 1: Summary characteristics of included studies (n=49)

Reference	Study setting				Sample	Sample size		SH definition.	Measurement approach			Scales		Sex disaggregated	Perpetrator information	Frequency of acts/experience
	Workplace	Educational	Public places	Community/other		General	Special populations		Less than 500	More than 500	Included	Direct query	List of behaviours or acts			
Luo 1996 [44]	x				x		x	x	x				x		x	
Tang et al., 1996 [45]		x			x		x	x		x			x		x	
Mayekiso et al., 1997 [46]		x			x		x	x		x			x		x	
Shumba et al., 2002 [47]		x			x		x	x		x			x		x	
Fineran et al., 2003 [35]		x			x		x	x		x			x		x	x
Fawole et al., 2005 [38]	x					x	x	x		x			x		x	
Okoro et al., 2005 [48]				x	x		x	x		x			x		x	
Parish et al., 2006 [19]				x	x		x				x		x		x	
Puri et al 2007 [40]	x					x	x			x			x		x	x
Merkin 2008 [7]	x				x		x	x		x			x		x	x
Marsh et al., 2009 [9]	x				x		x	x		x	x		x			
De Souza et al., 2009 [49]	x					x	x	x		x			x			x
Owoaje et al., 2009 [50]		x			x		x	x		x			x		x	
Koehlmoos et al., 2009 [39]				x		x	x			x			x		x	x
Premadasa et al., 2011 [51]		x			x		x	x			x		x		x	
Owoaje et al., 2011 [52]		x			x		x			x			x		x	x
Lahsaeizadeh et al., 2012 [53]		x			x		x	x		x			x		x	x
Dhlomo et al., 2012 [54]		x			x		x			x			x			
Hutagalang et al., 2012 [55]	x				x		x	x			x		x			
Norman et al., 2012 [56]		x			x		x	x		x			x		x	x
Fernandes et al., 2012 [32]				x	x		x			x			x			
Norman et al., 2013 [41]	x					x	x	x		x			x		x	
de Puiseau et al., 2013 [34]		x			x		x	x		x			x		x	
Norman et al., 2013 [57]		x			x		x			x			x		x	
Haile et al., 2013 [58]		x			x		x						x			
Park et al., 2013 [42]	x				x		x			x			x			
Austrian et al., 2014 [33]				x	x		x			x			x		x	

Reference	Study setting				Sample	Sample size		SH definit ion.	Measurement approach			Scales		Sex disaggre gated	Perpetra tor informat ion	Frequency of acts/experi ence
	Workplace	Educational	Public places	Community/other		General Special populations	Less than 500		More than 500	Included	Direct query	List of behaviours or acts	Categories of physical, non-verbal, verbal			
Maurya et al., 2014 [59]	x				x		x		x			x		x		x
Mamaru et al., 2015 [60]		x			x		x	x			x		x		x	
Tobar et al., 2015 [61]		x			x		x	x		x			x		x	x
Kunwar et al., 2015 [62]	x				x		x	x			x		x		x	
Vuckovic et al., 2016 [3]	x				x		x	x	x				x	x	x	
Sahraian et al., 2016 [63]		x			x		x	x	x			x		x		x
Tripathi et al., 2016 [64]	x				x		x	x	x				x		x	
Zhang et al., 2016 [43]				x	x		x	x			x			x		x
Talboys et al., 2017 [65]				x	x		x	x		x			x		x	x
Xie et al., 2017 [66]		x			x		x				x				x	
Tripathi et al., 2017 [67]			x		x		x	x			x				x	
Dar et al., 2018 [68]				x	x		x		x				x		x	
Aina et al., 2018 [69]		x			x		x	x		x					x	
Mabetha et al., 2018 [36]		x			x		x			x					x	
Ul Haq et al., 2018 [70]		x			x		x		x					x		x
Akoku et al., 2019 [31]	x				x		x	x		x					x	
Murshid et al., 2019 [71]				x	x		x	x		x					x	
Zhu et al., 2019 [37]	x				x		x	x		x					x	
Saberi et al., 2019 [72]	x				x		x	x		x					x	x
Gautam et al., 2019 [73]			x		x		x	x			x				x	
Huang et al., 2019 [74]		x			x		x	x		x				x		x
Oni et al., 2019 [75]		x			x		x	x		x				x		

Measurement approach for sexual harassment

The measurement approach in studies was either a direct query method with the question “*have you been sexually harassed?*” (n=14) [3], [9], [68]–[70], [32]–[34], [42], [44], [59], [63], [64] [7] or a series of questions where participants had to indicate whether they had experienced behaviours or acts considered offensive and consistent with sexual harassment (n=26) [9], [31], [35]–[39], [41], [45]–[48], [50], [52], [54], [56], [57], [61], [65], [71], [72], [74], [75]. Nine studies [19], [43], [51], [55], [60], [62], [66], [67], [73] conceptualised sexual harassment as physical, verbal and non-verbal acts; *physical* consisted of purposely bumping or hurting someone, acting indecently, and inappropriate touching, *verbal* consisted of inappropriate sexual comments about body parts, telling sexual or dirty jokes and asking a favour for having sexual intercourse; and *non-verbal* consisted of displaying inappropriate pictures through email/social media, inappropriate eye contact. We excluded three studies that reported measuring sexual harassment, but measured sexual violence explicitly defined and measured as sexual violence or sexual abuse in the study with forced sex or rape [76]–[78] (See [Table 1](#)).

Many studies did not deploy a validated tool, but either used a direct question or a series of behavioural questions (see table 1). These were preceded sometimes with a single ‘gate question’ to assess an entire class of events where only respondents with a positive response receive additional questions to clarify the nature of the event(s). Sixteen studies used existing sexual harassment scales from studies conducted in high income settings, particularly North America. Examples of some of the scales are listed in [Table 2](#):

Table 2: Sexual harassment scales validated in high income setting used in prevalence studies across low and middle income settings

Validated scales	Description	Study references
Adapted version of the 25-item Sexual Experiences Questionnaire (SEQ) (Fitzgerald, et al 1995) [16], Berdahl and Moore (2006) [79], Murry and Sivasubramaniam [80], Stark 2002 [81] for workplace and educational	<p>A questionnaire that combines a series of questions across three dimensions:</p> <ul style="list-style-type: none"> • Gender harassment, most common type of sexual harassment. It refers to a broad range of verbal and nonverbal behaviours not aimed at sexual cooperation but that convey insulting, hostile, and degrading attitudes about members of one gender (e.g., demeaning jokes or comments about women), • Unwanted sexual attention includes expressions of romantic or sexual interest that are unwelcome, 	8 studies [37], [41], [49], [54], [56], [57], [59], [74]

Validated scales	Description	Study references
	<p>unreciprocated, and offensive to the target (e.g., staring, whistling in a sexual way)</p> <ul style="list-style-type: none"> • Sexual coercion entails sexual advances, and makes the conditions of employment (or education, for students) contingent upon sexual cooperation (e.g., implied faster promotion for sex) <p>These were combined into a single estimate of sexual harassment and by categories.</p> <p>Three studies included an additional final direct question on whether they consider any of the above as sexual harassment.</p>	
<p>Modified version of the American Association of University Women (AAUW) Educational Foundation questionnaire on sexual harassment in college campuses [82]</p>	<p>Sexual harassment experiences were asked across four categories:</p> <ul style="list-style-type: none"> • Whether they experienced sexual harassment (Y/N) • Form of sexual harassment (physical or non-physical) • Type of non-physical (e.g., unwanted sexual comments, ask for sexual exchange for favours, leering, leave sexual pictures) • Type of physical (e.g., unwanted sexual touching, forced kissing, clothes pulled in a sexual way, intentional brushing against a person in a sexual way) 	<p>3 studies [48], [50], [70]</p>
<p>Eve Teasing Questionnaire–Mental Health (ETQ-MH) in public places</p>	<p>Consisted of questions about: (a) eve teasing exposure, nature, timing, and intensity; (b) chronicity that delineates one time or on-going harassment</p> <p>Actual questions were:</p> <ol style="list-style-type: none"> Have you ever been eve-teased? When was the last time you were eve-teased? I am going to read you this list of behaviours. As I read each one, can you tell me if you have been the target of any of these in the past year by men/boys: staring; stalking; making vulgar gestures; passing an insulting or threatening comment; pushing or brushing by accident 	<p>1 study [65]</p>
<p>Sexual harassment question in Workplace Violence questionnaire created by the International Labour Organisation/World Health Organisation/International Council of Nurses/Public Services International (ILO/WHO/ICN/PSI) [18]</p>	<p>Direct question on experiencing sexual harassment in the past year:</p> <ol style="list-style-type: none"> In the last 12 months, have you been sexually harassed in your workplace? Y/N How often have you been sexually harassed in the last 12 months? all the time, sometimes, once Please think of the last time you were sexually harassed in your place of work. Who sexually harassed you? (client, staff member, external colleague, relatives of patient/client, supervisor, general public, other) Do you consider this to be a typical incident of sexual harassment in your workplace? Y/N 	<p>2 studies [63], [72]</p>
<p>WHO's adolescent's sexual behaviour questionnaire. [83]</p>	<p>Questions on sexual harassment:</p> <ol style="list-style-type: none"> Young boys/girls are sometimes touched on the breast or some other parts of the body when they do not want it, by a stranger, relative or an older person. <ol style="list-style-type: none"> Has this ever happened to your friends? Has this ever happened to you? Young boys/girls are sometimes forced to have sexual intercourse against their will by a stranger, relative or an older person, teacher, owner etc. <ol style="list-style-type: none"> Has this ever happened to your friends? 	<p>1 study [40]</p>

Validated scales	Description	Study references
	b) Has this ever happened to you? IF YES "When did it happen?" "If yes, then please say by whom?"	
Rautio et al (2005) Medical Student questionnaire [84]	1) If you have been subjected to sexual harassment or discrimination, what form did it take? (Check all that apply): denied opportunities, exchange of rewards for sexual favours; sexual advances; sexist slurs; sexist materials; malicious gossip, favouritism, poor evaluations. 2) How often, if ever, have any of the following persons subjected you to sexual harassment or discrimination (e.g. favouritism, advances, slurs, sexist teaching material)?: Fellow students, consultants, registrars, assistants, lecturers, nurses, laboratory workers. 3) All of the above perpetrators asked in terms of frequency (never, rarely (1-2 times), sometimes (3-4 times), often (5 or more times).	1 study [52]
Braine et al (1995) sexual harassment questionnaire adapted for university students [85]	11 behaviours that may constitute sexual harassment (uncategorised): <ul style="list-style-type: none"> • unwelcome touching and fondling, • sexually directed remarks about clothing, body, sexual activities • unwanted sexual remarks/jokes • unwanted sexual advances • staring, suggestive looks at parts of the body • pressure for dates and sexual favours despite refusing • sexually loaded noises, gestures or comments • derogatory remarks about women • unwanted letters, phone calls or materials of a sexual nature • wolf-whistling, embarrassing whistling, howling 	1 study [46]

Most studies (n=35) did not ask about frequency of behavioural acts at all. None of the studies provided information on cases of sexually harassing behaviours that could present a better indication of the pervasiveness of the behaviour. For example, an unwanted comment received once differs from one received regularly over a month or few months. Thus, an emphasis on specific patterns of behaviour rather than just a focus on singular incidents is a better measure for pervasiveness. Studies that used the adapted versions of the Sexual Experiences Questionnaire (SEQ) scale assessed the number of times or the frequency with which different types of harassment are experienced on a Likert scale, either 0-4 or 0-5 (0 = never, 1 = rarely, 2 = sometimes, 3 = often, 4 = almost always) or the Eve -Teasing Questionnaire-Mental Health (ETQ-MH) scale delineated one time versus on-going. Perpetrator data is important to understand sexual harassment perpetration and the power differential with the survivor of sexual harassment. Fifteen studies did not ask for any information about perpetrators. In workplace

1
2
3 settings, 11 studies mentioned perpetrators of the opposite sex and more often a superior at the
4 workplace. In educational settings, when the study was collecting information from students, most
5 studies (n=7) reported that most students reported a superior (lecturer or a senior student) [36], [41],
6 [45]–[47], [50], [51]. In some studies (n=2) with staff members, it was often a head of department of
7 the opposite sex. In public places and community settings, three studies referred to strangers of the
8 opposite sex as perpetrators [33], [67], [73].
9
10
11
12
13
14
15
16
17

18 ***Prevalence of sexual harassment***

19
20 The definition and the measurement approach used by studies is crucial to determining prevalence rates.
21 However, the measurement dimensions and techniques used to measure prevalence rates across these
22 studies are heterogenous with no international comparability. This presented a challenge for calculating
23 an overall estimate or measuring a range.
24
25
26
27
28
29

30 Table 3 provides prevalence measures by measures, scale, setting and population. In studies that used
31 only the direct query method, the prevalence of sexual harassment (as defined by the studies) ranged
32 from 0.6-26.1%. Among studies where questions were based on behavioural acts, the prevalence range
33 was wide-ranging from 14.5-98.8% indicating that studies were able to capture a higher prevalence for
34 certain individual behaviours or acts, such as suggestive comments, inappropriate staring, unwanted
35 touching and sexual calls. Only three studies [9], [57], [74] had a list of behavioural questions, followed
36 by a direct question about whether participants thought ‘they had been sexually harassed?’ or ‘whether
37 they consider the above behaviours as sexual harassment?’. It appeared that the prevalence rates for
38 experiencing offensive acts was higher when followed up in the survey with the direct question. In
39 studies that asked questions based on physical, verbal and non-verbal categories the ranges were:
40 physical (1.6%-42.3%), verbal (8.3%-90.4%), non-verbal (11.3%-80.1%) (see table 3). There was
41 variation in prevalence rates by the type of validated scale, as seen in the following examples. For
42 studies that adapted different types of the SEQ scale with a range in the types of questions included,
43 the overall prevalence range from six studies was 6.2%-28% with only one study [74] reporting 78%;
44 the modified version of the American Association of University Women (AAUW) Educational
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Foundation questionnaire, the range was high from 69.8%-83%, the ETQ-MH for one study where the prevalence was 48.3% ever experienced and 37.1% past year experience; for the direct query method in the ILO/WHO/ICN/PSI studies were 26.1% aggregate in one study [63] and 12% females in another study [72] (see table 3).

There was variation in prevalence rates by type of setting; workplace settings ranged from 1-52% depending on the context of the workplace and the population group. However, the methods or techniques used to calculate prevalence varies noticeably across studies in these settings. In educational settings, it ranged from 14.4%-73% , but studies measured or categorised dimensions differently and it was also based on the type of study population, such as adolescent girls and boys. In the three studies [39], [67], [73] done in public places the range was 25-78%. In the seven studies done in the community, the prevalence range was 11.9%-83% [19], [32], [33], [43], [48], [65], [71]. In studies with special populations (n=7) who were more vulnerable to experiencing sexual harassment, based on their occupation or life situation, average prevalence rates were reported to be higher than in studies with a general sample with lower estimates of prevalence. For example, the prevalence of sexual harassment among female bar workers was 98.8% and among clergy and lay members 73% (see table 3).

Appendix 5 provides further details on study characteristics and information on sexual harassment.

Table 3: Prevalence of sexual harassment by measures, setting and population

Type	Prevalence range	Reference
Measurement approach		
Direct query method	0.6% - 26.1%	[3], [7], [64], [68]–[70], [9], [32]–[34], [42], [44], [59], [63]
List of behaviours or acts (wide-ranging behaviours). Most common below:	14.5%-98.8%	[9], [31], [35]–[39], [41], [45]–[48], [50], [52], [54], [56], [57], [61], [65], [71], [72], [74], [75]
Suggestive comments	85-90%	
Inappropriate staring	70-90%	
Unwanted touching	46-70%	
Categories (physical, sexual, non-verbal, verbal)		[19], [43], [51], [55], [60], [62], [66], [67], [73]
Physical	1.6%-42.3%	
Verbal	8.3%-90.4%	
Non-verbal	11.3%-80.1%	

Type	Prevalence range	Reference
Settings		
Workplace	1-52%	[3], [7], [55], [59], [62], [64], [72], [9], [31], [37], [38], [40], [42], [44], [49]
Educational	14.4%-73%	[34], [35], [50], [51], [54], [60], [61], [66], [69][36], [45]–[47], [52], [58], [70], [74], [75]
Public places/ Community/Other	25-78%	[39], [67], [73]
	11.9%-83%	[19], [30], [31], [41], [52], [53], [61]
Special populations		
Female bar workers	98.8% in the past 3 months	[31]
Homeless adult population	62.9% in the time-period of being homeless	[39]
Clergy and lay members	73% in the past 12 months	[41]
Female domestic workers	25% in the past 12 months	[49]
Female migrant workers	12.2% ever experience	[40]
Female apprentices (hairdressers, tailors)	22.9% (time-period not specified)	[38]
Female patients in hospitals (with mental health issues) *	65% (time-period not specified)	[68]

*as reported by relatives

Sexual harassment and associations with mental health

Thirteen out of 49 studies measured outcomes associated with sexual harassment. These were positive associations with symptoms of poor mental health (n=8) [9], [31], [32], [37], [56], [57], [59], [60], risky sexual behaviours (n=1) [36], work related life satisfaction or stress (n=2) [42], [55], student's quality of life (n=1) [66] and loss of trust in other religious members (n=1) [41]. Of the studies that measured symptoms of poor mental health with extractable information, three studies showed associations with symptoms of depression (Akoku, 2019, Fernandes et al., 2012 and Marsh et al., 2009) [9], [31], [32], one study showed associations with psychological distress (Mamaru et al., 2015) [60] and one with work related sleep problems [42] (see [table 4](#)).

