


Non-accidental harms ('abuse') in athletes with impairment ('para athletes'): a state-of-the-art review

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ABSTRACT

Objective Para athletes reap significant health benefits from sport but are vulnerable to non-accidental harms. Little is known about the types and impacts of non-accidental harms Para athletes face. In this literature review, we summarise current knowledge and suggest priorities for future research related to non-accidental harms in Para athletes.

Design Six electronic databases were searched between August and September 2017. 2245 articles were identified in the initial title/abstract review, and 202 records were selected for full-text review following preliminary screening. Two independent examiners evaluated each full text, and eight citations were selected based on inclusion/exclusion criteria.

Data sources MEDLINE, Embase, PsycInfo, Cumulative Index to Nursing and Allied Health Literature, Scopus and Academic Search Premier.

Eligibility criteria for selecting studies Inclusion criteria: (A) human participants; (B) written in English; (C) descriptive, cohort and case series, case-control, qualitative, mixed methods studies and all clinical trials; and (D) data pertain to harassment/abuse of youth, recreational, collegiate, national-level and/or elite-level athletes with a physical and/or intellectual impairment.

Results Most studies focused on young, visually impaired athletes and approximately half of all studies described high rates of bullying and its social implications. One study confirmed remarkably high rates of psychological, physical and sexual harms in Para athletes, compared with able-bodied peers.

Conclusions Bullying in young, visually impaired athletes is described most commonly in the available literature. Due to the limited amount of data, the prevalence of non-accidental harms in Para athletes remains unclear and information on trends over time is similarly unavailable.

INTRODUCTION

Ideals of the Paralympic Movement

As stated in article 30 of the 2006 United Nations Convention on the Rights of Persons with Disabilities, persons with impairment are entitled to take part in cultural life, recreation, leisure and sport on an equal basis.¹ In so doing, persons with impairment have a right to the well-documented emotional, physical and social benefits of sport.^{2–7} The highest level of Para and adapted sport is represented by the Paralympic Movement, the vision of which is 'to enable Para athletes to achieve sporting excellence and inspire and excite the world'.⁸ One of the Movement's missions is to ensure that in

Paralympic sport, 'the spirit of fair play prevails, violence is banned, the health risk of the athletes is managed and fundamental ethical principles are upheld'.⁹ These ideals serve as a check against unfair practices that harm Para athletes.

Enabling environments that encourage athletes to participate and achieve in sport typically include healthy interpersonal relationships within which equality, respect, integrity and trust prevail.¹⁰ In contrast, disabling environments that discourage athletes (Para and other) from participating and achieving in sport are poisoned by fear, distrust and severe power imbalances—the same values that underscore unhealthy interpersonal relationships and the cycle of interpersonal violence.^{11–15} The ethical principles that govern the Paralympic Movement set a behaviour standard for all Para sport actors—athletes, teammates, coaches, parents and administrators,¹⁶ where healthy interpersonal relationships are expected.

Non-accidental harms in Para sport

Both children and adults with impairment are at alarmingly high risk of physical, social, sexual and psychological harassment and abuse at home, and within educational, community and healthcare institutions.^{17–25} Within sport, this vulnerability has been little studied, and the impact non-accidental harms have on youth and senior Para athletes is less well known.^{26, 27} Scientists at the International Olympic Committee (IOC) estimate that athletes with a physical and/or intellectual impairment may be up to four times more likely to be victimised²⁶; however, there is no comprehensive research on the nature and scope of abuse in these athletes.

Risk factors for abuse in athletes and non-athletes with impairment include general dependency, vulnerable living arrangements (eg, family isolation, stress and separation from the home), social powerlessness, communication skill deficits, diminished ability to protect oneself due to lack of instruction and/or resources and impaired judgement (eg, the inability to detect who is safe to be around), learnt compliance, the reluctance to challenge others, and the misinterpretation of affectionate behaviour.^{21, 28, 29} Athletes with impairment may be viewed as 'safe targets for abuse', and opportunities for inappropriate touching can arise during routine health interventions and/or drug testing. These are just some of the vulnerabilities facing athletes with impairment.^{21, 28, 29} Additional predisposing factors include negative public attitudes towards disability



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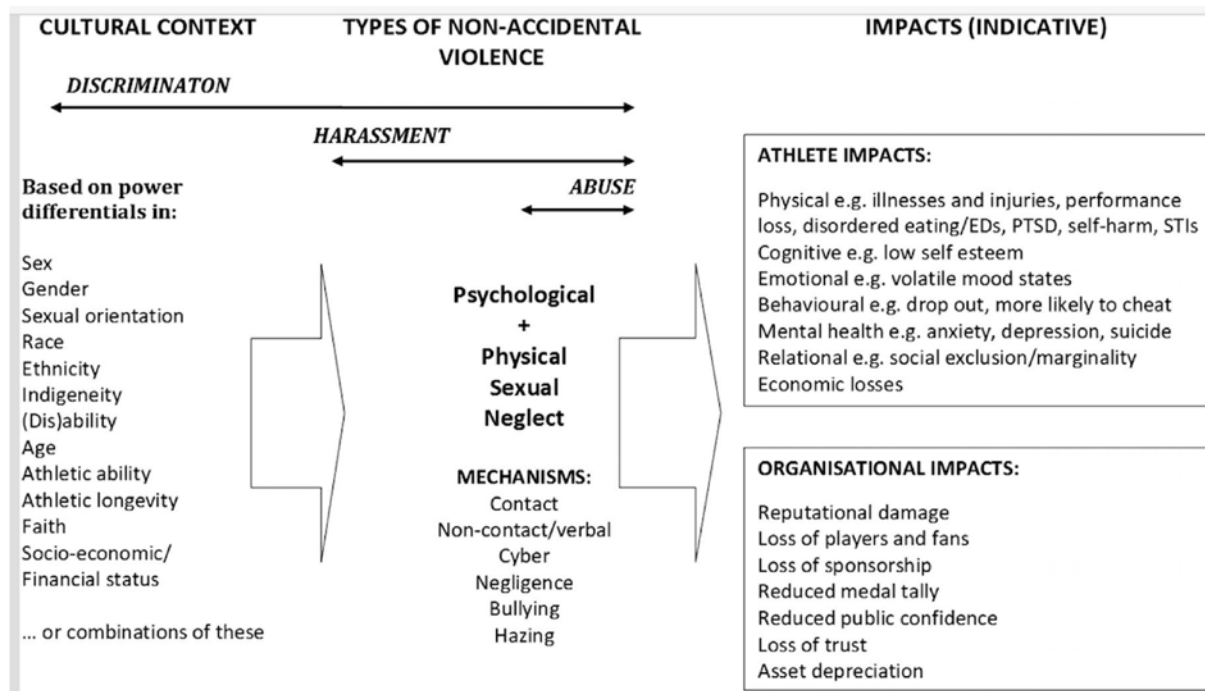