Table 4: Prevalence and risk of depressive symptoms, psychological distress and work related sleep problems among sexually harassed women

Author, year	Setting	Outcome	Instrument & threshold to assess mental distress	OR and 95% CI
Akoku et al. (2019)	Workplace	Depressive symptoms	Five-item Mental Health Inventory scale (MHI-5)	Experienced inappropriate staring from male customers (aOR: 3.08; CI: 1.9-5.0); Repeated demands for dates despite a rejection (aOR 1.61, 1.04-2.49).
Fernandes et al. (2012)	Youth (aged 16-24) community survey	Common mental disorders (CMDs) defined usually by depression (including unipolar major depression), anxiety and somatoform disorders	General health questionnaire with 12 items (GHQ-12). Cut off score=5 and above.	Sexual harassment: aOR: 2.25; CI: 1.63–3.1
Marsh et al. (2009)	Workplace	Depression	Patient Health Questionnaire (PHQ-9) quick depression assessment tool. 0=never, 1=several weeks in the past year, 2=more than half of past year, 3 =nearly the whole year. Summative score divided into summative categories.	Workplace abuse and sexual harassment: OR: 8.0; 95% CI: 1.1-60.8
Mamaru et al. (2015)	Educational	Psychological distress	Self-reported questionnaire (SRQ-20) (World Health Organisation)	Physical sexual harassment (aOR: 3.9; CI: 1.9-7.9) Non-verbal sexual harassment (aOR: 12.1; CI: 5.2-28.2)
Park et al. (2013)	Workplace	Work related sleep problems	Sleep problems assessed by single item 'Do you currently suffer from work-related sleep problems?'	Sexual harassment: aOR: 6.99 (CI: 3.87–12.6)

aOR: adjusted odd ratio

One study showed that students who were physically [aOR = 3.950, 95% CI: 1.979, 7.884] and non-verbally harassed [aOR = 12.1, 95% CI: 5.190, 28.205] had four and 12 times higher odds of experiencing psychological distress respectively [60]. Another study in the workplace showed that those who experienced sexual harassment experienced close to seven times higher odds of work related sleep problems [42].

1
2
3 For the association between sexual harassment and symptoms of depression, we calculated a random-
4 effects meta-analysis to obtain a pooled odds ratio. The pooled OR was 1.75 (95% CI: 1.11, 2.76;
5 $p=0.016$), showing a significant relationship between exposure to sexual harassment and symptoms of
6 depression. This pooled OR showed a heterogeneity of 71.9%, with a p-value of 0.028 suggesting that
7 there was some heterogeneity. A forest plot presenting the results of the random effects meta-analysis
8 of three studies presenting odds ratios for the association between sexual harassment and symptoms of
9 depression is shown in [Figure 2](#). Please note Akoku et al.2019, presents seven ORs for the association
10 between various forms of sexual harassment and the outcome of depressive symptoms. These seven
11 ORs were pooled using a fixed effects meta-analysis to produce one overall OR to represent the findings
12 of this study. The study does not provide frequency distributions for the variables thus we were unable
13 to create an overall OR using the exact numbers.
14
15
16
17
18
19
20
21
22
23
24
25
26
27

28 <Insert Figure 2>
29
30
31

32 Discussion

33 In our systematic review on sexual harassment in LMICs, most studies were published in the past decade
34 (>2010) indicating that the issue has gained prominence recently, in LMICs. Studies were primarily
35 convenience samples focused on either a workplace or educational setting and from Asia and Sub
36 Saharan Africa, with only three studies from Latin America. All the studies were cross-sectional surveys
37 (only two studies used a longitudinal design) and four studies were nationally representative samples.
38 Our review has shown that a third of the studies intended to measure the prevalence of sexual
39 harassment without a clear definition. Even when studies included a definition, either from the WHO
40 or the ILO or Fitzgerald's (1995) definition, there was variation between studies on the
41 conceptualisation of sexual harassment and ambiguity around its measurement. In particular, due to the
42 subjective nature of sexual harassment, and a participant's perception of their experience versus the
43 legal definition, there were challenges to measuring sexual harassment and obtaining a true prevalence
44 measure [86]. To emphasise the ambiguous nature of definitions, in our literature search, three studies
45 conflated sexual harassment with sexual violence when discussing measurement. We have excluded
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 these studies from the final review but have raised it here to highlight a lack of clarity around the
4 conceptualisation of sexual harassment. We acknowledge that sexual harassment and sexual violence
5 may have overlapping constructs, particularly the unwanted sexual nature of physical contact, and we
6 do not expect to clearly distinguish them in every case as they lie on a continuum of severity. However,
7 sexual violence tends to be more severe acts, such as forced sex or attempted rape. Further, a conflation
8 of sexual harassment and sexual violence has implications for measurement, as individuals may not
9 report the non-penetrative experiences that characterises sexual harassment.
10
11
12
13
14
15
16
17
18
19

20 The prevalence rates of sexual harassment varied by the type of setting with higher educational
21 institutions having a higher prevalence range than the workplace. However as most studies used
22 convenience samples with small sample sizes it is difficult to draw conclusions. For the 30 studies that
23 included males and females, 19 studies disaggregated prevalence rates by sex and in all studies, except
24 one study [70] females reported a higher prevalence of sexual harassment than males. In the one study
25 [70] when there was higher reporting by males, it was related to the age difference between the
26 individuals and the perpetrators who were in positions of authority. This aligns with evidence from
27 high-income settings that some behaviours are more likely to be perceived as harassing by both sexes
28 if they are engaged in by someone who has higher status or formal authority over the harassed. When
29 there is no status differential the immediate threat is not apparent and this may elicit actual gender
30 differences in the interpretation of events; men may perceive the behaviour as harmless social
31 interaction, whereas women may perceive an element of threat [87]. However, it is difficult to conclude
32 that females experience a higher prevalence of sexual harassment than men as this varies by study
33 setting. For instance, a global meta-analysis of nurses and workplace sexual harassment conclude that
34 compared with male nurses, female nurses reported a lower prevalence of sexual harassment. However,
35 this may also have to do with under-reporting of sexual harassment by females due to reasons, such as
36 shame and embarrassment [28].
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57

58 There was also wide variation by the type of measurement approach (direct query versus behavioural
59 acts or categories). Studies were able to capture a higher prevalence for certain individual behaviours
60

1
2
3 or acts, such as suggestive comments, inappropriate staring, unwanted touching and sexual calls, than
4
5 with only a direct question asking if they have been sexually harassed. Further, three studies that used
6
7 the SEQ scale used a combination approach that included the list of offensive behaviours, followed by
8
9 one question on whether the individual who responded positively to one or more instances of
10
11 inappropriate behaviour *acknowledges* that they have experienced sexual harassment. Surprisingly, the
12
13 studies show that a high percentage of individuals have experienced two or more harassing behaviours
14
15 (e.g., unwanted touching or suggestive comments), but a lower percentage acknowledge that their
16
17 experience is sexual harassment. For example, in Huang et al. (2019), while 78% of 1,075 respondents
18
19 experienced at least one situation of harassment listed in the SEQ-China, only 43% reported having
20
21 been sexually harassed when asked it directly [74]. This suggests the need to consider other factors for
22
23 this discrepancy, such as cultural norms and normalisation of the practice or the power dynamic between
24
25 the perpetrator and the victim. Stockdale et al. (1995) clarify this by describing the discrepancy between
26
27 reporting a harassment-like experience and reporting that one has actually been sexually harassed as *the*
28
29 *acknowledgment process* [88]. They found a higher likelihood of an individual acknowledging sexual
30
31 harassment if they had experienced unwanted sexual attention, such as sexual looks or gestures, if (a)
32
33 the offences were frequent and pervasive, (b) the respondent was harassed by a higher status perpetrator,
34
35 and (c) the respondent was a woman [88]. Thus, individuals harassed by perpetrators that maybe
36
37 considered to be higher in status (with more power) would be more likely to label their experience as
38
39 sexual harassment than individuals harassed by perpetrators of the same or lower status. In this review,
40
41 when the information on perpetrators was available, the studies indicated offensive behaviours by
42
43 perpetrators of lower status compared to higher status perpetrators. Students and co-workers were
44
45 mentioned most frequently as being perpetrators in educational and workplace settings. Moreover, in
46
47 those studies that measured it, peer harassment was far more common than harassment by superiors
48
49 [35], [36], [45]. One explanation for low acknowledgment is that most incidents involve offensive
50
51 behaviours by perpetrators that are not normally considered to be sexual harassers (e.g., peers) [88].
52
53 This, however, does not change the fact that the behaviours they experienced were offensive and
54
55 unacceptable. Furthermore, apart from measurement issues being a reason for under-reporting, in the
56
57 workplace, a fear of a negative impact on jobs, feeling embarrassed, a fear of being discriminated
58
59
60

1
2
3 against by work colleagues, or a fear that their report will not be taken seriously are other reasons for
4 low reporting rates. In school settings, fear of negative reprisal from teachers and peers, normalisation
5 of sexual harassment and not being able to recognise it can also result in under-reporting,
6
7
8
9

10
11 There is strong agreement that the consequences of sexual harassment are serious and complex,
12 irrespective of whether the focus of research is on employees or students and staff in higher education
13 [11]. Research from high income countries have shown the impact of sexual harassment on depressive
14 symptoms [89]. In our review, there is evidence of a significant negative association between sexual
15 harassment and symptoms of depression. There however needs to be more empirical research from
16 LMICs. by setting and different mental health outcomes, such as risk of anxiety, depression, post-
17 traumatic stress disorder, as well as diminished self-esteem, self-confidence, and psychological well-
18 being.
19
20
21
22
23
24
25
26
27
28
29

30 *Strengths and Limitations*

31
32 To our knowledge, this is the first systematic review to assess the prevalence and measurement of sexual
33 harassment in LMICs, with the first pooled estimate of the association between sexual harassment and
34 depression in LMICs. In terms of limitations, our review has not included non-peer reviewed literature
35 or articles not published in English, potentially leading to an underrepresentation of non-English
36 speaking countries. Using a low, moderate and high cut-off for methodological quality could imply that
37 all criteria carry equal weight, and some studies may have been misclassified as regards their overall
38 quality. We also identified several conceptual and methodological issues in the included studies that
39 limit the conclusions that can be drawn from the review. Following quality appraisal by two reviewers,
40 17 of the 49 included papers scored <4/9 (low/moderate) on questions relating to selection bias. Further,
41 we found that most studies used non-probability sampling and did not provide information on the
42 representativeness of their samples. Finally, heterogeneity in studies' definitions of sexual harassment
43 is likely to further reduce the comparability of findings. A further definitional complexity is around the
44 conflation of sexual harassment with sexual violence by some studies. While there are overlaps between
45 sexual harassment and sexual violence particularly around unwanted sexual comments or advances,
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 sexual violence tends to encompass more coercive and severe penetrative behaviours such as rape,
4
5 whereas sexual harassment tends to focus on less physically severe but offensive behaviours that can
6
7 create a hostile environment for victims of sexual harassment. Even though our search were limited to
8
9 studies that used the term sexual harassment, there were some studies that indicated measuring sexual
10
11 harassment but referred to sexual violence, Hence, by conflating sexual violence and sexual harassment,
12
13 we risk the under-reporting or non-measurement of sexual harassment with negative impacts on women
14
15 and girls. Also, if sexual harassment was only a secondary objective of studies and did not feature in
16
17 the abstract, this review might have missed it, resulting in publication bias. Finally, our meta-analysis
18
19 of sexual harassment and depression must be interpreted with caution. First, the three studies were
20
21 deemed homogeneous enough to be included in a meta-analysis because they all presented odds ratios
22
23 for the association between sexual harassment and depression; however, in each of these studies,
24
25 different definitions of sexual harassment were used, along with different methods of assessing
26
27 symptoms of poor mental health. Second, both Akoku et al. (2019) and Fernandes et al. (2015) were
28
29 concluded in the quality assessment to have a high risk of bias, with Marsh et al. (2009) concluded as
30
31 showing a moderate risk of bias. Both Marsh et al. (2009) and Akoku et al. (2019) did not use random
32
33 samples in their study and were not representative of their target population. In Fernandes et al. (2012),
34
35 the study lacked both clear definitions of sexual harassment and clear descriptions of how it was
36
37 measured. Finally, only three measures of effect were included and one (Marsh et al., 2009) presented
38
39 only a non-significant unadjusted odds ratio for the association between sexual harassment and
40
41 depression. The aforementioned points mean that, although the results of this study may suggest there
42
43 is a significant association between sexual harassment and symptoms of depression, there is a lack of
44
45 strong evidence to support this and more research is needed.
46
47
48
49
50

51 **Conclusions**

52
53 Overall, this review provides a summary of the evidence on sexual harassment in LMICs. Despite a
54
55 dramatic increase in the profile of sexual harassment over the past decade, there is limited definitional
56
57 clarity and rigorously designed prevalence studies from LMICs that use validated measures for sexual
58
59 harassment. Nevertheless, this review confirms that the prevalence of sexual harassment is high across
60

1
2
3 workplace, educational, and public settings and women experience a higher prevalence than men.
4
5 Questions that capture behavioural acts over the direct query method appear more effective in garnering
6
7 a response but this needs to be cognitively tested more widely. Our analysis also suggests that sexual
8
9 harassment is associated with symptoms of depression. We, however, recognise the limitations of this
10
11 pooled estimate and need higher quality studies that explore the consequences of sexual harassment in
12
13 LMICs. As there is no sign that sexual harassment is abating, there is an urgent need to improve the
14
15 measurement of sexual harassment and improved measures are particularly critical for large, repeat
16
17 nationally representative surveys. Further, with improved measures and a better understanding of the
18
19 prevalence of this issue, by setting, policies and programmes can be designed accordingly.
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Declarations

Ethics approval

Not applicable

Consent for publication

Not applicable

Availability of data and material

All data generated or analysed during this study are included in this published article [and its supplementary files].

Competing interests

The authors declare that they have no competing interests.

Funding

The study received funding from the British Academy Sustainable Development Grant Programme (grant number SDP2\100069) and the European Research Council (ERC) Starting Grant (IPV Tanzania 716458). Neither the British Academy nor the ERC did not contribute to study design, data collection and analysis, interpretation of data or writing the manuscript.

Authors' contributions

Conceived and designed the study: MR, HS, JW. Data collection: MR. Analysed the data: MR, HS, IP. Wrote the first draft of the manuscript: MR. Contributed to the writing of the manuscript: MR, HS, JW, IP. Agreed with manuscript results and conclusions: MR, HS, JW, IP.