Figure 1 Conceptual model of non-accidental harms in sport, highlighting the central role a psychological power imbalance plays for all forms of harassment and abuse. Image reproduced with permission care of Professor Sandra L Kirby. *British Journal of Sports Medicine*. ED, eating disorders; PTSD, post-traumatic stress disorder; STIs, sexually transmitted infections.

and power imbalance where the athlete relies heavily on others for support.

Power imbalance is a critical concept. As described in figure 1, an unequal distribution of psychological power is the central feature of all abusive relationships in sport.²⁶ While all athletes have regular training, nutrition and recovery needs, athletes with impairment may have an additional layer of personal care needs that could require the active, and at times, hands-on participation of teammates, coaches, trainers, parents and other sport actors.^{16 26} Furthermore, athletes with intellectual impairment may be at even higher risk of aggression specifically due to communication challenges, fewer meaningful friendships and increased need for help navigating social settings.^{30–32} Recent safeguarding studies suggest that athletes with higher care needs may be at increased risk of non-accidental harms, compared with athletes with lower care needs.^{26 27} This may be due to the inherent power imbalance that is introduced as sport actors (eg, athletes, teammates, coaches, parents and administrators)¹⁶ assist Para athletes with activities of daily living (eg, transfers, hygiene, dressing, bathing and feeding) and other tasks. This power differential, where the Para athlete is subordinate, may set the stage for abusive relationships to develop when an otherwise innocuous power difference is exploited.^{26 33–35} To date, no literature review has been done to describe the epidemiology of these abuses in Para athletes.

Terminology

Once the link between sport, the United Nations Convention on the Rights of the Child and other international human rights initiatives (eg, United Nations Study on Violence against Children) was established,^{27 36} the body of published, scientific literature dedicated to non-accidental harms in sport expanded significantly.^{37–39} Accordingly, the terminology experts use to describe non-accidental harms in sport has changed over time and continues to be debated. Scientists have described distinct

categories of non-accidental harms including bullying (and cyberbullying), harassment, neglect, physical abuse, emotional abuse and sexual abuse, often with qualifying subcategories including physical, verbal, social, racial, gender, contact and non-contact (eg, non-contact physical abuse, racial harassment or verbal bullying).⁴⁰

In the absence of universal consensus definitions,⁴¹ we use the general umbrella term ‘non-accidental harm(s)’ in this manuscript, meaning ‘volitional acts that result in or have the potential to result in physical injury and/or psychological harm’.^{10 42} As described in figure 2, ‘maltreatment’, ‘interpersonal violence’, ‘intentional harm(s)’, ‘intentional violence’, ‘intentional injury’, ‘gender-based violence’ and ‘abuse’ have also been used somewhat interchangeably with ‘non-accidental harms’ by other authors in the field to represent all forms of harassment and abuse in sport.⁴³ We chose ‘non-accidental harm(s)’ because we feel this term captures harms that are conscious and readily apparent to others (eg, physical abuse), as well as those that may be unconscious and less readily apparent to others (eg, financial abuse).²⁰ In this manuscript, specific terms such as ‘physical abuse’ and ‘bullying’ will be used when describing data from a specific study, but the umbrella term ‘non-accidental harm(s)’ covers all forms of abuse, including those that have had higher visibility in scientific literature (eg, sexual harassment and abuse) and those that may be lesser known (eg, hazing and neglect).^{44 45}

In addition, we have chosen to use two equivalent and up-to-date terms, ‘Para athlete(s)’ and ‘athletes with impairment’ throughout this manuscript to describe our population of interest.^{8 46} ‘Para athlete(s)’ is the International Paralympic Committee’s term for all sportspersons with impairment.⁸ In the same way, ‘athletes with impairment’ describes all sportspersons with impairment, regardless of competition level, and inclusive of youth, recreational, collegiate and elite athletes. ‘Paralympic athletes’ and ‘Paralympians’, in contrast, refer only to athletes who have competed at the Paralympic Games.⁸

Umbrella terms for violence in sport*		Types of violence in sport*
Non-accidental harm(s)	“...volitional acts that result in or have the potential to result in physical injury and/or psychological harm.”	Bullying
Maltreatment		Hazing
Interpersonal violence		Harassment
Intentional harm(s)		Physical abuse
Abuse		Sexual abuse
Gender-based violence		Emotional abuse
Intentional violence		Neglect

*Refer to Figure 1. Above lists are not exhaustive

Figure 2 Examples of terminology used to describe harassment and abuse in sport settings. Scholars in the field are increasingly using this terminology to describe volitional acts that result in or have the potential to result in physical injury and/or psychological harm.

Aim

The aim of this literature review was to summarise the current state of knowledge and the priorities for future research as related to non-accidental harms in athletes with impairment at all levels of competition.