Acknowledgements

None

References

- [1] World Health Organization 2016, "Working for health and growth: investing in the health workforce. Report of the High-Level Commission on Health Employment and Economic Growth.," Geneva, Switzerland, 2016.
- [2] Littleton H, Abrahams N, Bergman M, Berliner L, and B. M. et Al, "Sexual assault, sexual abuse, and harassment: Understanding the mental health impact and providing care for survivors.," 2018. [Online]. Available: www.istss.org/sexual-assault. [Accessed: 04-June-2021].
- [3] M. Vuckovic, A. Altvater, L. H. Sekei, and K. Kloss, "Sexual harassment and gender-based violence in Tanzania's public service: A study among employees in Mtwara Region and Dar es Salaam," *Int. J. Work. Heal. Manag.*, vol. 10, no. 2, pp. 116–133, 2017.
- [4] World Health Organisation, "Violence against women – Intimate partner and sexual violence against women.," Geneva, Switzerland, 2011.
- [5] International Labour Office, "Ending violence and harassment against women and men in the world of work," Geneva, Switzerland, 2018.
- [6] Morley L, "Sex , grades and power in higher education in Ghana and Tanzania," *Cambridge J. Educ.*, vol. 41, no. 1, pp. 101–115, 2011.
- [7] Merkin RS, "The impact of sexual harassment on turnover intentions, absenteeism, and job satisfaction: findings from Argentina, Brazil and Chile," *J. Int. Women's Stud.*, vol. 10, no. 2, pp. 73–91, 2008.
- [8] Friberg MK *et al.*, "Workplace sexual harassment and depressive symptoms : a cross-sectional multilevel analysis comparing harassment from clients or customers to harassment from other employees amongst 7603 Danish employees from 1041 organizations," *BMC Public Health*, vol. 17, no. 675, pp. 1–12, 2017.
- [9] J. Marsh *et al.*, "Prevalence of workplace abuse and sexual harassment among female faculty and staff," *J. Occup. Health*, vol. 51, no. 4, pp. 314–322, 2009.
- [10] International Labour Organization, "Stop violence at work – International Woman's Day," Geneva, 2013.
- [11] Bondestam F and Lundqvist M, "Sexual harassment in higher education – a systematic review," *Eur. J. High. Educ.*, vol. 0, no. 0, pp. 1–23, 2020.
- [12] Chan DS, Chun BL, Yee Chow S, and Cheung SF, "Examining the job-related, psychological and physical outcomes of workplace sexual harassment: A meta-analytic review," *Psychol. of Women Quarterly*, vol. 32, pp. 362–376, 2008.
- [13] M. Philpart, B. Gelaye, M. A. Williams, and Y. Berhane, "Prevalence and Risk Factors of Gender-Based Violence Committed by Male College Students," *Violence Vict.*, vol. 24, no. 1, 2009.
- [14] Fedina L, Holmes JL, and Backes BL, "Campus Sexual Assault : A Systematic Review of Prevalence Research From 2000 to 2015," *Trauma, Violence, Abus.*, vol. 19, no. 1, pp. 76–93, 2018.
- [15] R. Ilies, N. Hauserman, S. Schwochau, and J. Stibal, "Reported incidence rates of work-related sexual harassment in the united states: Using meta-analysis to explain reported rate disparities," *Pers. Psychol.*, vol. 56, no. 3, pp. 607–631, 2003.
- [16] L. F. Fitzgerald, M. J. Gelfand, and F. Drasgow, "Measuring Sexual Harassment: Theoretical and Psychometric Advances," *Basic Appl. Soc. Psych.*, vol. 17, no. 4, pp. 425–445, 1995.

- 1
2
3 [17] A. Das, "Sexual Harassment at Work in the United States," *Arch. Sex. Behav.*, vol. 38, no. 6,
4 pp. 909–921, 2009.
5
6 [18] World Health Organisation, "Joint Programme on Workplace Violence in the Health Sector -
7 questionnaire," *Hum. Rights*, pp. 1–14, 2003.
8
9 [19] W. L. Parish, A. Das, and E. O. Laumann, "Sexual harassment of women in urban China,"
10 *Arch. Sex. Behav.*, vol. 35, no. 4, pp. 411–425, 2006.
11
12 [20] The World Bank Group, "World Bank Country and Lending Groups: Country Classification,"
13 2021. [Online]. Available: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519>.
14
15 [21] G. A. Adejuwon and A. M. Lawal, "Perceived Organisational Target Selling, Self-Efficacy,
16 Sexual Harassment and Job Insecurity as Predictors of Psychological Wellbeing of Bank
17 Employees in Nigeria," *Ife Psychol.*, vol. 21, no. 1, pp. 17–29, 2013.
18
19 [22] M. A. Shaffer, J. R. W. Joplin, M. P. Bell, T. Lau, and C. Oguz, "Gender Discrimination and
20 Job-Related Outcomes: A Cross-Cultural Comparison of Working Women in the United States
21 and China," *J. Vocat. Behav.*, vol. 57, no. 3, pp. 395–427, 2000.
22
23 [23] M. Salman, F. Abdullah, and A. Saleem, "Sexual Harassment at Workplace and its Impact on
24 Employee Turnover Intentions," *Bus. Econ. Rev.*, vol. 8, no. 1, pp. 87–102, 2016.
25
26 [24] A. Oyefabi and B. Yahuza, "Ethical issues in knowledge, perceptions, and exposure to hospital
27 hazards by patient relatives in a tertiary institution in North Western Nigeria," *Niger. J. Clin.
28 Pract.*, vol. 19, no. 5, pp. 622–631, 2016.
29
30 [25] S. A. Wasti, M. E. Bergman, T. M. Glomb, and F. Drasgow, "Test of the cross-cultural
31 generalizability of a model of sexual harassment," *J. Appl. Psychol.*, vol. 85, no. 5, pp. 766–
32 778, 2000.
33
34 [26] L. N. Zeng *et al.*, "Prevalence of sexual harassment of nurses and nursing students in China: A
35 meta-analysis of observational studies," *Int. J. Biol. Sci.*, vol. 15, no. 4, pp. 749–756, 2019.
36
37 [27] L. Lu *et al.*, "Prevalence of Workplace Violence Against Health-Care Professionals in China:
38 A Comprehensive Meta-Analysis of Observational Surveys," *Trauma, Violence, Abus.*, vol.
39 21, no. 3, pp. 498–509, 2020.
40
41 [28] L. Lu *et al.*, "Worldwide prevalence of sexual harassment towards nurses: A comprehensive
42 meta-analysis of observational studies," *J. Adv. Nurs.*, vol. 76, no. 4, pp. 980–990, Apr. 2020.
43
44 [29] D. Hoy, P. Brooks, A. Woolf, F. Blyth, L. March, and C. Bain, "Assessing risk of bias in
45 prevalence studies: modification of an existing tool and evidence of interrater agreement," *J.
46 Clin. Epidemiol.*, vol. 65, pp. 934–939, 2012.
47
48 [30] Ryan R and Cochrane Consumers and Communication Review Group, "Cochrane Consumers
49 and Communication Review Group: data synthesis and analysis," *Cochrane Consumers and
50 Communication*, 2013. [Online]. Available: <http://cccr.org.cochrane.org>. [Accessed: 28-Sep-
51 2020].
52
53 [31] D. A. Akoku, M. A. Tihnje, T. A. Vukugah, E. E. Tarkang, and R. E. Mbu, "Association
54 between Male Customer Sexual Harassment and Depressive Symptoms among Female Bar
55 Workers in Yaounde , Cameroon : A Cross-sectional Study," *Am. J. Public Heal. Res.*, vol. 7,
56 no. 2, pp. 41–47, 2019.
57
58 [32] A. C. Fernandes, R. D. Hayes, and V. Patel, "Abuse and other correlates of common mental
59 disorders in youth: A cross-sectional study in Goa, India," *Soc. Psychiatry Psychiatr.
60 Epidemiol.*, vol. 48, no. 4, pp. 515–523, 2013.
[33] K. Austrian and E. Muthengi, "Can economic assets increase girls' risk of sexual harassment?
Evaluation results from a social, health and economic asset-building intervention for

- vulnerable adolescent girls in Uganda,” *Child. Youth Serv. Rev.*, vol. 47, no. P2, pp. 168–175, 2014.
- [34] B. Waubert de Puiseau and J. Roessel, “Exploring sexual harassment and related attitudes in Beninese high schools: A field study,” *Psychol. Crime Law*, vol. 19, no. 8, pp. 707–726, 2013.
- [35] S. Fineran, L. Bennett, and T. Sacco, “Peer sexual harassment and peer violence among adolescents in Johannesburg and Chicago,” *Int. Soc. Work*, vol. 46, no. 3, pp. 387–401, 2003.
- [36] K. Mabetha and N. De Wet, “Sexual harassment in South African schools: Is there an association with risky sexual behaviours?,” *SAJCH South African J. Child Heal.*, vol. 12, no. Special Issue, pp. S10–S14, 2018.
- [37] H. Zhu, Y. Lyu, and Y. Ye, “Workplace sexual harassment, workplace deviance, and family undermining,” *Int. J. Contemp. Hosp. Manag.*, vol. 31, no. 2, pp. 594–614, 2019.
- [38] O. I. Fawole, A. J. Ajuwon, and K. O. Osungbade, “Evaluation of interventions to prevent gender-based violence among young female apprentices in Ibadan, Nigeria,” *Health Educ.*, vol. 105, no. 3, pp. 186–203, 2005.
- [39] T. P. Koehlmoos, M. J. Uddin, A. Ashraf, and M. Rashid, “Homeless in Dhaka: Violence, sexual harassment, and drug-abuse,” *J. Heal. Popul. Nutr.*, vol. 27, no. 4, pp. 452–461, 2009.
- [40] M. Puri and J. Cleland, “Assessing the factors associated with sexual harassment among young female migrant workers in Nepal,” *J. Interpers. Violence*, vol. 22, no. 11, pp. 1363–1381, 2007.
- [41] I. D. Norman, M. Aikins, and F. N. Binka, “Faith-Based Organizations: Sexual Harassment and Health in Accra-Tema Metropolis,” *Sex. Cult.*, vol. 17, no. 1, pp. 100–112, 2013.
- [42] J. B. Park, A. Nakata, N. G. Swanson, and H. Chun, “Organizational factors associated with work-related sleep problems in a nationally representative sample of Korean workers,” *Int. Arch. Occup. Environ. Health*, vol. 86, no. 2, pp. 211–222, 2013.
- [43] H. Zhang *et al.*, “A study of violence among hong kong young adults and associated substance use, risky sexual behaviors, and pregnancy,” *Violence Vict.*, vol. 31, no. 5, pp. 985–996, 2016.
- [44] Tsun-Yin Luo, “Sexual Harassment in the Chinese Workplace - Attitudes toward and experiences of sexual harassment among workers in Taiwan,” *Violence Against Women*, vol. 2, no. 3, pp. 284–301, 1996.
- [45] C. S. K. Tang, M. S. M. Yik, F. M. C. Cheung, P. K. Choi, and K. C. Au, “Sexual harassment of Chinese college students,” *Arch. Sex. Behav.*, vol. 25, no. 2, pp. 201–215, 1996.
- [46] T. V. Mayekiso and K. Bhana, “Sexual harassment: Perceptions and experiences of students at the University of Transkei,” *South African J. Psychol.*, vol. 27, no. 4, pp. 230–235, 1997.
- [47] A. Shumba, A. Erinas, and M. Matina, “Sex Education : Sexuality , Society and Learning Sexual Harassment of College Students by Lecturers in Zimbabwe Sexual Harassment of College Students by Lecturers in Zimbabwe,” vol. 1811, 2010.
- [48] Okoro FI and Obozokhai O, “Sexual Harassment : The Experience of Out-Of- School Teenagers in Benin City , Nigeria,” *Afr. J. Reprod. Health*, vol. 9, no. 3, pp. 118–127, 2005.
- [49] E. R. DeSouza and E. Cerqueira, “From the kitchen to the bedroom: Frequency rates and consequences of sexual harassment among female domestic workers in Brazil,” *J. Interpers. Violence*, vol. 24, no. 8, pp. 1264–1284, 2009.
- [50] E. Owoaje and O. Olusola-Taiwo, “Sexual harassment experiences of female graduates of Nigerian tertiary institutions,” *Int. Q. Community Health Educ.*, vol. 30, no. 4, pp. 337–348, 2010.

- 1
2
3 [51] I. G. Premadasa, N. C. Wanigasooriya, L. Thalib, and A. N. B. Ellepola, "Harassment of
4 newly admitted undergraduates by senior students in a Faculty of Dentistry in Sri Lanka,"
5 *Med. Teach.*, vol. 33, no. 10, 2011.
6
7 [52] E. T. Owoaje, O. C. Uchendu, and O. K. Ige, "Experiences of mistreatment among medical
8 students in a university in south west Nigeria," *Niger. J. Clin. Pract.*, vol. 15, no. 2, pp. 214–
9 219, 2012.
10
11 [53] Lahsaeizadeh A and Yousefinejad E, "Social Aspects of Women ' s Experiences of Sexual
12 Harassment in Public Places in Iran," *Sex. Cult.*, vol. 16, pp. 17–37, 2012.
13
14 [54] T. Dhlomo, R. M. Mugweni, G. Shoniwa, L. Maunganidze, and T. Sodi, "Perceived sexual
15 harassment among female students at a Zimbabwean institution of higher learning," *J.*
16 *Psychol. Africa*, vol. 22, no. 2, pp. 269–272, 2012.
17
18 [55] F. Hutagalung and Z. Ishak, "Sexual Harassment: A Predictor to Job Satisfaction and Work
19 Stress among Women Employees," *Procedia - Soc. Behav. Sci.*, vol. 65, no. ICIBSoS, pp.
20 723–730, 2012.
21
22 [56] I. D. Norman, M. Aikins, and F. Binka, "Traditional and Contrapower Sexual Harassment in
23 Public Universities and Professional Training Institutes of Ghana.," *Int. J. Acad. Res.*, vol. 4,
24 no. 2, pp. 85–95, 2012.
25
26 [57] I. D. Norman, M. Aikins, and F. N. Binka, "Sexual harassment in public medical schools in
27 Ghana.," *Ghana Med. J.*, vol. 47, no. 3, pp. 128–136, 2013.
28
29 [58] R. T. Haile, N. D. Kebeta, and G. M. Kassie, "Prevalence of sexual abuse of male high school
30 students in Addis Ababa, Ethiopia," *BMC Int. Health Hum. Rights*, vol. 13, no. 1, 2013.
31
32 [59] M. K. Maurya and M. Agarwal, "Relationship between Perceived Workplace Harassment,
33 Mental Health Status and Job Satisfaction of Male and Female Civil Police Constables,"
34 *Indian J. Community Psychol.*, vol. 10, no. 1, pp. 162–177, 2014.
35
36 [60] A. Mamaru, K. Getachew, and Y. Mohammed, "Prevalence of physical, verbal and nonverbal
37 sexual harassments and their association with psychological distress among Jimma University
38 female students: a cross-sectional study," *Ethiop. J. Health Sci.*, vol. 25, no. 1, pp. 29–38,
39 2015.
40
41 [61] S. Tobar, E. Elsheshtawy, and H. Taha, "Harassment-related maladaptive cognitions in a
42 sample of Mansoura University students, Egypt," *Middle East Curr. Psychiatry*, vol. 22, no. 3,
43 pp. 171–177, 2015.
44
45 [62] Kunwar LB, Kunwar BB, Thapa P, Sharma I, Dhami SS, and Rokaya LJ, "Sexual Harassment
46 in Female at Working Place in Dhangadhi Municipality Kailali District of Nepal," *Indian J.*
47 *Public Heal. Res. Dev.*, vol. 6, no. 4, 2015.
48
49 [63] Sahraian A, Hemyari C, Ayatollahi M, and Zomorodian K, "Workplace violence against
50 medical students in Shiraz, Iran," *Shiraz E-Med*, vol. 17, no. 4-5: e35754, 2016.
51
52 [64] P. Tripathi, R. R. Tiwari, and R. Kamath, "Workplace violence and gender bias in unorganized
53 fisheries of Udupi, India," *Int. J. Occup. Environ. Med.*, vol. 7, no. 3, pp. 181–185, 2016.
54
55 [65] S. L. Talboys, M. Kaur, J. VanDerslice, L. H. Gren, H. Bhattacharya, and S. C. Alder, "What
56 is eve teasing? A mixed methods study of sexual harassment of young women in the rural
57 Indian context," *SAGE Open*, vol. 7, no. 1, 2017.
58
59 [66] Z. Xie, J. Li, Y. Chen, and K. Cui, "The effects of patients initiated aggression on Chinese
60 medical students' career planning," *BMC Health Serv. Res.*, vol. 17, no. 1, pp. 1–8, 2017.
61
62 [67] K. Tripathi, H. Borrión, and J. Belur, "Sexual harassment of students on public transport: An
63 exploratory study in Lucknow, India," *Crime Prev. Community Saf.*, vol. 19, no. 3–4, pp. 240–