METHODS

We conducted a state-of-the-art literature review using standardised tools for systematic literature review, including the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method.⁴⁷ Reflective of our aims, using methods described by Grant and Booth,⁴⁸ this study is best categorised as state-of-the-art review. Between 1 August and 1 September 2017, a librarian (MG) searched the following electronic databases for relevant articles, using both controlled vocabulary and free-text terms: Ovid Medline (1946 to July Week 1, 2017), Ovid Medline In Process & Other Non-Indexed Citations, Ovid Embase (1974 to 12 July 2017), Ovid PsycInfo (1967 to July Week 1, 2017), Cumulative Index to Nursing and Allied Health, Scopus and Academic Search Premier. The Yale MeSH Analyzer (<http://mesh.med.yale.edu>) was used in the initial stages of strategy formulation to harvest controlled vocabulary and keyword terms from highly relevant known articles. Bibliographies of key articles were also searched for additional citations, resulting in the addition of unique citations to the review. The Ovid search strategy is documented in online supplementary appendix A.

Inclusion criteria were: (A) human participants; (B) written and published in the English language; (C) descriptive, cohort and case series, case-control, qualitative, mixed methods studies, policy statements, position statements and all clinical trials; and (D) inclusive of data pertaining to harassment and abuse of school-based, youth, recreational, collegiate, national-level and international-level athletes with a physical and/or intellectual impairment. Exclusion criteria were: (A) non-human participants; (B) non-English; (C) conference abstracts; (D) reviews; (E) not inclusive of or pertaining to the harassment and abuse of athletes with a physical and/or intellectual impairment; and (F) not inclusive of or pertaining to athletes.

The initial search returned 2245 citations. Ten duplicate records were removed using the duplicate detection function of EndNote X7, and the remaining citations were ingested into Covidence, a screening and data extraction tool. Eight independent reviewers selected 202 records, or 9% of the population of records, for full-text review. Two independent reviewers then performed quality evaluation of the full-texts, of which eight citations were selected based on inclusion/exclusion criteria. Figure 3 demonstrates the PRISMA protocol followed throughout the review.⁴⁷

The Oxford Centre for Evidence-Based Medicine (CEBM) grade of evidence for each included study.⁴⁹ Levels of evidence ranged from one to five, with one indicating the highest quality of evidence and five indicating the lowest quality of evidence (table 1).

The Cochrane risk of bias tool was used to assess the potential for different types of bias across individual studies.⁵⁰ Studies were characterised as having ‘high’, ‘unclear’ and ‘low’ risk of bias across five domains: ‘selection bias’, which included lack of random sampling; ‘performance bias’, which included systematic differences between groups in the care that is provided or in exposure to factors other than the interventions of interest; ‘detection bias’, which included systematic differences between groups in how outcomes are determined; ‘attrition bias’, which included unequal loss of participants from trial; ‘reporting bias’, which included selective revealing or suppression of information; and ‘other bias’, which included other potential sources of bias (table 2). Studies with predominantly ‘high’ and ‘unclear’ risk of bias across domains were considered lower quality when compared with studies with predominantly ‘low’ risk of bias across domains.

RESULTS

Study characteristics

Eight studies met inclusion criteria (table 3). All were published within the past six years. Of those, two studies employed a qualitative design,^{51 52} one used quantitative methods⁵³ and five employed a mixed methods study design (eg, combination of in-person or telephone interview and a survey tool).^{54–58} Four studies were conducted in the USA, while the remainder were conducted in the UK, the Netherlands and Australia. Half of the studies only included young athletes aged 8–25 years.

Total sample size ranged from five participants⁵² to 6124 participants.^{54 55} While all studies included Para athletes (1%–100% of total study sample), only five included results and conclusions specific to Para athletes. Half of the studies focused exclusively on Para athletes,^{51 52 56 57} 75% of which focused on young athletes with visual impairment and 25% of which focused on athletes with intellectual and developmental impairment.

Level of competition was summarised as either ‘recreational’ or ‘elite’, based on the definition or categorisation offered in each study. We included school-based, club, community-level, regional-level or national-level Para athletes under the designation ‘recreational’, while ‘elite’ athletes were those who competed internationally. Only one study included elite athletes.⁵³

Of non-accidental harms examined, more than half of the study authors were concerned with bullying and its social implications.^{51 52 54 56 57} Of note, de Schipper *et al*⁵¹ investigated