- 250, 2017.
- [68] L. K. Dar and S. Hasan, "Traumatic experiences and dissociation in patients with conversion disorder," *J. Pak. Med. Assoc.*, vol. 68, no. 12, pp. 1776–1781, 2018.
- [69] A. D. Aina and P. Kulshrestha, "Sexual Harassment in Educational Institutions in Delhi' NCR (India): Level of Awareness, Perception and Experience," *Sex. Cult.*, vol. 22, no. 1, pp. 106–126, 2018.
- [70] I. U. L. Haq, M. Adeel, A. Abbas, N. Saddique, and A. W. Qazi, "Perceived abuse in undergraduate medical students of Lahore , Pakistan : a cross-sectional study," *PJMHS*, vol. 12, no. 3, pp. 1046–1049, 2018.
- [71] K. A. S. Murshid and N. S. Murshid, "Adolescent exposure to and attitudes toward violence: Empirical evidence from Bangladesh," *Child. Youth Serv. Rev.*, vol. 98, no. September 2018, pp. 85–95, 2019.
- [72] H. R. Saberi, M. Motalebi Kashani, and A. Dehdashti, "Occupational violence among female workers in an Iranian industrial area," *Women Heal.*, vol. 59, no. 9, pp. 1075–1087, 2019.
- [73] N. Gautam, N. Sapakota, S. Shrestha, and D. Regmi, "Sexual harassment in public transportation among female student in Kathmandu valley," *Risk Manag. Healthc. Policy*, vol. 12, pp. 105–113, 2019.
- [74] Z. Huang *et al.*, "Life and crisis: sexual harassment among Chinese college students," *Int. J. Clin. Exp. Med.*, vol. 12, no. 5, pp. 4673–4684, 2019.
- [75] H. T. Oni, T. G. Tshitangano, and H. A. Akinsola, "Sexual harassment and victimization of students: A case study of a higher education institution in South Africa," *Afr. Health Sci.*, vol. 19, no. 1, pp. 1478–1485, 2019.
- [76] D. Tarekegn, B. Berhanu, and Y. Ali, "Prevalence and Associated Factors of Sexual Violence among High School Female Students in Dilla Town, Gedeo Zone SNNPR, Ethiopia," *Epidemiol. Open Access*, vol. 07, no. 04, 2017.
- [77] T. Dias, A. Kociejowski, S. Rathnayake, S. Kumarasiri, S. Abeykoon, and T. Padeniya, "Sexual violence against women: a challenge," *Ceylon Med. J.*, vol. 59, no. 3, pp. 107–108, 2014.
- [78] C. El Khoury *et al.*, "Sexual Violence in Childhood and Post-Childhood: The Experiences of Young Men Who Have Sex With Men in Beirut," *J. Interpers. Violence*, pp. 1–20, 2019.
- [79] J. L. Berdahl and C. Moore, "Workplace harassment: Double jeopardy for minority women," *J. Appl. Psychol.*, vol. 91, no. 2, pp. 426–436, 2006.
- [80] W. D. Murry, N. Sivasubramaniam, and P. H. Jacques, "Supervisory support, social exchange relationships, and sexual harassment consequences: a test of competing models," *Leadersh. Q.*, vol. 12, no. 1, pp. 1–29, 2001.
- [81] S. Stark, O. S. Chernyshenko, A. R. Lancaster, F. Drasgow, and L. F. Fitzgerald, "Toward Standardized Measurement of Sexual Harassment: Shortening the SEQ-DoD Using Item Response Theory," *Mil. Psychol.*, vol. 14, no. 1, pp. 49–72, 2002.
- [82] A. L. Bryant, "Hostile Hallways: The AAUW Survey on Sexual Harassment in America's Schools," *J. Sch. Health*, vol. 63, no. 8, pp. 355–357, Oct. 1993.
- [83] Cleland J, Ingham R, and Stone N, "Asking young people about sexual and reproductive behaviours: WHO Illustrative Core Instruments." 2001.
- [84] A. Rautio, V. Sunnari, M. Nuutinen, and M. Laitala, "Mistreatment of university students most common during medical studies," *BMC Med. Educ.*, vol. 5, pp. 1–12, 2005.

- 1
2
3 [85] J. D. Braine, C. Bless, and P. M. C. Fox, "How do students perceive sexual harassment? An
4 investigation on the University of Natal, Pietermaritzburg campus," *South African J. Psychol.*,
5 vol. 25, no. 3, pp. 140–149, Sep. 1995.
6
7 [86] B. A. Gutek, "How Subjective Is Sexual Harassment? An Examination of Rater Effects,"
8 *Basic Appl. Soc. Psych.*, vol. 17, no. 4, pp. 447–467, 1995.
9
10 [87] Rotundo M, Nguyen DH, and Sackett PR, "A Meta-Analytic Review of Gender Differences in
11 Perceptions of Sexual Harassment," *J. Appl. Psychol.*, vol. 86, no. 5, pp. 914–922, 2001.
12
13 [88] M. S. Stockdale, A. Vaux, and J. Cashin, "Acknowledging Sexual Harassment: A Test of
14 Alternative Models," *Basic Appl. Soc. Psych.*, vol. 17, no. 4, pp. 469–496, 1995.
15
16 [89] Houle JN, Staff J, Mortimer JT, Uggen C, and Blackstone A, "The impact of sexual
17 harassment on depressive symptoms during the early occupational career," *Soc. Ment. Heal.*,
18 vol. 1, no. 2, pp. 89–105, 2011.
19

20 21 **Figures**

22
23 Figure 1: PRISMA flowchart for study selection

24
25 Figure 2: Forest plot for the association between sexual harassment and symptoms of depression
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 **Figure 1: PRISMA flowchart for study selection**
4
5
6
7

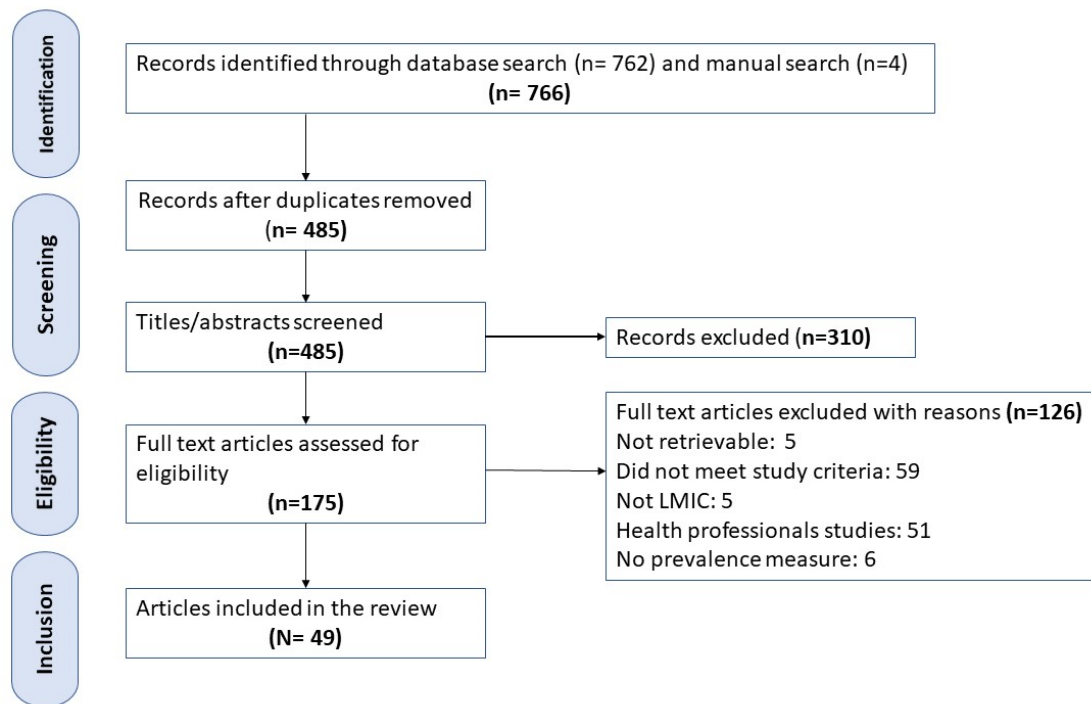
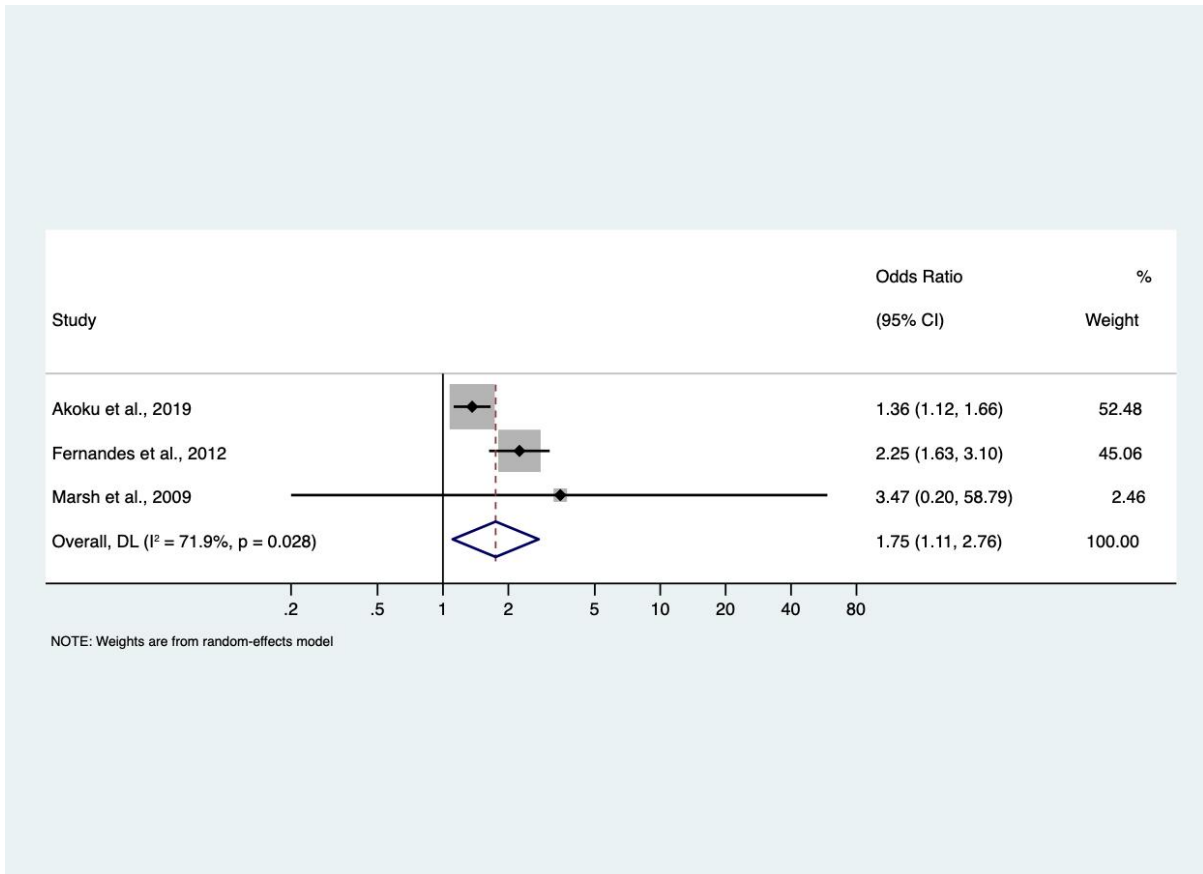


Figure 2: Forest plot for the association between sexual harassment and symptoms of depression



Review only

Appendices

Appendix 1: Search terms used for Ovid Medline, EMBASE, and PSYCInfo.

1. ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj (economy or economies)).ti,ab.
2. ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj (countr* or nation? or population? or world)).ti,ab.
3. (low* adj (gdp or gnp or gross domestic or gross national)).ti,ab.
4. (low adj3 middle adj3 countr*).ti,ab.
5. (Imic or Imics or third world or lami countr*).ti,ab.
6. transitional countr*.ti,ab.
7. global south.ti,ab.
8. Developing Countries/
9. "africa south of the sahara"/ or africa, central/ or africa, eastern/ or africa, southern/ or africa, western/
10. ("africa south of the sahara" or sub-saharan africa or central africa or eastern africa or southern africa or western africa).ti,ab.
11. "Democratic People's Republic of Korea"/
12. (north korea or (democratic people* republic adj2 korea)).ti,ab.
13. Cambodia/
14. cambodia.ti,ab.
15. Indonesia/
16. indonesia.ti,ab.
17. Micronesia/
18. Kiribati.ti,ab.
19. Laos/
20. (laos or (lao adj1 democratic republic)).ti,ab.
21. (marshall island* or caroline island* or ellice island* or gilbert island* or johnston island* or mariana island* or micronesia or pacific island*).ti,ab.
22. Mongolia/
23. mongolia.ti,ab.
24. Myanmar/
25. (myanmar or burma).ti,ab.
26. Papua New Guinea/
27. Papua New Guinea.ti,ab.
28. Philippines/
29. Philippines.ti,ab.
30. Timor-Leste/
31. Timor-Leste.ti,ab.
32. Vanuatu/
33. Vanuatu.ti,ab.
34. Vietnam/
35. (Viet Nam or Vietnam).ti,ab.
36. American Samoa/
37. american samoa.ti,ab.
38. exp China/
39. china.ti,ab.
40. Fiji/

- 1
- 2
- 3 41. fiji.ti,ab.
- 4 42. Malaysia/
- 5 43. malaysia.ti,ab.
- 6 44. marshall islands.ti,ab.
- 7 45. nauru.ti,ab.
- 8 46. samoa/
- 9 47. "independent state of samoa"/
- 10 48. ("independent state of samoa" or (samoa not american samoa) or western samoa or navigator
- 11 islands or samoan islands).ti,ab.
- 12 49. Thailand/
- 13 50. Thailand.ti,ab.
- 14 51. Tonga/
- 15 52. tonga.ti,ab.
- 16 53. Tuvalu.ti,ab.
- 17 54. Armenia/
- 18 55. Armenia.ti,ab.
- 19 56. "Georgia (Republic)"/
- 20 57. Kosovo/
- 21 58. Kosovo.ti,ab.
- 22 59. Kyrgyzstan/
- 23 60. (kyrgyzstan or kyrgyz republic or kirghizia or kirghiz).ti,ab.
- 24 61. Moldova/
- 25 62. Moldova.ti,ab.
- 26 63. Tajikistan/
- 27 64. tajikistan.ti,ab.
- 28 65. Ukraine/
- 29 66. Ukraine.ti,ab.
- 30 67. Uzbekistan/
- 31 68. Uzbekistan.ti,ab.
- 32 69. Albania/
- 33 70. Albania.ti,ab.
- 34 71. Azerbaijan/
- 35 72. Azerbaijan.ti,ab.
- 36 73. "Republic of Belarus"/
- 37 74. (belarus or byelarus or belorussia).ti,ab.
- 38 75. Bosnia-Herzegovina/
- 39 76. (bosnia or herzegovina).ti,ab.
- 40 77. Bulgaria/
- 41 78. Bulgaria.ti,ab.
- 42 79. Kazakhstan/
- 43 80. (Kazakhstan or kazakh).ti,ab.
- 44 81. "Macedonia (Republic)"/
- 45 82. Macedonia.ti,ab.
- 46 83. Montenegro/
- 47 84. Montenegro.ti,ab.
- 48 85. Romania/
- 49 86. Romania.ti,ab.
- 50 87. exp Russia/
- 51 88. USSR/
- 52 89. (Russia or Russian Federation or USSR or Union of Soviet Socialist Republics or Soviet Union).mp.
- 53 90. Serbia/
- 54
- 55
- 56
- 57
- 58
- 59
- 60

- 1
- 2
- 3 91. serbia.ti,ab.
- 4 92. Turkey/
- 5 93. turkey.ti,ab. not animal/
- 6 94. Turkmenistan/
- 7 95. Turkmenistan.ti,ab.
- 8 96. Yugoslavia/
- 9 97. yugoslavia.ti,ab.
- 10 98. Haiti/
- 11 99. Haiti.ti,ab.
- 12 100. Bolivia/
- 13 101. Bolivia.ti,ab.
- 14 102. El Salvador/
- 15 103. El Salvador.ti,ab.
- 16 104. Guatemala/
- 17 105. Guatemala.ti,ab.
- 18 106. Honduras/
- 19 107. Honduras.ti,ab.
- 20 108. Nicaragua/
- 21 109. Nicaragua.ti,ab.
- 22 110. Belize/
- 23 111. Belize.ti,ab.
- 24 112. Brazil/
- 25 113. Brazil.ti,ab.
- 26 114. Colombia/
- 27 115. Colombia.ti,ab.
- 28 116. Costa Rica/
- 29 117. Costa Rica.ti,ab.
- 30 118. Cuba/
- 31 119. Cuba.ti,ab.
- 32 120. Dominica/
- 33 121. Dominica.ti,ab.
- 34 122. Dominican Republic/
- 35 123. Dominican Republic.ti,ab.
- 36 124. Ecuador/
- 37 125. Ecuador.ti,ab.
- 38 126. Grenada/
- 39 127. Grenada.ti,ab.
- 40 128. Guyana/
- 41 129. Guyana.mp.
- 42 130. Jamaica/
- 43 131. Jamaica.ti,ab.
- 44 132. Mexico/
- 45 133. Mexico.ti,ab.
- 46 134. Paraguay/
- 47 135. Paraguay.mp.
- 48 136. Peru/
- 49 137. Peru.ti,ab.
- 50 138. Saint Lucia/
- 51 139. (St Lucia or Saint Lucia).ti,ab.
- 52 140. "Saint Vincent and the Grenadines"/
- 53 141. Grenadines.ti,ab.
- 54
- 55
- 56
- 57
- 58
- 59
- 60