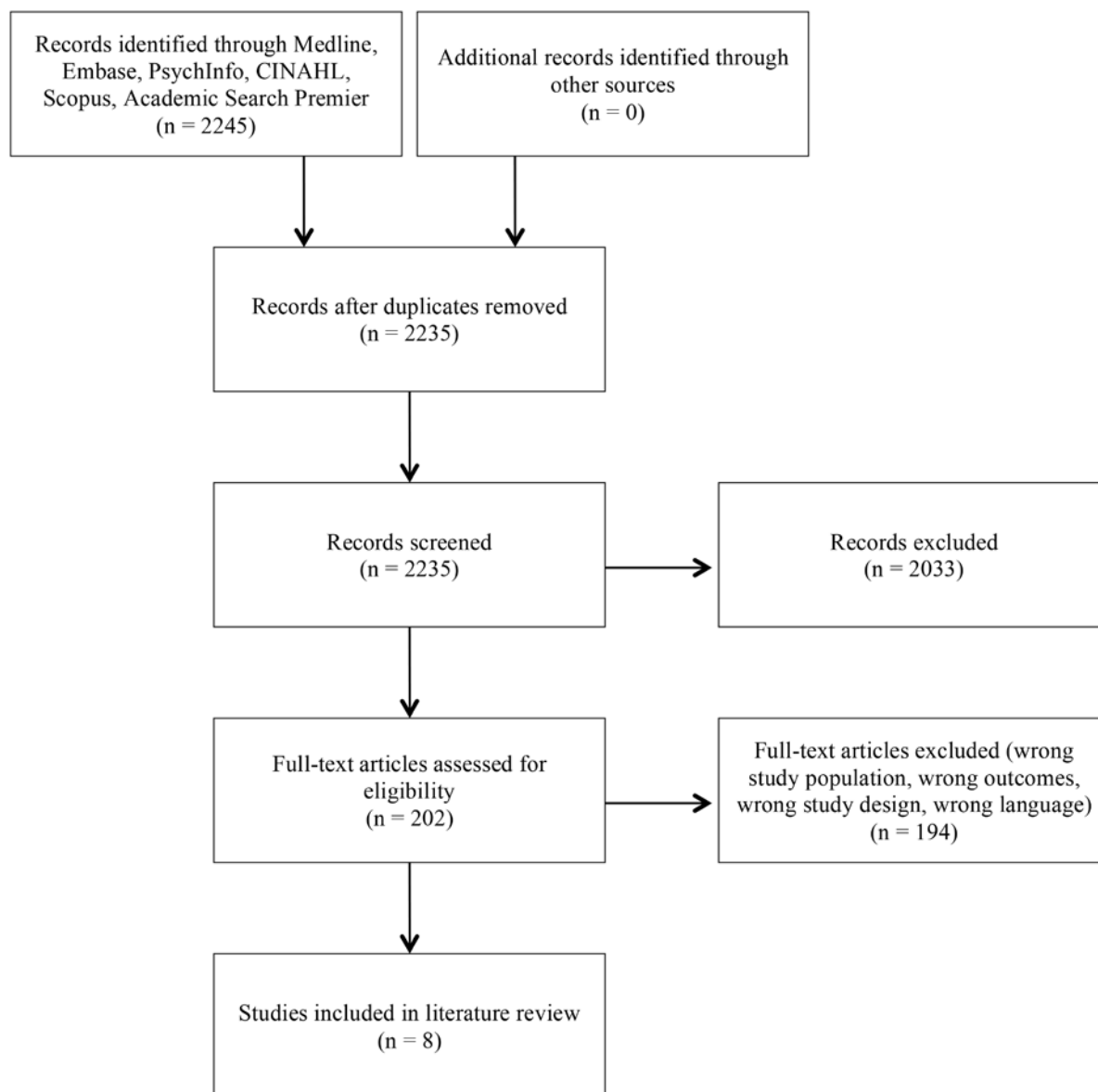


Figure 3 PRISMA diagram describing the selection of studies. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

verbal abuse among children with visual impairment and used the terms ‘verbal abuse’ and ‘bullying’ interchangeably. Stafford *et al.*⁵⁵ Vertommen *et al.*⁵³ Dane-Staples *et al.*⁵⁶ and McHugh and Howard⁵⁷ examined physical abuse. Only Vertommen *et al.*⁵³ studied sexual abuse, in addition to psychological and physical.

Risk of bias

Most studies satisfactorily met less than half of the criteria on the seven-item Cochrane risk of bias tool (table 1). According to CEBM criteria, six articles met Level 4 level of evidence, while Dane-Staples *et al.*⁵⁶ and Vertommen *et al.*⁵³ met Level 3 due to the presence of a control arm and large effect size, respectively.

Risk stratification by impairment status and demographics

Assessed using a low-threshold measure (eg, at least one experience), self-reported prevalence estimates of non-accidental harms in Para athletes were remarkably high in the Vertommen *et al.*⁵³ study. Nearly half (49.7%) of Para athletes (n=185) reported psychological abuse, while 32.4% reported physical

violence and 33.5% reported sexual abuse. Furthermore, in the same study, athletes who had participated in ‘disabled sport’ as children had 2.90 increased odds of sexual abuse (99% CI 1.84 to 4.59; $p < 0.001$), 3.23 increased odds of physical abuse (99% CI 2.02 to 5.15; $p < 0.001$) and 1.31 increased odds of psychological abuse (99% CI 0.87 to 1.99; $p = 0.09$) compared with athletes who had not participated in ‘disabled sport’.⁵³

We found no differences in prevalence or type of non-accidental harms based on age, gender, sport, skill or competition level, in all studies included in this analysis. Of the five studies that included results specific to Para athletes, there were no reported age-level, gender-level, sport-level, skill-level or competition-level related differences in the prevalence or type of non-accidental harms athletes with impairment experienced. Haegele *et al.*⁵² did describe increased perceived risk of bullying in an active, visually impaired child due to his strong academic skills, but this theme did not apply to the remaining study participants. McPherson *et al.*⁵⁸ suggested that a younger age may place Para athletes at increased risk of non-accidental harms. Stafford

Table 1 The Oxford Centre for Evidence Based Medicine (CEBM) 2011 Levels of Evidence

	Level 1*	Level 2*	Level 3*	Level 4*	Level 5
Question:					
How common is the problem?	Local and current random sample surveys (or censuses).	Systematic review of surveys that allow matching to local circumstances. [†]	Local non-random sample. [†]	Case series. [†]	n/a
Is this diagnostic or monitoring test accurate? (Diagnosis)	Systematic review of cross-sectional studies with consistently applied reference standard and blinding.	Individual cross-sectional studies with consistently applied reference standard and blinding.	Non-consecutive studies, or studies without consistently applied reference standards. [†]	Case-control studies, or 'poor or non-independent reference standard'. [†]	Mechanism-based reasoning.
What will happen if we do not add a therapy? (Prognosis)	Systematic review of inception cohort studies.	Inception cohort studies.	Cohort study or control arm of randomised trial. [*]	Case series or case-control studies, or poor quality prognostic cohort study. [†]	n/a
Does this intervention help? (Treatment benefits)	Systematic review of randomised trials or n-of-1 trials.	Randomised trial or observational study with dramatic effect.	Non-randomised controlled cohort/follow-up study. [†]	Case series, case-control studies or historically controlled studies. [†]	Mechanism-based reasoning.
What are the common harms? (Treatment harms)	Systematic review of randomised trials, systematic review of nested case-control studies, n-of-1 trial with the patient you are raising the question about or observational study with dramatic effect.	Individual randomised trial or (exceptionally) observational study with dramatic effect.	Non-randomised controlled cohort/follow-up study (postmarketing surveillance) provided there are sufficient numbers to rule out a common harm. (For long-term harms, the duration of follow-up must be sufficient). [†]	Case series, case-control or historically controlled studies. [†]	Mechanism-based reasoning.
What are the rare harms? (Treatment harms)	Systematic review of randomised trials or n-of-1 trial.	Randomised trial or (exceptionally) observational study with dramatic effect.			
Is this (early detection) test worthwhile? (Screening)	Systematic review of randomised trials.	Randomised trial.	Non-randomised controlled cohort/follow-up study. [†]	Case series, case-control or historically controlled studies. [†]	Mechanism-based reasoning.

This method was used to grade the levels of evidence of the papers discussed in this systematic review. Levels of evidence range from 1 to 5, with 1 as having the highest quality and 5 as the lowest quality.

Adapted from Oxford CEBM Levels of Evidence Working Group. ^{*} 'The Oxford 2011 Levels of Evidence'. Oxford Centre for Evidence-Based Medicine. <http://www.cebm.net/index.aspx?o=5653>.

^{*} OCEBM Levels of Evidence Working Group = Jeremy Howick, Iain Chalmers (James Lind Library), Paul Glasziou, Trish Greenhalgh, Carl Heneghan, Alessandro Liberati, Ivan Moschetti, Bob Phillips, Hazel Thornton, Olive Goddard and Mary Hodgkinson.

[†] Level may be graded down on the basis of study quality, imprecision, indirectness (study PICO does not match questions PICO), because of inconsistency between studies or because the absolute effect size is very small; level may be graded up if there is a large or very large effect size.

[†] As always, a systematic review is generally better than an individual study.

Table 2 Risk of bias for each study based on the Cochrane risk of bias tool

	Vertommen <i>et al</i> ⁵³	Stafford <i>et al</i> ⁵⁵	Stafford <i>et al</i> ⁵⁴	McPherson <i>et al</i> ⁵⁸	McHugh and Howard <i>et al</i> ⁵⁷	Haagele and Zhu ⁶³	de Schipper <i>et al</i> ⁵¹	Dane-Staples <i>et al</i> ⁵⁶
Selective reporting (reporting bias)								
Incomplete outcome data (attrition bias)								
Allocation concealment (selection bias)								
Random sequence generation (selection bias)								
Blinding of outcome assessment (detection bias)								
Blinding of participants and personnel (performance bias)								
Other bias								

The Cochrane risk of bias tool was used to assess the possibility of bias across individual studies. Studies were categorised as having 'high', 'unclear', and 'low' risk of bias across five domains. High risk of bias is represented by a black dot, unclear risk of bias by a grey dot, and low risk of bias by a white dot. The five domains of bias are 'selection bias', which included random sequence generation and allocation concealment; 'performance bias', which included blinding of participants and personnel; 'detection bias', which included blinding of outcome assessment; 'attrition bias', which included incomplete outcome data; 'reporting bias', which included selective reporting; 'other bias' sources were also addressed. Studies with predominantly 'high' and 'unclear' risk of bias (black and grey dots) were considered lower quality when compared with studies with predominantly 'low' risk of bias (white dots) across domains.

et al^{54 55} described a competition-level trend for all athletes studied: as recreational athletes rose through the competitive ranks, frequency of physical abuse decreased, while frequency of emotional abuse increased. Similarly, Vertommen *et al* reported a significant increase in the odds of psychological, physical and sexual abuse with increasing sport level, for all athletes in the analysis. In the multivariate analysis using recreational-level athletes as the reference group, the ORs of psychological, physical and sexual abuse were 1.05, 1.26 and 1.22 for local-level athletes but 2.32, 3.18 and 3.07 for international-level athletes, respectively ($p=0.00-0.13$). Unfortunately, although 6% of total study sample in the Stafford *et al* analyses and 5% of total study sample in the Vertommen *et al* analysis reportedly had an impairment, trends specific to this subset of athletes were not clarified by the authors. It remains unclear whether these patterns apply to Para athletes, specifically.

Bullying behaviours

Bullying behaviours by peer athletes were reported most commonly, though coaches and teachers were also described.^{57 58} In one study, athletes (as opposed to non-athletes) with impairment tended to internalise the pain associated with bullying through self-blame.⁵⁶ McHugh *et al* reported that 80% of parents surveyed about intellectually and developmentally impaired athletes' risk of bullying, 'felt that the desire for friendship placed [their] child with [intellectual impairment] at greater risk for bullying, compared to children without intellectual [impairments]'.⁵⁷ Reasons cited were: '[parents] felt their child would not complain about being bullied or cyberbullied if telling placed them at risk for losing a friend'.⁵⁷ Among 49 visually impaired study participants (athletes and non-athletes), 41 indicated having been bullied in their life, primarily in low-supervision areas during the elementary and middle school years. Verbal attacks were the most common.^{52 56}

Para athletes' physical and/or intellectual impairments did not hinder them from becoming bullies themselves. The 'bully-victim' role was described by multiple authors and seemed more common among athletes with impairment when compared with non-athletes with impairment.^{51 52 56} In Dane-Staples' analysis, compared with non-athletes, athletes were less likely to be bullied but were more likely to respond to bullying aggressively rather than passively. In the analysis, 76.6% of athlete participants reported experiencing bullying in their lives compared with 94.7% of non-athlete participants. Forty-three percent of athletes reported fighting back physically. In contrast, a full 77.8% of non-athletes did not retaliate.⁵⁶ One athlete stated it plainly: '[I] initiated fights... became a bully'. Among one cohort of Para athletes studied, about half adopted a victim-only role and the other half adopted a bully-victim role.⁵⁶ In another cohort, four out of six reported being bullied (victim-only roles), and one described experiencing sport drop-out as a consequence of bullying. She recounted her experience of bullying: 'Like "you can't see" and stuff like that. And they said my eyes were creepy, and I was young... When kids do that to me today, now I'm older, I don't really take it that seriously, but when I was younger I did'.⁵¹ In all studies, no Para athlete adopted the bully-only role.