- 1
- 2
- 3 142. Suriname/
- 4 143. Suriname.ti,ab.
- 5 144. Venezuela/
- 6 145. Venezuela.ti,ab.
- 7 146. Djibouti/
- 8 147. (Djibouti or French Somaliland).ti,ab.
- 9
- 10 148. Egypt/
- 11 149. Egypt.ti,ab.
- 12 150. Jordan/
- 13 151. Jordan.ti,ab.
- 14 152. Morocco/
- 15 153. Morocco.ti,ab.
- 16 154. Syria/
- 17 155. (Syria or Syrian Arab Republic).ti,ab.
- 18 156. Tunisia/
- 19 157. tunisia.mp.
- 20 158. Gaza.ti,ab.
- 21 159. Yemen/
- 22 160. Yemen.ti,ab.
- 23 161. Algeria/
- 24 162. Algeria.ti,ab.
- 25 163. Iran/
- 26 164. Iran.ti,ab.
- 27 165. Iraq/
- 28 166. Iraq.ti,ab.
- 29 167. Jordan/
- 30 168. Jordan.ti,ab.
- 31 169. Lebanon/
- 32 170. Lebanon.ti,ab.
- 33 171. Libya/
- 34 172. Libya.ti,ab.
- 35 173. Afghanistan/
- 36 174. Afghanistan.ti,ab.
- 37 175. Nepal/
- 38 176. Nepal.ti,ab.
- 39 177. Bangladesh/
- 40 178. Bangladesh.ti,ab.
- 41 179. Bhutan/
- 42 180. Bhutan.ti,ab.
- 43 181. exp India/
- 44 182. India.ti,ab.
- 45 183. Pakistan/
- 46 184. Pakistan.ti,ab.
- 47 185. Sri Lanka/
- 48 186. Sri Lanka.ti,ab.
- 49 187. Indian Ocean Islands/
- 50 188. Maldives.ti,ab.
- 51 189. Benin/
- 52 190. (Benin or Dahomey).ti,ab.
- 53 191. Burkina Faso/
- 54 192. (Burkina Faso or Burkina Fasso or Upper Volta).ti,ab.
- 55
- 56
- 57
- 58
- 59
- 60

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

193. Burundi/
194. Burundi.ti,ab.
195. Central African Republic/
196. (Central African Republic or Ubangi-Shari).ti,ab.
197. Chad/
198. Chad.ti,ab.
199. Comoros/
200. (Comoros or Comoro Islands or Mayotte or Iles Comores).ti,ab.
201. "Democratic Republic of the Congo"/
202. ((democratic republic adj2 congo) or belgian congo or zaire).ti,ab.
203. Eritrea/
204. Eritrea.ti,ab.
205. Ethiopia/
206. Ethiopia.ti,ab.
207. Gambia/
208. Gambia.ti,ab.
209. Guinea/
210. (Guinea not (New Guinea or Guinea Pig* or Guinea Fowl)).ti,ab.
211. Guinea-Bissau/
212. (Guinea-Bissau or Portuguese Guinea).ti,ab.
213. Liberia/
214. Liberia.ti,ab.
215. Madagascar/
216. (Madagascar or Malagasy Republic).ti,ab.
217. Malawi/
218. (Malawi or Nyasaland).ti,ab.
219. Mali/
220. Mali.ti,ab.
221. Mozambique/
222. (Mozambique or Mocambique or Portuguese East Africa).ti,ab.
223. Niger/
224. (Niger not (Aspergillus or Peptococcus or Schizothorax or Cruciferae or Gobius or Lasius or Agelastes or Melanosuchus or radish or Parastromateus or Orius or Apergillus or Parastromateus or Stomoxys)).ti,ab.
225. Rwanda/
226. (Rwanda or Ruanda).ti,ab.
227. Senegal/
228. senegal.ti,ab.
229. Sierra Leone/
230. Sierra Leone.mp.
231. Somalia/
232. Somalia.ti,ab.
233. South Sudan/
234. south sudan.ti,ab.
235. Tanzania/
236. (Tanzania or Tanganyika or Zanzibar).ti,ab.
237. Togo/
238. (Togo or Togolese Republic).ti,ab.
239. Uganda/
240. Uganda.ti,ab.
241. Zimbabwe/

- 1
- 2
- 3 242. (Zimbabwe or Rhodesia).ti,ab.
- 4 243. Angola/
- 5 244. angola.ti,ab.
- 6 245. Cameroon/
- 7 246. Cameroon.ti,ab.
- 8 247. Cape Verde/
- 9 248. (Cape Verde or Cabo Verde).ti,ab.
- 10 249. Congo/
- 11 250. (congo not ((democratic republic adj3 congo) or congo red or crimean-congo)).ti,ab.
- 12 251. Cote d'Ivoire/
- 13 252. (Cote d'Ivoire or Ivory Coast).ti,ab.
- 14 253. Ghana/
- 15 254. (Ghana or Gold Coast).ti,ab.
- 16 255. Kenya/
- 17 256. kenya.mp.
- 18 257. Lesotho/
- 19 258. (Lesotho or Basutoland).ti,ab.
- 20 259. Mauritania/
- 21 260. Mauritania.ti,ab.
- 22 261. Nigeria/
- 23 262. Nigeria.ti,ab.
- 24 263. Atlantic Islands/
- 25 264. (sao tome adj2 principe).ti,ab.
- 26 265. Sudan/
- 27 266. (Sudan not south sudan).ti,ab.
- 28 267. Swaziland/
- 29 268. Swaziland.ti,ab.
- 30 269. Zambia/
- 31 270. (Zambia or Northern Rhodesia).ti,ab.
- 32 271. Botswana/
- 33 272. (Botswana or Bechuanaland or Kalahari).ti,ab.
- 34 273. Equatorial Guinea/
- 35 274. (Equatorial Guinea or Spanish Guinea).ti,ab.
- 36 275. Gabon/
- 37 276. (Gabon or Gabonese Republic).ti,ab.
- 38 277. Mauritius/
- 39 278. (Mauritius or Agalega Islands).ti,ab.
- 40 279. Namibia/
- 41 280. Namibia.ti,ab.
- 42 281. South Africa/
- 43 282. South Africa.ti,ab.
- 44 283. or/1-282 [ALL COUNTRIES DESIGNATED AS LMIC]
- 45 284. sexual harassment.ab,ti.
- 46 285. 283 and 284
- 47 286. remove duplicates from 285
- 48
- 49
- 50
- 51
- 52
- 53
- 54
- 55
- 56
- 57
- 58
- 59
- 60

Appendix 2: Quality assessment of included studies (n=49)

Study author and year	Research focus on SH (as detailed in the objective)	Clear definition of SH	Clear description of measurement approach/tool for SH	Representativeness of target population to national population	Representativeness of sampling frame	Random sample?	Non-response bias minimal?	SH prevalence included in results	Numerator & denominator clear or appropriate?	Score / 9	Rating
Luo (1996)	Y	Y	Y	N	Y	N	Y	Y	N	6	Moderate
Tang, et al (1996)	Y	N	Y	N	N	N	N	Y	Y	4	Moderate
Mayekiso et al (1997)	Y	Y	Y	N	N	N	N	Y	N	4	Moderate
Shumba et al (2002)	Y	Y	N	N	N	Y	Y	Y	Y	6	Moderate
Fineran et al (2003)	Y	Y	Y	N	Y	N	N	Y	N	5	Moderate
Fawole, et al (2005)	Y	Y	N	N	Y	N	N	Y	Y	5	Moderate
Okoro et al (2005)	Y	Y	Y	N	Y	N	Y	Y	Y	7	High
Parish et al (2006)	Y	N	Y	Y	Y	Y	N	Y	N	6	Moderate
Puri et al (2007)	Y	N	Y	N	Y	Y	Y	Y	N	6	Moderate
Merkin (2008)	Y	Y	Y	N	Y	Y	N	Y	N	6	Moderate
Marsh, et al (2009)	Y	Y	Y	N	Y	N	N	Y	Y	6	Moderate
De Souza et al (2009)	Y	Y	Y	N	Y	N	Y	Y	Y	7	High

Study author and year	Research focus on SH (as detailed in the objective)	Clear definition of SH	Clear description of measurement approach/tool for SH	Representativeness of target population to national population	Representativeness of sampling frame	Random sample?	Non-response bias minimal?	SH prevalence included in results	Numerator & denominator clear or appropriate?	Score / 9	Rating
Owoaje et al (2009)	Y	Y	Y	N	N	N	Y	Y	Y	6	Moderate
Koehlmoos et al (2009)	Y	N	N	N	Y	Y	N	Y	Y	5	Moderate
Premadasa et al (2011)	Y	Y	Y	N	N	N	N	Y	Y	5	Moderate
Owoaje, et al (2011)	Y	N	Y	N	N	N	Y	Y	N	4	Moderate
Lahsaiezadeh et al (2012)	Y	Y	Y	N	Y	N	N	Y	Y	5	Moderate
Dhlomo et al (2012)	Y	Y	Y	N	Y	N	N	Y	N	4	Moderate
Hutagalang et al (2012)	Y	Y	Y	N	N	Y	NP	Y	N	5	Moderate
Norman et al (2012)	Y	Y	Y	N	N	N	Y	Y	N	6	Moderate
Fernandes et al (2012)	N	N	N	Y	Y	Y	Y	Y	Y	6	High
Norman et al (2013)	Y	N	Y	N	N	N	N	Y	N	3	Low
de Puiseau et al (2013)	Y	Y	Y	N	Y	N	N	Y	Y	5	Moderate
Norman et al (2013)	Y	N	Y	N	N	N	N	Y	N	3	Low
Haile, et al (2013)	Y	N	N	N	Y	Y	Y	Y	N	5	Moderate

1
2
3
4
5
6
7
8
9
1011
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
3940
41
42
43
44
45
46

Study author and year	Research focus on SH (as detailed in the objective)	Clear definition of SH	Clear description of measurement approach/tool for SH	Representativeness of target population to national population	Representativeness of sampling frame	Random sample?	Non-response bias minimal?	SH prevalence included in results	Numerator & denominator clear or appropriate?	Score / 9	Rating
Park et al (2013)	N	N	Y	Y	Y	Y	Y	Y	Y	7	High
Austrian et al (2014)	Y	N	Y	N	Y	N	Y	Y	Y	6	Moderate
Maurya et al (2014)	Y	N	Y	N	N	N	N	N	N	2	Low
Mamaru et al (2015)	Y	Y	Y	N	Y	Y	Y	Y	Y	8	High
Tobar et al (2015)	N	Y	Y	N	Y	N	Y	Y	N	5	Moderate
Kunwar et al (2015)	Y	Y	N	N	N	N	N	Y	N	3	Low
Vuckovic et al (2016)	Y	Y	N	Y	Y	Y	Y	Y	Y	8	High
Sahraian et al (2016)	N	Y	Y	N	N	N	N	Y	Y	4	Moderate
Tripathi et al (2016)	N	N	N	N	N	N	N	Y	Y	2	Low
Zhang, et al (2016)	Y	Y	Y	Y	Y	Y	Y	Y	N	8	High
Talboys et al (2017)	Y	Y	Y	N	N	N	N	Y	N	4	Moderate
Xie et al (2017)	N	N	N	Y	N	N	Y	Y	Y	4	Moderate
Tripathi et al (2017)	Y	N	N	N	N	N	Y	Y	N	3	Low

Study author and year	Research focus on SH (as detailed in the objective)	Clear definition of SH	Clear description of measurement approach/tool for SH	Representativeness of target population to national population	Representativeness of sampling frame	Random sample?	Non-response bias minimal?	SH prevalence included in results	Numerator & denominator clear or appropriate?	Score / 9	Rating
Dar et al (2018)	N	N	Y	N	N	N	Y	Y	N	3	Low
Aina et al (2018)	Y	Y	N	N	N	Y	N	Y	N	3	Low
Mabetha et al (2018)	Y	N	Y	Y	Y	Y	Y	Y	Y	8	High
Ul Haq et al (2018)	Y	N	Y	N	N	N	N	Y	N	3	Low
Akoku et al (2019)	Y	Y	Y	N	Y	N	Y	Y	Y	7	High
Murshid et al (2019)	N	N	N	Y	Y	Y	Y	Y	N	5	Moderate
Zhu et al (2019)	Y	Y	Y	N	Y	N	Y	Y	Y	7	High
Saberi et al (2019)	Y	N	Y	N	Y	Y	Y	Y	N	6	Moderate
Gautam, et al (2019)	Y	Y	N	N	N	Y	Y	Y	Y	6	Moderate
Huang et al (2019)	Y	Y	Y	Y	Y	Y	Y	Y	N	8	High
Oni et al (2019)	Y	Y	N	N	N	N	N	Y	N	3	Low

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Appendix 3: PRISMA Checklist 2020

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Page 1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Pgs 2 and 3
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Pgs 4-6
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Pg 6
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Pg 7
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Pg 6 and Appendix 1
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Pg 7,8 and figure 1
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Pg 7 and 8
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Pg 8
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Pg 8 and appendix 2
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Pg 8 and 9
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Pg 8 and 9
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Pg 8 and 9

Section and Topic	Item #	Checklist item	Location where item is reported
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Pg 8 and 9
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Pg 9 and figure 1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Pg 9
Study characteristics	17	Cite each included study and present its characteristics.	Pg 9-13
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Pg 17-20
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Pgs 19=21
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Pgs 19-21 and figure 2
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Pg 20
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Pgs 21-24
	23b	Discuss any limitations of the evidence included in the review.	Pg 24
	23c	Discuss any limitations of the review processes used.	Pg 24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Section and Topic	Item #	Checklist item	Location where item is reported
	23d	Discuss implications of the results for practice, policy, and future research.	Pg 25-26
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Pg 6
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Pg 6
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Pg 27
Competing interests	26	Declare any competing interests of review authors.	Pg 27
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	

Appendix 4: Definitions of sexual harassment by study.

Study author	Definition of sexual harassment (if included)
Akoku et al 2019	Sexual harassment is any unwelcome sexual advance, unwelcome request for sexual favour, verbal or physical conduct or gesture of a sexual nature, or any other behaviour of a sexual nature that might reasonably be expected or be perceived to cause offence, humiliation or intimidation to the person (adapted from UN Women).
Xie et al 2017	No definition provided.
Sahraian et al 2016	Sexual harassment was defined as any unwanted or unwelcome behaviour of a sexual nature such as standing too close, staring and focusing more than usual, undesirable sexual words and questions, insisting on a private invitation and direct sexual offers that are offensive to the person involved and that cause the person to feel vulnerable or embarrassed (adapted from the WHO definition).
Tripathi et al (2016)	No definition provided
Mamaru et al 2015	Sexual harassment is commonly defined as unwanted and unwelcome sexual behaviour in a work or educational setting affecting both physical and psychological well-being of a person. It could be evident in three different ways: verbal, physical and nonverbal forms
Fernandes (2012)	No definition provided
Norman et al (2013)	No definition provided
Norman et al (2012)	The unwanted sex-related behaviour at work that is appraised by the recipient as offensive, exceeding her resources, or threatening well-being
Owoaje (2009)	Unwelcome sexual advances, requests for sexual favours, and other verbal or physical conduct of a sexual nature, constitute sexual harassment. An act/conduct is considered to constitute sexual harassment when any one of the following is true: submission to such conduct is made either explicitly or implicitly a term or condition of a person's employment or academic advancement; submission to or rejection of such conduct by an individual is used as the basis for employment decisions or academic decisions affecting the person and such conduct has the purpose or effect of unreasonably interfering with a person's work or academic performance or creating an intimidating, hostile, or offensive working, learning, or social environment
Koehlmoos (2009)	No definition provided
Tobar et al 2015	Fitzgerald et al 1997 definition: a behavioural construct consisting of three dimensions: (i) general harassment – insulting verbal and nonverbal behaviours conveying derogatory, hostile, or degrading attitude toward women; (ii) unwanted sexual attention – verbal and nonverbal behaviours that are offensive, unwanted, and unreciprocated; (iii) sexual coercion – behaviours using bribes or threats contingent upon sexual cooperation. Furthermore, a harasser may be male or female, and harassment is not limited to men harassing women, although this is the most common
Parish et al (2006)	No definition provided
Murshid et al (2019)	No definition provided

Study author	Definition of sexual harassment (if included)
Zhu et al (2019)	Workplace sexual harassment (WSH) refers to any form of unwelcome conduct of a sexual nature (verbal, non-verbal or physical) that is perceived by the recipient as hostile, humiliating or threatening his/her well-being (Fitzgerald, 1997)
Aina et al (2018)	An unwanted conduct with sexual undertones if it occurs or which is persistent and which demeans, humiliates or creates a hostile and intimidating environment or is calculated to induce submission by actual or threatened adverse consequences and includes any one or more or all of the following unwelcome acts or behaviour (whether directly or by implication), namely; - (a) Any unwelcome physical, verbal or non-verbal conduct of sexual nature; (b) demand or request for sexual favours; (c) making sexually coloured remarks (d) physical contact and advances; or (e) showing pornography
Tripathi et al (2017)	Definition is not clear, but recognition that a range of acts can come under its purview (from passing comments amongst a group of friends about a girl, to a sexual assault) but also because of differences in the perception of actions as sexual harassment or not, especially where no physical contact is involved.
Vuckovic et al (2016)	Authors say that sexual harassment is considered part of gender-based violence. Draw on the International Labour Organization (2010) definition. Highlights two forms of sexual harassment specific to the workplace: when a job benefit is made conditional on the victim acceding to demands to engage in some form of sexual behaviour; and hostile working environment in which the conduct creates conditions that are intimidating or humiliating for the victim.
Talboys et al (2017)	Sexual harassment involves nonverbal, verbal, physical, or visual sexual attention, intimidation, or coercion that is unwelcome and unwanted and often has a negative impact on the psychosocial health of the victim.
Austrian (2014)	No definition provided
Maurya (2014)	No definition provided
Norman et al (2013)	No definition provided
de Puisseau & Roessel (2013)	In line with the legal definition and also according to the conceptualisations by Fitzgerald, Gelfand, and Drasgow (1995), they refer to sexual harassment as including general harassment, unwanted sexual attention, and sexual coercion.
Lahsaeizadeh (2012)	Sexual harassment'' is a kind of gender discrimination that women in different societies experience in various forms and restricts their liberty. Bowman (1993: 520) suggests that the liberty of women is substantially limited by street harassment, which reduces their physical and geographical mobility, and often prevents them from appearing alone in public places.
Dhlomo et al (2012)	Fitzgerald et al. (1997) proposed a tripartite model of sexual harassment that includes three behaviours: gender harassment, unwanted sexual attention and sexual assault and coercion. These occur mostly with the hostile environment form of sexual demands on another person.