Authors did offer reasons for the bully-victim phenomenon: generally, athletes enjoy higher social status than non-athletes, but persons with impairment suffer lower social status than able-bodied persons. Athletes with impairment can therefore leverage sport to build self-confidence, improve self-esteem and increase social status, leveling the social playing field just enough

Table 3 Study characteristics

Author	Title	Country (publication year)	Journal	Study design	Study methodology	Study population	Measures assessed	Does study include athletes with impairment?	Are results specific to athletes with impairment reported?	Impairment	Level of competition	Types(s) of non-accidental harm studied?	Results	Conclusions(s)	CEBM level
Stafford et al. ²⁵	Playing through pain: children and young people's experiences of physical aggression and violence in sport.	UK (2013).	<i>Child Abuse Review</i> Vol.22.	Retrospective (mixed methods).	Survey and telephone interviews.	Students aged 18–22 years participating in extracurricular sports on the National Union of Students database (n=248). Fifty were selected for in-depth interviews (n=89). Six per cent considered themselves to have a disability, 1% participated in disabled sport.	Excessive intensive training and competing through injury or exhaustion, physical aggression and violence.	Y	N	Not delineated.	Recreational to elite.	Pressure to continue despite pain/exhaustion. Physical aggression and violence.	Most physical aggression between young people in the form of bullying. Coaches were not always aware of the extent of violence and its impact on athletes' ability to compete through injury; it often came from the individual or peers.	Young athletes were compelled by the normative sporting culture to train through exhaustion and complete despite injury.	4
Dane Staples et al. ⁴⁶	Bullying experiences of individuals with visual impairment: the mitigating role of sport participation.	USA (2013).	<i>Journal of Sport Behavior</i> .	Retrospective (mixed methods).	In person and telephone interviews.	Athletes from 2011 National Gay, Lesbian, and Bisexual Youth Championships held in New York (n=30), mean age=24.6; non-athlete participants from online Libervy (n=19), mean age=48.7 years.	Nature, frequency and location of bullying experiences. Reflections on reactions to bullying and how it impacted their general well-being.	Y	Y	Visual.	Recreational.	Physical and verbal bullying.	76.6% athlete participants reported experiencing bullying in their lives, compared with 94.7% of non-athletes. Forty-three per cent of athletes reported fighting back physically. A percentage of 77.8 of non-athletes did not retaliate.	Individuals from athlete groups were likely to take on a 'bully-victim' role of physical or verbal retaliation to bullying.	3
de Schipper et al. ⁴¹	'Kids like me, we go lightly on the head': experiences of children with a visual impairment on the physical self-concept.	USA (2017).	<i>British Journal of Visual Impairment</i> .	Cross-sectional (qualitative).	In-person interviews.	Participants aged 9–11 years of sports camp and sports day (n=6).	Sports competence, body attractiveness, physical strength, physical condition, global physical self and global self-esteem.	Y	Y	Visual.	Recreational.	Bullying.	Four out of 6 participants reported bullying.	Bullying may lead to withdrawal from sports and physical activities. The study found children with a visual impairment are satisfied and happy with their physical self despite bullying and lack of adaptations.	4
McHugh and Howat. ²⁷	Friendship at any cost: parent perspectives on cyberbullying children w/ intellectual and developmental disabilities.	USA (2017).	<i>Journal of Mental Health Research in Intellectual Disabilities</i> .	Cross-sectional (mixed methods).	Survey and in-person interviews.	Parents and grandparents of children 8 years of age or older who participated in Special Olympics Maryland (n=10).	Bullying prevalence, athlete's use of electronic devices, athlete's vulnerability, exposure to aggressive offenders and athlete's online behaviour.	Y	Y	Intellectual and developmental.	Recreational.	Bullying and cyberbullying.	(%) parents perceiving risk of bullying: 50% physical, 60% verbal, 60% social, 60% cyber.	There is a potential for repeated cyberbullying because incidents may not be reported for fear of losing a friend.	4
Stafford et al. ⁴⁴	'There was something that wasn't right because that was the only place I ever got treated like that': children and young people's experiences of emotional harm in sport.	UK (2015).	<i>Childhood</i> .	Retrospective (mixed methods).	Survey and in-depth telephone interviews.	Students aged 18–22 years participating in extracurricular sports on the National Union of Students database (n=6124). A subset were selected for in-depth interviews (n=89). Six per cent considered themselves to have a disability, 1% participated in disabled sport.	Nature of emotional harm, sport of participation, level of sport and who was responsible for emotional harm.	Y	N	Not delineated.	Recreational to elite.	Emotional harm including being criticised, shouted at, humiliated and bullied.	At all sporting levels, teammates and peers were the most common perpetrators of emotionally harmful behaviour. At higher levels, coaches were increasingly involved in creating and maintaining a culture of negative criticism about performance.	'The study provides some evidence of a sporting culture in the UK which accepts and condones emotionally harmful behaviour between sporting adults and young people and which is condoned between young people themselves.'	4
Vertommen et al. ⁴⁸	Interpersonal violence against children in sport in the Netherlands and Belgium.	The Netherlands (2016).	<i>Child Abuse & Neglect</i> .	Retrospective (quantitative).	Online survey.	Participants aged 18–50 years in Netherlands (n=199) and Flanders, Belgium (n=2048). Fifty per cent participated in organised sports for children with impairment.	Prevalence of interpersonal violence (type, frequency and severity) across demographic categories including disability, gender, age, ethnicity and nationality.	Y	Y	Not delineated.	Recreational to elite.	Sexual, physical, psychological and emotional abuse.	Among those having participated in disabled sports, prevalence estimates are remarkably high for all three types of violence: prevalence of psychological violence was 49.7%, physical violence 32.4%, sexual violence (33.5%). OR for physical violence was 3.225 and OR of sexual violence was 2.594.	Disability was a predictor for both physical and sexual violence.	3
Haeghele et al. ⁶²	Physical education experiences at residential schools for students who are blind: a phenomenological inquiry	USA (2017).	<i>Journal of Visual Impairment & Blindness</i> .	Retrospective (qualitative).	Telephone interviews.	Visually impaired males aged 32–50 years who participated in physical education at residential schools in the USA (n=5).	Meaning that participants ascribed to their residential education experiences.	Y	Y	Visual.	Recreational.	Bullying.	Two broad themes emerged from the participants' narratives: 'being the only blind guy, to being one of the crowd' and 'the bullies and the bullied'. The former explained how differences in school settings contributed to participants' feelings of isolation. The latter described the social dynamics of physical education environments and showed perceptions of those who were 'able' and 'less able'.	'Bullying related to differences in ability among students that are typically reported in public school settings, can also occur in residential schools'.	4