Study author	Definition of sexual harassment (if included)
Premadasa et al (2011)	Unwanted sexual advances, requests for sexual favours or other verbal or physical conduct of a sexual nature in a setting in which noncompliance, refusal or protest could have a negative effect on negative standing (e.g., marks). Examples include: being stared or leered at, ogled; unwelcome remarks, jokes, innuendo, or taunting about a person's body, attire, age or marital status; Display of pornographic, sexually offensive or derogatory pictures; unnecessary physical contact such as touching, pinching and patting; sexual intimacy with or without actual intercourse. (Moscarello R et al (1994)
De Souza et al(2009)	Unwanted sex-related behaviour at work that is appraised by the recipient as offensive, exceeding her resources, or threatening her well-being (Fitzgerald, Swan, & Magley, 1997, p. 15)
Merkin (2008)	Sexual harassment is defined as behaviour that is unwelcome and of a sexual nature.
Puri et al (2007)	No definition provided
Fawole, et al (2005)	Sexual harassment - unwanted body contact, sending apprentices on dates with male friends, taking to parties
Fineran et al (2003)	Unwanted or unwelcome behaviours, such as making sexual comments, jokes, gestures or looks, showing sexual pictures, photographs, illustrations, messages or notes, writing sexual messages or graffiti on bathroom walls or locker rooms; spreading sexual rumours; calling someone gay or lesbian in a malicious manner; touching, grabbing, or pinching in a sexual way; pulling at clothing in a sexual way; intentionally brushing against someone in a sexual way; pulling clothing off or down; blocking or cornering in a sexual way; and, forcing a kiss, or forcing other unwelcome sexual behaviour other than kissing.
Shumba et al (2002)	Any unwanted, unsolicited and/or repeated verbal or sexual advances, sexually derogatory statements or sexually discriminatory remarks made by a member of the University community in respect of another member of the University community, whether in or outside the University, which are offensive or objectionable to the recipient, or which cause the recipient discomfort or humiliation, or which the recipient believes interfere with the performance of his or her job or study, undermine job security or prospects or create a threatening or intimidating work or study environment.
Mayekiso et al (1997)	Sexual harassment means unwanted conduct of a sexual nature or conduct based on sex which is offensive to the recipient
Saber et al (2019)	No definition provided
Dar et al (2018)	No definition provided
Gautam et al (2019)	Sexual harassment is an action within men and women, which is related to unwelcome behaviour on sex. It is characterized by a wide range of offensive manners including teasing, staring, winking, groping, pinching, sexual comments, telling jokes of a sexual nature, spreading sexual rumours, displaying porn videos, drawing pictures of a sexual nature, and squeezing or touching the private organs of women.
Huang et al (2019)	Sexual harassment is unwanted and unwelcome sexual behaviour which interferes with your life. Sexual harassment is not behaviours that you like or want (for example wanted kissing, touching or flirting)

Study author	Definition of sexual harassment (if included)
Oni et al (2019)	Sexual harassment refers to as persistent, unsolicited, and unwelcomed sexual advances which could be visual, physical, verbal and non-verbal gestures and it is seen as a disease of present-day learning institutions.
Ul Haq et al (2018)	No definition provided
Mabetha et al (2018)	No definition provided
Zhang, et al (2016)	Sexual harassment (unwelcome sexual advances, requests for sexual favours, and other verbal or physical harassment of a sexual nature).
Kunwar et al (2015)	ILO (2005) Unwelcome sexual advances or verbal or physical conduct of a sexual nature which has the purpose or effect of unreasonably interfering with the individual's work performance or creating an intimidating, hostile, abusive or offensive working environment
Haile, et al (2013)	No definition provided
Owoaje, et al (2011)	No definition provided
Marsh, et al (2009)	Sexual harassment is understood as a collection of verbal and physical actions, including intimidation, bribery and threats of sexual nature. Unwanted sexual advances may be subtle as innuendo and patronisation or as overt as blatant sexual comments and advances.
Okoro et al (2005)	The United States Equal Employment Opportunity Commission (EEOC) defines sexual harassment as "unwelcome sexual advances, requests for sexual favours, and other verbal or physical conduct of a sexual nature". Sexual harassment has also been defined as a continuum of behaviours, with physical sexual assault at one extreme and non-verbal sexually suggestive behaviour at the other extreme.
Luo 1996	Sexual harassment refers to any unwanted/unwelcome sexual attention and advances considered intrusive, offensive or harassing by the recipient. This includes (a) unwelcome sexual jokes or remarks; (b) unwelcome sexual materials or gestures; (c) unwelcome deliberate touching or physical closeness; (d) unwelcome pressure for a date; (e) verbal coercion for sexual activities; and (f) physical coercion for sexual activities, for example rape or attempted rape
Tang, et al (1996)	No definition provided
Hutagalang et al (2012)	Sexual harassment is generally recognized as encompassing all forms of unwanted conduct of a sexual nature, whether verbal or physical, the Malaysian Code of Practise specifically defines sexual harassment as any unwanted conduct of a sexual nature that may be perceived by an individual (a) as a condition on one's employment, (b) as an offence or humiliation, or (c) as a threat to one's well-being.

Appendix 5: Description of included studies

First author, year	Location, Country	Study setting	Study sample	Study design/sample size	Sexual Harassment						Outcomes measured
					Definition included	Measurement approach	Reporting period	Prevalence estimates (%)	Frequency of acts asked (if available)	Main perpetrator	
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37

For peer review only

Peer sexual harassment consists of four items: sexual coercion, physical seduction, non-physical seduction and gender harassment.

Sum total of yes responses represents index. Low index indicates low level experience of harassment.

twice as much being sexual harassed as men.
Men: 13% sexist remarks and 5-6% experienced both physical and non-physical seductive behaviours.
Women: 20-26% reported experiencing various forms of physical seductive behaviours, and gender harassment.

Mayekiso et al (1997)	Transkei, South Africa	Educational	Male and female university students	Cross-sectional survey (n=827)	Yes	Modified version of the Sexual Harassment Questionnaire (Braine et al, 1995). The questionnaire consists of 11 specific categories of behaviour that may constitute sexual harassment, ranging from unwelcome touching, unwanted sexual remarks, unwanted sexual advances, sexually loaded noises or gestures, unwanted letter, pressure for dates and sexual favours despite refusals, and rape or date rape.	Not specified	Females: 43%-66% Males: 33%-55%	Not asked	Males/females and staff/students	Not applicable
Shumba et al (2002)	Zimbabwe	Educational	First and third year students from	Cross-sectional survey (n=83)	Yes	30-item 'Sexual Harassment Questionnaire' was	School year.	66% (40/61) females indicated they have been asked for sexual	Not asked	Lecturers	Not applicable

41
42
43
44
45
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

an institution of higher education

adapted and modified from a previous study on sexual harassment of female students in colleges of higher education in Zimbabwe (Zindi, 1994). Questions ranged from general perceptions on the nature and extent of sexual harassment perpetrated by lecturers. There were 4 questions focused on student's individual experiences and the rest on general perceptions.

favours by some lecturer. 95% (21/22) of males disagreed with statement. No males and 66% of females said they have submitted to sexual advances by a lecturer. 50% (12/22) male and 49% (30/61) females students indicated having sexual feelings for lecturer.

Fineran et al (2003) Johannesburg, South Africa Educational Students in four urban schools (males and females)

Cross-sectional survey (n=208)

Yes

This measure is the sum of 12 ordinal items on a 5-point scale (never to frequently). It was the frequency of 12 behaviours that they experienced during their school year. These were: 1) made sexual comments, jokes, gestures or looks; 2) showed, gave you sexual pictures, photographs, illustrations, messages, or notes; 3) wrote sexual

School year

Overall prevalence: 79% Males: 73% Females: 83%

5 point likert scale: never to daily.

Classmates they knew casually, or they had dated; or whom they were dating or students who attended their school whom they did not know.

Most prevalent among girls were peers they did not know and peer they dated. Boys perpetrated more sexual harassment towards a dating partner.

Not applicable

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

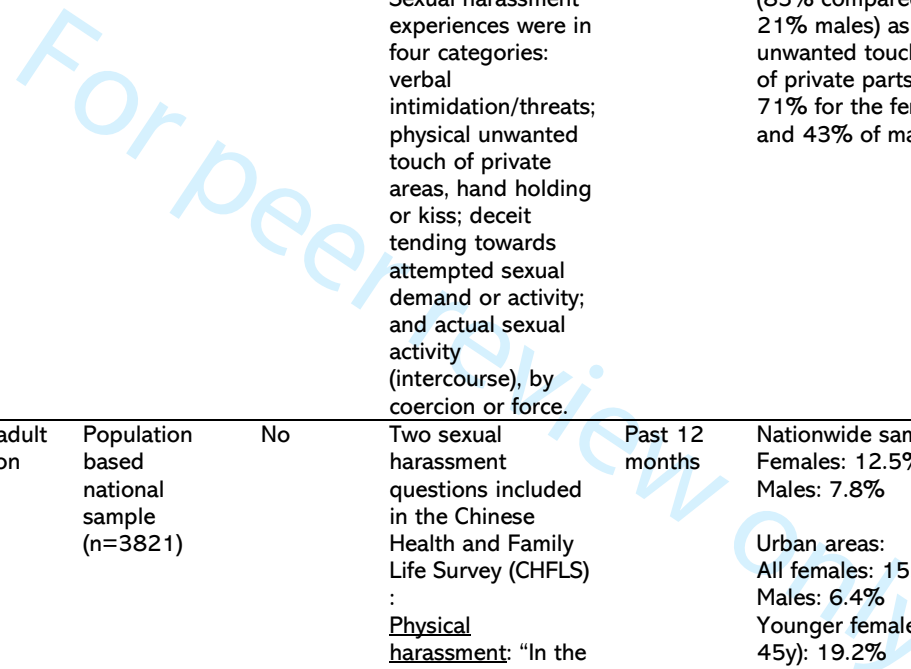
For peer review only

messages/graffiti about you on bathroom walls, in locker rooms; 4) spread sexual rumours about you; 5) said you were gay or lesbian; 6) spied on you as you dressed or showered at school; 7) flashed or 'mooned' you?; 8) touched, grabbed or pinched you in a sexual way; 10) intentionally brushed against you in a sexual way; 11) pulled your clothing off or down; 12) forced you to do something other than kissing.

Fawole, et al (2005)	Ibadan, Nigeria	Workplace	Female apprentices receiving vocational training (e.g., tailors, hairdressers) at workshops	Baseline and follow-up survey after training (n=350)	Basic, but yes.	Sexual harassment measured separately, but grouped as part of sexual forms of violence (e.g., rape). Although actual measure used is unclear.	Unclear	Baseline: 22.9% (80/359) of females. Endline: 19.7% of females (40/350). The types of harassment consisted of touching parts of the body, taking on dates, making sexual advances or sexually suggestive remarks.	Not asked.	Persons well know to the girl, such as male partners at baseline and close associate or neighbour at endline.	Not applicable
----------------------	-----------------	-----------	---	--	-----------------	---	---------	--	------------	---	----------------

1
2

3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Okoro & Obozokhai (2005)	Benin city, Nigeria	Community	Out of school teenagers (males and females)	Cross-sectional survey (n=650 - 293 males, 357 females)	Yes	Adopted from the American Association of University Women (AAUW)'s Educational Foundation questions. Sexual harassment experiences were in four categories: verbal intimidation/threats; physical unwanted touch of private areas, hand holding or kiss; deceit tending towards attempted sexual demand or activity; and actual sexual activity (intercourse), by coercion or force.	Ever	Any form of harassment: 83% (296/357) of females and 62% (182/293) of males. Verbal assaults more common in females (83% compared to 21% males) as was unwanted touching of private parts (parts 71% for the females and 43% of males).	Not asked	Not asked	Not applicable
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	Parish et al (2006)	Mainland China	Community	General adult population	Population based national sample (n=3821)	No	Two sexual harassment questions included in the Chinese Health and Family Life Survey (CHFLS) : <u>Physical harassment</u> : "In the past 12 months, did someone sexually harass you (e.g., touch you, act indecently towards you, or take advantage of you with a sexual intent)?" <u>Verbal harassment</u> :	Past 12 months	Nationwide sample: Females: 12.5% Males: 7.8% Urban areas: All females: 15.1% Males: 6.4% Younger females (20-45y): 19.2%	Not asked	Co-worker, neighbor, or other peer (7.0%) was the most common. Asked about different categories: 1) older (supervisor, teacher, senior); 2) colleague, schoolmate etc 3) boyfriend 4) family member 5) stranger	Not applicable



41
42
43
44
45
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

In the past 12 months, has anyone said anything sexually offensive to you"? Coding was a combined measure as numbers were small to separate them.

Puri et al (2007)	Kathmandu, Nepal	Workplace	Female migrant workers in carpet and garment factories	Cross-sectional survey (n=550)	No	Questionnaire format based on WHO's adolescents sexual behaviour questionnaire. Questions to measure sexual harassment: 1) Young boys/girls are sometimes touched on the breast or some other parts of the body when they do not want it, by a stranger, relative or an older person. a)Has this ever happened to your friends? b)Has this ever happened to you? 2) Young boys/girls are sometimes forced to have sexual intercourse against their will by a stranger, relative or an older person, teacher, owner etc. a)Has this ever happened to your friends?	Ever	Respondent ever experienced sexual harassment (12.2%) Aware of friends who experienced sexual harassment (27.6%) Aware of friends who have been raped/coerced sex (11.3%) Respondent has been raped/coerced sex (2.2%)	Kept open ("when did it happen?")	Coworkers, boyfriends, employers, and relatives. Appears to be mostly co-workers or boyfriends/husbands.	Not applicable
-------------------	------------------	-----------	--	--------------------------------	----	--	------	---	-----------------------------------	---	----------------

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

b)Has this ever happened to you?
IF YES "When did it happen?" "If yes, then please say by whom?"

Merkin (2008)	Latin America (Argentina, Brazil, Chile)	Workplace	Employed female and male workers part of International Labour Organisation (ILO)'s InFocus Programme on Socio-Economic Security	Cross-sectional survey (ILO's People's Social Survey (PSS). (Total N=8198, Argentina-n=2800, Brazil-n=4000, Chile - n=1180)	Yes	Survey used a global measure similar to the Navy Equal Opportunity/Sexual Harassment Survey (NEOSH). Direct question: During the past 2 years, have you experienced sexual harassment at work or school?	Past 2 years	Chile (8.7%), Brazil (4.8%), Argentina (3.5%)	For each of the behaviours: asked never, once, once a month or less, 2-4 times a month, once a week or more.	Asked whether: immediate supervisor, higher level supervisor, co-worker, subordinate.	Not applicable
Owoaje et al (2009)	Ibadan, Nigeria	Educational	Female graduates in higher learning institutions	Cross-sectional survey (n=398)	Yes	Modified version of the American Association of University Women (AAUW) Educational Foundation questionnaire on sexual harassment in college campuses. Sexual harassment experiences were asked by four categories: - verbal intimidation/threats;	Past 12 months	Overall prevalence: 69.8% (278/398); 65.3% (260/398) experienced non-physical sexual harassment 48.2% (192/398) experienced physical types of sexual harassment.	Not asked	Male classmates (61.9%) and lecturers (59.7%)	Not applicable

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

- physical unwanted touch of private areas, hand holding or kiss;
- deceit tending towards attempted sexual demand or activity; and
- actual sexual activity (intercourse), by coercion or force.

Koehlmoos et al (2009)	Dhaka, Bangladesh	Street and public place	Homeless adult men and women	Community based cross-sectional survey (n=896)	No	Only asked to female respondent. First asked if they were approached for unwanted physical contact or sexually propositioned while walking or lying in public spaces. Victims also asked to describe types of harassment such as: unwanted physical contact, unwanted sexual advances, touching, leering, rude gestures and rape.	During the time period of being homeless.	62.9% (282/448) of women experienced some form of unwanted physical contact or sexual proposition during their time as homeless women.	74% (208/228) reported frequently.	Husbands/boyfriends	Not applicable
------------------------	-------------------	-------------------------	------------------------------	--	----	--	---	--	------------------------------------	---------------------	----------------

For peer review only

1
2

3	De Souza et al (2009)	Porto Alegre, Brazil	Workplace	Female domestic workers (16-60 years)	Cross-sectional survey (n=376)	Yes	Shortened version of the Sexual Experiences Questionnaire (SEQ) (Stark et al 2002) - asks about 16 different behaviours initiated by either men or women at the workplace based on 5 categories: sexist hostility, sexual hostility, unwanted sexual attention, sexual coercion and gender harassment.	Past 12 months	25% (94/376) reported some form of past year sexual harassment. Of these, 68% (n = 64/94) reported sexist hostility, followed by 59% (55/94) sexual hostility, 46% unwanted sexual attention (n = 43/94), 30% sexual coercion (n = 28/94). About 54% (n = 51/94) reported having experienced two or more types of sexual harassment, with 17% (n = 16/94) reporting having experienced all four types of sexual harassment.	Five point scale: 1 = never, 2 = once or twice, 3 = sometimes, 4 = often, and 5 = many times. Next, if participants had experienced a sexually harassing behavior at least once, they were asked how bothersome it was on a 5-point scale. Higher scores represented higher reported levels of feeling bothered by such incidents.	Not asked, but sex of perpetrator asked.	Not applicable
29	Marsh et al (2009)	Awassa, Ethiopia	Workplace	Female administrative and faculty staff from colleges.	Cross-sectional survey (n=387)	Yes	<u>First asked five questions:</u> 1) Made you feel like you might get some reward if you engaged in sexual behaviour (no/yes) 2) Made you feel like you might get punished in some way if you weren't sexually cooperative; 3) Made unwanted	Past 12 months	46.8% (181/387) of sample reported experiencing at least one type of sexual harassment. Of this sample (n=181), only 8% (31 /181) believed they had been sexually harassed at their workplace	Not asked	Not asked	Depressi

30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

suggestions about or references to sexual activity;
4) On the job, have you experienced unwanted physical contact, included sexual contact?
5) Have you felt mistreated at work because of your gender?
and one direct single item question:
Do you believe you have been sexually harassed at work?
Summary score computed by adding up items with at least one experience of sexual harassment (0-5).

Premadasa et al (2011)	Peradeniya, Sri Lanka	Educational	Dental undergraduate students (male and females)	Cross-sectional survey (n=65)	Yes	Adapted from Moscarello et al (1994)'s survey instrument. Students were asked about six types of sexual 'mistreatment' as they worded it on staring; unwelcome comments; being shown pornographic or sexually offensive pictures; unwanted sexual advances and unnecessary touching; sexual	Since being at University	Any type of sexual harassment: 23.2% (15/65); Females: 17.1% (7/44) Males: 38.1% (8/21) Ranged from 1.6% for sexual intimacy to 18.4% for unwelcome sexual comments. In this setting, males experienced a higher prevalence of sexual harassment than females.	Not asked.	Senior student (most common), lecturer, outsider.	Not applicable
------------------------	-----------------------	-------------	--	-------------------------------	-----	---	---------------------------	--	------------	---	----------------

intimacy, unwanted touching of genitals or breasts.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

Owoaje, et al (2011)	Ibadan, Nigeria	Educational	Male and female medical students	Cross-sectional study (n=269)	No	Adapted from Rautio et al (2005): 1) If you have been subjected to sexual harassment or discrimination, what form did it take? (Check all that apply): denied opportunities, exchange of rewards for sexual favours; sexual advances; sexist slurs; sexist material; malicious gossip, favouritism, poor evaluations; 2) How often, if ever, have any of the following persons subjected you to sexual harassment or discrimination (e.g. favouritism, advances, slurs, sexist teaching material)? Fellow students, consultants, registrars, assistants, lecturers, nurses, laboratory workers. 3) All of the above perpetrators asked in terms of	Not specified	Overall prevalence: 33.8% Females: 40.4% Males (29.7%). Most common type of sexual harassment was unwanted sexual advances.	Most common: 2-3 times.	Resident doctors, and consultants	Not applicable
----------------------	-----------------	-------------	----------------------------------	-------------------------------	----	--	---------------	--	-------------------------	-----------------------------------	----------------

1
2
3
4
5
6
7
8
9
10
11
12
13

frequency (never, rarely (1-2 times), sometimes (3-4 times), often (5 or more times).

14	Fernandes et al (2012)	Goa, India	Community survey in urban and rural areas	Youth aged 16-24 years (males and females)	Cross-sectional survey (n=3,662)	No	One question on sexual harassment: Ever been talked to about sex in away that was uncomfortable (yes, no)	Lifetime	11.9% (n=414) Not disaggregated by sex.	Not asked	Not asked	Common mental disorders
21	Norman et al (2012)	Ghana	Educational (19 public universities)	University students (males and females)	Cross-sectional survey (n=883)	Yes	Adapted version of 25-item Sexual Experiences Questionnaire-US Department of Defense (SEQ-DoD; Bastian, Lancaster, & Reyst, 1995). It is reported in five broad categories: (1) Crude/Offensive behavior; (2) Sexist behaviour; (3) Unwanted sexual attention; (4) Sexual coercion; and (5) Sexual assault. Final question on whether they consider the above as sexual harassment.	Past 12 months	Overall prevalence: 6.2% (55/883); Females: 4% of total (36/893) and 66% of those sexually harassed (36/55) Males: 2.1% of total (19/883) and 34% of those sexually harassed (19/55).	Majority reported few times (2-5 times)	Other students (asked from list of: classmate, other student, lecturer/instructor/supervisor, other school staff)	Range of health effects ranging from psychological trauma to irritability loss of trust in friends

40
41
42
43
44
45
46

1												
2												
3	Lahsaeizadeh et al (2012)	Shiraz, Iran	Educational, but asked about experience in public places	Female university students	Cross-sectional survey (n=369)	Yes	13 item sexual harassment questions categorised by visual harassment, verbal harassment, following, and touching harassment.	Past 2 years	No overall prevalence, but acts. Staring most prevalent (97% 358/369); shoving or touching (87% 321/369), eyeing the woman's body up and down (86% 315/369), comment on the woman's appearance (85% 315/369), and sitting too close to women or not giving them enough space in a taxi (85% 315/369) most prevalent kinds of harassment.	These were asked but not reported	Strangers	Not applicable
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20	Dhlomo et al (2012)	Zimbabwe	Educational	Female students (21-35y)	Cross-sectional survey (n=136)	No	15 items of the Sexual Experiences Questionnaire (SEQ) adapted from Fitzgerald et al., (1995). The measure of perceived sexual harassment had three domains: gender harassment (3 items), unwanted sexual attention (5 items), and sexual coercion (7 items). Participants also asked to describe the action after the sexual harassment experience.	Ever	Overall, 31% (43/136) sexually harassed. <u>Gender harassment:</u> Suggestive stories and offensive jokes most common mode of harassment (46%). <u>Unwanted sexual attention:</u> ~ 46% been told suggestive stories and jokes, 30% shown sexist or suggestive materials, and 24% subjected to crude or offensive remarks. <u>Sexual coercion:</u> 25%Unwanted attempts to have sex; 18% implied better grades or favours if you were sexually cooperative.	Not asked	Not asked	Not applicable
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												

For peer review only

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Hutagalang et al (2012)	Klang Valley, Malaysia	Workplace	Female employees at three universities	Cross-sectional survey (n=1423)	Yes	Sex and the Workplace Questionnaire developed by Gutek (1985) developed using 8 question items related to verbal and non-verbal sexual harassment. The marking scheme used 3 scales, ranging from 1(never) - 3 (ever) .	Ever	52.7% (750/1423) experienced sexual harassment. No further breakdown provided.	Not asked	Not asked	Job satisfaction and work stress
Park et al (2013)	South Korea	Workplace	National working population sample, aged 15-65 (males and females)	Cross-sectional survey (N=10,039)	No	Direct question in the Korean Working Conditions Survey (KWCS) and SH was included as a covariate in this study: Over the past 12 months, have you been subjected to sexual harassment at work? (yes/no)	Past 12 months	n=63 (0.6%) Not disaggregated by sex.	Not asked	Not asked	Work-related sleep problems
Norman et al (2013)	Ghana	Educational (4 medical schools)	Medical students (males and females)	Cross-sectional survey (n=409)	No	Adapted version of 25-item Sexual Experiences Questionnaire-US Department of Defense (SEQ-DoD; Bastian, Lancaster, & Reyst, 1995). It is reported in five broad categories: (1) Crude/Offensive behavior; (2) Sexist behaviour; (3) Unwanted sexual attention; (4) Sexual	Past 12 months	Overall: 14.4% (n=59/409) females: 8.8% (36/409) males: 5.6% (23/409) Most prevalent form in females was inappropriate or unwanted gifts for sex (71.4%) and unwanted sexual	Not shown in paper	Lecturer (asked from list of: classmate, other student, lecturer/instructor/supervisor, other school staff)	Psychological distress

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

coercion; and (5) Sexual assault. Final question on whether they consider the above as sexual harassment.

comments or jokes (57.1%).

Norman et al (2013)	Accra, Ghana	Faith Based Organisations	Clergy and lay members (male and female); 18-60 years	Cross-sectional survey (n=600)	No	Adapted version of 25-item Sexual Experiences Questionnaire-US Department of Defense (SEQ-DoD; Bastian, Lancaster, & Reyst, 1995). It is reported in five broad categories: (1) Crude/Offensive behavior; (2) Sexist behaviour; (3) Unwanted sexual attention; (4) Sexual coercion; and (5) Sexual assault.	Past 12 months	Females: 73% ; Males: 27% Sexually harassed when attending a religious activity but numerator and denominator unclear. Primarily reported unwanted physical contact or comments or jokes, inappropriate gifts, and even rape.	Not asked	Both female on male and male on female harassment was common (and main perpetrators were members of the clergy)	Loss of trust of other religious members; fear of the general public; feelings of anger.
Poiseau et al (2013)	Benin	Educational	Students from 7 high schools across urban and rural areas in Benin (males and females)	Cross-sectional survey (n=249)	Yes	Three questions about sexual harassment (used the French term <i>harcelement sexuel</i> in the questionnaires). (1) whether participants had experienced sexual harassment at school (personal; among peers only;	Lifetime	Overall 41% among males (72/176) and females (30/73) (similar proportion among both males and females).	Not asked	Not asked	Not applicable

41
42
43
44
45
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

no; don't know).(2) indicate their self-perceived probability of experiencing sexual harassment at school on a scale ranging from 0 (not likely at all) to 10 (very likely); (3) whether participants feared experiencing sexual harassment at school (3 much fear; 2 some fear; 1 little fear; 0 no fear).

Haile et al (2013)	Addis Ababa, Ethiopia	Educational	Male secondary students	Cross-sectional study (n=830)	No	Sexual harassment asked but question unclear. Also, seems to be part of questions on sexual abuse and sexual coercion.	Lifetime and 12 month	Males: Lifetime: 68.2% 12 month: 21.4%	Not asked	Not asked	Not applicable
Austrian et al (2014)	Kampala, Uganda	Low income community areas	Adolescent girls (ages 10-19)	Two treatment (savings plus and savings only) and comparison (two wave) trial (n=1064)	No	Sexual harassment was constructed using two dichotomous variables indicating girls who agreed with the statements: (1) In the past six months I have been touched indecently by someone of the opposite sex in my neighborhood, and (2) In my neighborhood, people of the	Past 6 months	<u>Savings plus:</u> Proportion of girls who experienced indecent touching: 8%. Proportion who were teased by members of the opposite sex: 24%. <u>Savings only:</u> Proportion of girls who experienced indecent touching: 15%. Proportion who were teased by members of the opposite sex: 25%.	Not asked	Members of the opposite sex	Not applicable

41
42
43
44
45
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

opposite
sex tease me as I
go about my day.

Maurya et al (2014)	Uttar Pradesh, India	Workplace	Civil police officers (male and female)	Cross-sectional survey (n=118)	No	Sexual harassment measured as part of the Workplace Harassment scale developed by Berdahl and Moore (2006). From this scale, 14 items focused on traditional sexual harassment (sexist and sexual comments, unwanted sexual attention, and sexual coercion); 11 of the 14 questions were based on items from the Sexual Experiences Questionnaire (SEQ; Fitzgerald, et al, 1995)	Past 2 years	Traditional sexual harassment Females: 9.7% Males: 6.7%	Result not clear. Scale from 0 (never) to 4 (most of the time).	Not specified	Mental health
---------------------	----------------------	-----------	---	--------------------------------	----	--	--------------	---	--	---------------	---------------

For peer review only

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

Mamaru et al (2015)	Jimma, Ethiopia	Educational	Jimma University female students	Cross- sectional survey (n=385)	Yes	Pre-tested questionnaire containing acts of physical, verbal and nonverbal SH items. <u>Physical:</u> purposely bumping or hurting someone, raping, attempting rape, and inappropriate touching. <u>Verbal:</u> Inappropriate sexual comments about body parts, telling sexual or dirty jokes and asking a favor for having sexual intercourse. <u>Non-verbal:</u> displaying inappropriate pictures through email/social media, inappropriate eye contact.	Lifetime	Physical: 78.2% Verbal: 90.4% Non-verbal: 80.0%	Not asked	University students (asked from list: university students, off campus boys, university teachers, total administrative staff)	Psychology distress
------------------------	--------------------	-------------	---	--	-----	---	----------	---	-----------	--	------------------------

For peer review only

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Tobar et al (2015)	Mansoura, Egypt	Educational	University students (males and females)	Cross- sectional survey (n=744)	Yes	Two forms: one form for male participants (16 items) and the other for female participants (12 items); both were in Arabic. It included items on perception of the problem of harassment, frequency of occurrence and direct experience, and feelings and attitudes toward harassment. Men were not asked the question on whether they experienced sexual harassment.	Lifetime	Overall prevalence in females was 73% (258/354).	Appears to be collected as ever in their lifetime and more than half of the sample of women reported experiecning SH 1-3 times.	Unclear, but study mention male harassers	Not applicabl
23 24 25 26 27 28 29 30 31 32	Kunwar et al (2015)	Kailali district, Nepal	Workplace	Female respondents in public sector employment	Cross- sectional survey (n=92)	Yes	No measure specified.	Ever or lifetime	Overall prevalence : 77.2% (71/92) Verbal (teasing or vulgar jokes): 56.3% (40/92) Physical (unwanted touching) 16.9% (12/92) Non-verbal: 11.3% (8/92) Emotional: 7.0% (5/92)	Not asked	Co-worker (52.1%), immediate supervisor (19.7%), manager (12.7%)	Not applicabl