Continued

Table 3 Continued

Author	Title	Country (publication year)	Journal	Study design	Study methodology	Study population	Measures assessed	Does study include athletes with impairment?	Are results specific to athletes with impairment reported?	Impairment	Level of competition	Types of non-accidental harm studied?	Results	Conclusion(s)	CEBM level
McPherson <i>et al.</i> ⁵⁸	Secrecy surrounding the physical abuse of child athletes in Australia	Australia (2017).	Australian Social Work.	Retrospective (mixed methods).	Surveys and in person versus telephone interviews.	Participants aged 18–25 years involved in sporting clubs and associations (n=107). Two per cent of survey respondents participated in sport for persons with a disability. A subset was selected for in-depth interviews (n=10).	Positive experiences in sport and physical harm (type perpetrator and context).	Y	N	Not delineated.	Recreational.	Neglect and abuse (physical, psychological and emotional).	Coaches were the most common perpetrators of instances of physical abuse (65.8%) over peers (42.1%). More than a third of the respondents described experiences of overtraining, being forced to train when injured or of direct physical violence.	Children often did not disclose physical abuse at the time it occurred. The environment of secrecy surrounding cases of abuse should be addressed as part of protecting children's safety and well-being.	4

to reduce the likelihood of becoming passive victims of non-accidental harms, such as bullying.⁵⁶ Another potential reason for the bully-victim observation is distrust. In one study, impaired study participants interviewed expressed distrust towards those in positions of authority (eg, teachers and coaches) to successfully deter bullying behaviours after prior attempts to report bullying went unanswered. Without support, Para athletes felt as though they were left to fend for themselves and resorted to hitting back, as a way to minimise future bullying.^{51 52 56} As explained, 'occasionally, I hit back if assaulted, which limited assaults from others; because I was a good fighter and it was embarrassing for others to lose to the little blind girl'.⁵⁶

Adults (eg, teachers and coaches) instigated emotional abuse and discrimination as well. McPherson's analysis painted vivid images: one young athlete recalled being told by an instructor to give up because she was worthless, and another described the psychological damage her coach inflicted as 'irreparable': her once-energetic and positive outlook on life replaced by a sad shell of herself with no self-confidence.⁵⁸ Another young athlete described how, despite being a healthy body weight, she was publicly described by an authority figure as having a huge tire around her waist, causing humiliation, deep shame and an eating disorder.⁵⁸ Additionally, two young male athletes reported suicide attempts as a result of emotional harm inflicted during sport by adults, consistent with a first-person analysis from Dane-Staples' report.^{56 58}

Social exclusion was also reported. In one analysis, four out of six athletes with impairment said that they felt excluded during physical education at school, and one girl specifically shared how classmates excluded her from team games in physical education class.⁵¹ Similarly, one young boy stated that he felt 'more left out in physical education than in other classes'.⁵²

Physical and sexual harassment and abuse

Four studies covered physical harm.^{53 55 56 58} Compared with 11.3% prevalence among all participants (n=4043), the reported prevalence of physical harm was 32.4% among athletes with impairment (n=185) in Vertommen's cohort.⁵³ The most commonly described physically harmful behaviour was excessive, intense training or continuing to train while physically injured or exhausted.^{55 58} Greater than one-third of McPherson's cohort reported playing their sport when they should have been resting.⁵⁸ Nearly 13% reported that this was a regular occurrence: 'a lot of people would train injured...[leading] to further injury or slower recovery time'.⁵⁸ Other forms of physical harm described included being shoved, punched, having something thrown at them and being knocked down.^{55 58} One respondent described his coach telling him to do a handstand and them deliberately pushing him over.⁵⁸ Another recalled his coach throwing an object at him after failing to live up to his coach's performance standards.⁵⁸

Sexual harms were higher in Para athletes, when compared with the broader study population in Vertommen's analysis: of all study participants (n=4043), 14.3% had experienced sexual violence at least once, while for Para athletes (n=185), prevalence was 33.5%. Furthermore, in the multivariate analysis, Para athletes had 2.9 increased odds of experiencing sexual violence compared with able-bodied athletes (99% CI 1.84 to 4.59; p<0.001).

DISCUSSION

Non-accidental harms in sport have wide-reaching negative impacts on the physical, mental and social well-being of

athletes.²⁶ The portal into non-accidental harms is rooted in a psychological power imbalance.²⁶ While all athletes may suffer increased risk of developmental delay, doping, illness and injury, sport drop-out, substance abuse, mood imbalance, educational underachievement and suicide in the setting of non-accidental harms,^{7 26} Para athletes are at particularly high risk of non-accidental harms and their effects.^{21 59–67} These athletes may be at the highest risk of non-accidental harms when compared with all other athlete groups.⁵³ Risk factors for harm include both intrinsic and extrinsic elements. Due to the small number of studies and participants, the relationship between level of impairment and risk of harm is unclear (eg, athletes with higher support needs potentially experiencing increased risk of non-accidental harms).