33
34
35
36
37
38
39
40
41
42
43
44
45
46

1
2

3	Sahraian et al (2016)	Shiraz, Iran	Educational/Teaching hospital	Medical students (males and females)	Cross-sectional survey (n=193)	Yes	Direct question on sexual harassment - have they been sexually harassed? Asked by frequency: never, sometimes, several times Taken from the Workplace violence questionnaire created by ILO/WHO/ICN/PSI.	Past 12 months	26.1% (49/193) reported sexual harassment; 33.6% female students; 10.3% male students	56.3% sometimes experienced physical sexual harassment; 77% verbal sexual harassment. Choice asked: once, sometimes, several times.	Physician colleagues	Not applicable
4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55
56	57	58	59	60	61	62	63	64	65	66	67	68
69	70	71	72	73	74	75	76	77	78	79	80	81
82	83	84	85	86	87	88	89	90	91	92	93	94
95	96	97	98	99	100	101	102	103	104	105	106	107
108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133
134	135	136	137	138	139	140	141	142	143	144	145	146
147	148	149	150	151	152	153	154	155	156	157	158	159
160	161	162	163	164	165	166	167	168	169	170	171	172
173	174	175	176	177	178	179	180	181	182	183	184	185
186	187	188	189	190	191	192	193	194	195	196	197	198
199	200	201	202	203	204	205	206	207	208	209	210	211
212	213	214	215	216	217	218	219	220	221	222	223	224
225	226	227	228	229	230	231	232	233	234	235	236	237
238	239	240	241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260	261	262	263
264	265	266	267	268	269	270	271	272	273	274	275	276
277	278	279	280	281	282	283	284	285	286	287	288	289
290	291	292	293	294	295	296	297	298	299	300	301	302
303	304	305	306	307	308	309	310	311	312	313	314	315
316	317	318	319	320	321	322	323	324	325	326	327	328
329	330	331	332	333	334	335	336	337	338	339	340	341
342	343	344	345	346	347	348	349	350	351	352	353	354
355	356	357	358	359	360	361	362	363	364	365	366	367
368	369	370	371	372	373	374	375	376	377	378	379	380
381	382	383	384	385	386	387	388	389	390	391	392	393
394	395	396	397	398	399	400	401	402	403	404	405	406
407	408	409	410	411	412	413	414	415	416	417	418	419
420	421	422	423	424	425	426	427	428	429	430	431	432
433	434	435	436	437	438	439	440	441	442	443	444	445
446	447	448	449	450	451	452	453	454	455	456	457	458
459	460	461	462	463	464	465	466	467	468	469	470	471
472	473	474	475	476	477	478	479	480	481	482	483	484
485	486	487	488	489	490	491	492	493	494	495	496	497
498	499	500	501	502	503	504	505	506	507	508	509	510
511	512	513	514	515	516	517	518	519	520	521	522	523
524	525	526	527	528	529	530	531	532	533	534	535	536
537	538	539	540	541	542	543	544	545	546	547	548	549
550	551	552	553	554	555	556	557	558	559	560	561	562
563	564	565	566	567	568	569	570	571	572	573	574	575
576	577	578	579	580	581	582	583	584	585	586	587	588
589	590	591	592	593	594	595	596	597	598	599	600	601
602	603	604	605	606	607	608	609	610	611	612	613	614
615	616	617	618	619	620	621	622	623	624	625	626	627
628	629	630	631	632	633	634	635	636	637	638	639	640
641	642	643	644	645	646	647	648	649	650	651	652	653
654	655	656	657	658	659	660	661	662	663	664	665	666
667	668	669	670	671	672	673	674	675	676	677	678	679
680	681	682	683	684	685	686	687	688	689	690	691	692
693	694	695	696	697	698	699	700	701	702	703	704	705
706	707	708	709	710	711	712	713	714	715	716	717	718
719	720	721	722	723	724	725	726	727	728	729	730	731
732	733	734	735	736	737	738	739	740	741	742	743	744
745	746	747	748	749	750	751	752	753	754	755	756	757
758	759	760	761	762	763	764	765	766	767	768	769	770
771	772	773	774	775	776	777	778	779	780	781	782	783
784	785	786	787	788	789	790	791	792	793	794	795	796
797	798	799	800	801	802	803	804	805	806	807	808	809
810	811	812	813	814	815	816	817	818	819	820	821	822
823	824	825	826	827	828	829	830	831	832	833	834	835
836	837	838	839	840	841	842	843	844	845	846	847	848
849	850	851	852	853	854	855	856	857	858	859	860	861
862	863	864	865	866	867	868	869	870	871	872	873	874
875	876	877	878	879	880	881	882	883	884	885	886	887
888	889	890	891	892	893	894	895	896	897	898	899	900
901	902	903	904	905	906	907	908	909	910	911	912	913
914	915	916	917	918	919	920	921	922	923	924	925	926
927	928	929	930	931	932	933	934	935	936	937	938	939
940	941	942	943	944	945	946	947	948	949	950	951	952
953	954	955	956	957	958	959	960	961	962	963	964	965
966	967	968	969	970	971	972	973	974	975	976	977	978
979	980	981	982	983	984	985	986	987	988	989	990	991
992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004

1
2

3	Zhang et al 4(2016)	Hong Kong	Community	Population based, young adults (males and females)	Cross-sectional survey (Youth Sexuality Study) (n=1223)	Yes	Sexual harassment questions: experienced unwelcome sexual advances; experienced requests for sexual favour; and experienced other verbal or physical harassment of a sexual nature.	Lifetime and 6 months	Females: 2.3% (6-month) & 13.2% (lifetime) Males: 0.6% (6-month) to 3.6% (lifetime)	Asked if 0 (none), 1 (once), and 2 (twice or more).	Males towards females	Pregnant
5												
6												
7												
8												
9												
10												
11												
12												
13												
14	Xie et al 15(2017)	Western China	Educational	Medical students (males and females)	Cross sectional survey (n=157)	No	Self-administered questionnaire. Details of questions not included. Brief indication of question on verbal sexual harassment (patients flirted with students) and physical sexual harassment (patients physically touched students). Sexual harassment was measured as verbal and physical sexual harassment.	Past 12 months	Verbal: 8.3% Physical: 1.6%	Not asked	Patients	Student's quality of (SF-36 sc
16									Not disaggregated by sex.			
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29	Tripathi et al 30(2017)	Lucknow, India	Public transport	Third year university female students aged 18-29 years	Cross-sectional survey (n=200)	Yes, but not explicit	Designed a victimisation survey. To overcome measurement issues around acts and differences in perceptions of acts considered to be SH, the survey used descriptive categories of sexual crimes against women added to	Past 6 months	25% of the students have experienced more than ten incidents per month	Not asked	Strangers	Not applicable
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												

41
42
43
44
45
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

the Indian law after the 2012 Delhi gang rape case. Acts were: (a) Any unwelcome physical, verbal or non-verbal conduct of sexual nature; (b) demand or request for sexual favors; (c) making sexually colored remarks (d) physical contact and advances; or (e) showing pornography.

17	Falboys et al (2017)	Punjab, India	Rural community	Rural, young females aged 18-26	Cross-sectional survey (n=89)	Yes	Eve Teasing Questionnaire–Mental Health (ETQ-MH).The questionnaire included questions about (a) eve teasing exposure, nature, timing, and intensity; (b) chronicity, which delineates onetime or ongoing harassment. Actual questions were: a) Have you ever been eve-teased? b) When was the last time you were eve-teased? c) I am going to read you this list of behaviours. As I read each one, can you tell me if you have been the target of any of	Scale that ranged from past week. Past month, <3 months, 3-7 months, 7-12 months, > year.	48.3% (43/89) (Ever eve-teased) 37.1% (33/89) (past year)	30.6% reported as on-going versus one-time	Men or boys known to the victim	Not applicable
----	----------------------	---------------	-----------------	---------------------------------	-------------------------------	-----	--	---	--	--	---------------------------------	----------------

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

						these in the <u>past year</u> by men/boys: staring; stalking; making vulgar gestures; passing an insulting or threatening comment; pushing or brushing by accident					
Aina et al (2018)	Delhi, India	Educational	Male and female private and public university students	Cross-sectional survey (n=430)	Yes	Direct question: Have you experienced any form of sexual harassment in your institution?	Ever or lifetime	16.3% (35/215) (private university), 18.6% (40/215) (public university) Not disaggregated by sex	Not asked	Not asked	Not applicable
Dar et al (2018)	Lahore, Pakistan	Hospital	Female patients diagnosed with conversion disorder at three public hospitals	Cross-sectional survey (n=51)	No	3 questions on sexual harassment included in the Urdu version of the Traumatic Experiences Checklist (TEC). The questions are direct questions on sexual harassment enquiring on the family. These are: 1) Sexual harassment (acts of a sexual nature that DO NOT involve physical contact) by your parents, brothers, or sisters. Y/N 2) Sexual harassment by more distant	Ever (not specified)	65% (33/51) reported sexual harassment.	Not asked	The main perpetrator was outside the family	Not applicable

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29

members of your family. Y/N
3) Sexual harassment by non-family members. Y/N
FOR EACH, how much of an impact did this have on you? 1-5 (none to an extreme amount).

Ul Haq et al (2018)	Lahore, Pakistan	Educational	1st and 2nd year medical students (male and female)	Cross-sectional study (n=358)	No	Direct question from the Medical School Graduation Questionnaire (developed by the American Association of Medical Colleges) : Have you experienced any form of sexual harassment in your institution? The responses consisted of a Likert scale ranging from never, once, occasionally, frequently.	Ever	Overall, 2.5% (9/358) experienced sexual harassment once, 4.2% (15/358) occasionally, and 3.6% (13/358) frequently. Sexual harassment was reported more frequently in male students as opposed to female students (56.8%>43.2%)	Occasionally	Faculty and classmates	Not applicable
Mabetha et al (2018)	South Africa	Educational	School-going adolescents, male and female (aged 10-19 years)	Cross sectional survey (South African National HIV, Behaviour and Health Survey (2011/2012). N=219,456	No	Having experienced sexual harassment using the following criteria: (i) boys sexually harassing girls by touching, threatening or making rude remarks to them; (ii) girls sexually harassing boys by touching,	Past 12 months	30.1% of respondents had experienced peer sexual harassment and 6.2 had experienced teacher sexual harassment.	Not asked	Peers and teachers.	Risky sex behaviour (non use of condom) multiple sexual partners

41
42
43
44
45
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

threatening or making rude remarks to them; (iii) male educators proposing relationships with female learners; (iv) female educators proposing relationships with male learners, and (v) educators proposing relationships with learners of the same sex. 'Peer perpetrated sexual harassment' refers to positive responses ('always' or 'often') to criterion i or ii, while positive responses to criterion iii, iv or v were coded as 'teacher-perpetrated sexual harassment' using principle component analysis.

Akoku et al (2019)	Yaounde, Cameroon	Workplace	Female bar workers (FBW) (Median age: 29 years)	Cross-sectional survey (n=410)	Yes .	Definition of sexual harassment read out and respondents asked if they had experienced any behaviour of that sort from male customers in <3 months.	Past 3 months	Most prevalent forms: Sexual advances including requesting telephone numbers to contact them later for a date (90.9%), sexually suggestive comments or jokes that made FBWs felt offended (76.3%), Inappropriate staring	Not asked	Male customers	Depressive symptom (five-item mental health inventory scale)
--------------------	-------------------	-----------	---	--------------------------------	-------	---	---------------	--	-----------	----------------	--

If yes, then read out

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

a list of 7 behaviours likely to constitute sexual harassment by male customers: sexual advances asking for a date ; sexually suggestive and offensive comments; inappropriate staring that made you feel uncomfortable; repeated demands for a date despite your rejection; touching parts of your body like buttocks or breasts; asking intrusive questions about your private and physical appearance; unwelcome physical contact from male customers including hugging or forcibly kissing.

or leering that made FBWs felt uncomfortable (70.7%).

Summary: 98.8% (405/410) experienced one or more forms of sexual harassment in the < 3 months.

Murshid et al (2019)	Urban and rural Bangladesh	Community	Adolescent boys and girls (age 12-19)	Household level survey (n=520)	No	Measures not clearly stated, but mention five items relating to experiencing sexual harassment or “eve teasing” and insecurity.	Not clear	Females and males: 64%	Not asked	Not asked	Not applicable
								Not disaggregated by sex.			

1
2

3	Zhu et al 4(2019)	Shangdong, China	Workplace	Frontline hotel employees (male and female)	Three phase field survey (n=266)	Yes	21 items scale adapted by Murry et al. (2001) from the scale created by Fitzgerald et al. (1995). Comprise of four dimensions: <i>gender harassment</i> (e.g., treating someone differently because of their sex), <i>crude and offensive behaviours</i> (making offensive sexual gestures), <i>unwanted sexual attention</i> (staring, whistling in a sexual way) and <i>sexual coercion</i> (implied faster promotion for sex).	Ever or lifetime	~14% (36/266) of the respondents reported experiencing workplace sexual harassment. 28 % reporting moderate to severe levels.	Not asked	Supervisors/co- workers/customers	Depressi and work related interpers deviance
---	----------------------	---------------------	-----------	---	--	-----	---	---------------------	---	-----------	--------------------------------------	--

23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

For peer review only

1
2

3	Saberi et al (2019)	Kashan, Iran	Workplace	Female workers in the industrial sector	Cross-sectional survey (n=817)	No	ILO/WHO/INA workplace violence questionnaires translated into Persian. 78 items on violence at work. The section that focused on sexual harassment asked about unwanted behaviors and actions in which the individual might experience sexual abuse, offense or threats to her health, including sexual comments, deliberately touching, suggestive looks, unwelcome letters and phone calls and acting for sexual favors.	Past 12 months	Overall 12% of females reported sexual harassment. Sexual comments and remarks (14.3%), deliberately touched (23.8%), suggestive looks (23.8%), unwelcome letters or phone calls (16.6%).	Seldom, monthly weekly, daily. Most females reported seldom exposure to sexual harassment.	Co-workers most frequent perpetrators (61%). Others were supervisors and office employees.	Not applicable
24	Gautam, et al (2019)	Kathmandu, Nepal	Public transport	Female students (public health and nursing students)	Cross-sectional survey (n=280)	Yes	Questions not provided, but mention of information on type of harassment (verbal, non-verbal and physical), effect of harassment (physical and psychological), type of public transport, time of harassment and perpetrator was collected.	Past 12 months	78.2% (219/280) of females using public transport reported being harassed. Among unmarried (54%) and married (46%). <i>Unmarried:</i> Physical (42.3%), verbal (14.4%) and non-verbal (43.2%). <i>Married:</i> Physical (38.6%), verbal (14.9%) and non-verbal (46.5%).	Not asked	Male passenger (93%)	Not applicable

37
38
39
40
41
42
43
44
45
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

3 4	Huang et al (2019)	Mainland China	Educational	College students (male and female)	Nationwide cross- sectional study (n=2080)	Yes	Modified version of SEQ-DOD (SEQ- China).25 items of the original SEQ- DOD were adapted; 23 close-ended questions and then 2 open-ended questttons. - Have you ever experienced other offences, please describe it; - Have you ever been sexually harassed? Options were never, once, more than once. If once or more than once, then coded yes and also asked to rprovide gender of harasser. As a follow up: Those who reported experiencing sexual harassment "more than once" were asked to express the emotional and behavioral reactions of "the first time" and "the latest time" harassment.	Ever	78% females and 67.3% males reported experiencing some form of sexual harassment. For the four categories: <i>Sexist hostility</i> : Males (28.6%)females (39.5%) <i>Sexual hostility</i> : Males (63%), females (71.2%) <i>Unwanted sexual attention</i> : Males (37.4%), females (57.1%) <i>Sexual coercion</i> : Males (5.6%), females (5.9%). 29.7% reported having been sexually harassed	Not reported	Students (79.3%); Strangers (31.3%)	Not applicabl
33 34	Oni et al (2019)	Limpopo, South Africa	Educational	College students residing on campus (male and female)	Cross- sectional survey (n=342)	Yes	Questions not mentioned. Authors mention that it is a structured questionnaire developed based on extensive literature review, coupled with expert	Unclear	Unwanted touching: males (17.3%), females (25.3%); Personally experienced rape: males (1.3%), females (2.7%); Verbal harassment (unwanted sexual	Not asked	Not asked	Not applicabl

For peer review only

41
42
43
44
45
46

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

consultation to ensure sensitive questions were valid.

advance, sex-related jokes): Males (12.2%) and females (18.4%)

For peer review only



PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Page 1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Pgs 2 and 3
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Pgs 4-6
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Pg 6
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Pg 7
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Pg 6 and Appendix 1
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Pg 7,8 and figure 1
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Pg 7 and 8
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Pg 8
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Pg 8 and appendix 2
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Pg 8 and 9
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Pg 8 and 9
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Pg 8 and 9
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Pg 8 and 9
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	



PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Pg 9 and figure 1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Pg 9
Study characteristics	17	Cite each included study and present its characteristics.	Pg 9-13
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Pg 17-20
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Pgs 19=21
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Pgs 19-21 and figure 2
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Pg 20
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Pgs 21-24
	23b	Discuss any limitations of the evidence included in the review.	Pg 24
	23c	Discuss any limitations of the review processes used.	Pg 24
	23d	Discuss implications of the results for practice, policy, and future research.	Pg 25-26
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Pg 6
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Pg 6
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Pg 27
Competing interests	26	Declare any competing interests of review authors.	Pg 27
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	



PRISMA 2020 Checklist

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71
For more information, visit: <http://www.prisma-statement.org/>

For peer review only