Bullying

In Para sport, bullying seems to surface on multiple levels and in multiple ways. Initially, bullying can be a barrier to sports participation for children with impairment.^{51 68 69} Once enrolled in sport, athletes with impairment can use sport as a buffer against negative stereotypes associated with disability, thus as a buffer against bullying and other forms of non-accidental harms. An important finding from this review includes the bully-victim role observed in athletes with impairment but not in non-athletes with impairment. Those with clear and visible impairments tend to be bully-victims more often (as opposed to victims-only),^{51 70} and athletes with impairment (compared with non-athletes) tend to internalise the pain associated with bullying through self-blame.⁵⁶ This review makes it clear that ‘traditional’ physical, verbal and emotional bullying may be common among athletes with impairment. In the digital age, Para athletes with intellectual and developmental impairment may also be at particularly high risk of cyberbullying via social media and personal electronic devices.⁵⁷ It is important for scientists to continue to explore exactly how peer aggression manifests itself among Para athletes at all levels, since navigating the bully-only, victim-only or bully-victim roles appears to be commonplace in this group.^{65 71–73}

Priorities for future research

This literature review offers a window into the characteristics of victims and instigators of non-accidental harms in Para sport, describes a limited range of abuse behaviours among Para sport actors (eg, athletes, teammates, coaches and administrators)¹⁶ and highlights a potentially unique feature, the bully-victim role, within Para sport. Of course, complex ethical considerations make non-accidental harms research challenging, particularly when the data collection process can cause additional psychological harm to research participants.^{55 74} Furthermore, sport organisations are still refining best practices for confidential, supportive and actionable disclosure of abuse.^{74–76} Nevertheless, descriptive epidemiological data must be strengthened in order to shed light on Para athletes’ experience of non-accidental harms and provide direction to sport organisations’ safeguarding practices and procedures.⁷⁷

Data describing the prevalence of non-accidental harms, and stratified by age, gender, sport, competition level and impairment status, need to be clarified. A number of studies in the current review did report data stratified by these categories for all athletes in the study population. For example, authors reported higher prevalence of physical violence among male athletes, compared with female athletes, and higher prevalence of sexual violence among female athletes, compared with male athletes. Increased prevalence of physical abuse was reported

among younger, recreational athletes compared with older, elite athletes, but psychological abuse was more prevalent among older, elite athletes compared with younger, recreational athletes. Authors reported greater frequency of abuse by peers in team sports as compared with individual sports and greater frequency of abuse by coaches in individual sports as compared with team sports.^{53–55 58} Unlike in able-bodied sport, where demographic data have been associated with an athlete’s susceptibility to various types of non-accidental harms,^{78–80} the literature has not yet proven that similar trends exist in Para athletes, specifically.

Age-related vulnerability to non-accidental harms should be explicitly explored in Para athletes. The vulnerability of younger athletes to non-accidental harms has been described elsewhere and is attributed to young athletes being treated as athletes first and children second, as well as to the high regard in which children generally hold coaches and senior teammates.⁸¹ We do know that sports performance is positively correlated with young Para athletes’ feelings of empowerment and self-worth.⁵⁶ However, it is unclear if and how previously described social concepts in youth sport, such as young athletes being treated as athletes first and children second, and young athletes holding authority figures in high regard, play out in Para sport.

Limitations

We acknowledge several limitations. There were a small number of studies available for inclusion, a small number of study participants in those studies and a generally low quality of evidence in the studies reviewed. The paucity of data placed the possibility of presenting quantified summary statistics out of reach. In addition, the studies were heterogeneous in design, making data pooling difficult. Moreover, because the studies reviewed did not use consensus definitions of non-accidental harms, and by and large did not include elite Para athletes, it was difficult to draw any conclusions that are generalisable to all Para athletes. Many studies included Para athletes but did not clarify impairment type or conclusions specific to this specific subset of the study population. Very few studies investigated physical and sexual harms, while none examined financial abuse, neglect, hazing or other types of non-accidental harms. Sexual harassment and abuse is one of the more well-known types of non-accidental harms in sport, but this review reveals a dearth of literature related to sexual harassment and abuse in Para sport. Finally, the majority of analyses focused on athletes with visual impairments and did not explore the experience of athletes with different types of impairments.

Overall, we were unsurprised by the small number of records and participants emerging from this review. Para sport is relatively new in the world of competitive sport, and Para athletes continue to be under-represented in the general sport literature. In addition, a recent review of non-accidental harms in sport by the senior author illuminates many pockets of issues and study populations needing research attention, Para sport being one.⁸²

CONCLUSION

Bullying and other forms of emotional harm perpetrated against young, recreational, visually impaired athletes have received the majority of coverage in the extant literature. However, the true depth and breadth of non-accidental harms in Para athletes remains unknown. This literature gap is concerning, since athletes with impairment appear to be at higher risk of non-accidental harms compared with other athlete groups. Future research should address risk factors for, as well as prevalence, types and impacts of non-accidental harms in Para athletes so

that evidence-informed policies and practices that minimise non-accidental harms in Para athletes^{83,84} can be well formulated. The current review, along with future research, may help close this literature gap.

What is already known

- The United Nations Convention on the Rights of Persons with Disabilities states that all persons with impairment have a right to play and compete in sport, and the United Nations Convention on the Rights of the Child applies to non-accidental harms in youth sport. Safeguarding themes continue to be explored among youth, collegiate and elite athletes with and without impairment.

What are the new findings

- At national and international levels, sport advocacy groups are increasingly developing and implementing safeguarding programmes that promote safe sport, eg, sporting environments that are free from non-accidental harms of all kinds.
- Athletes with physical and/or intellectual impairment are up to four times more likely to be victimised when compared to athletes without impairment.
- Current literature on non-accidental harms among athletes with impairment focuses on bullying in young athletes with visual impairment, but the paucity of data prevents generalisation and highlights the need for additional safeguarding research in this population.

Correction notice This article has been corrected since it published Online First. The first heading in the introduction has been corrected.

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