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Clinical negligence and physiotherapy: UK survey of physiotherapists' experiences of litigation



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Summary

Aim To investigate the extent and impact of litigation on the UK physiotherapy profession.

Design An online cross-sectional questionnaire survey design was used. The survey was open to all qualified physiotherapists who have practiced in the UK, from any speciality, of any grade and from any setting including NHS, non-NHS, and private practice.

Results 688 respondents completed the survey (96% CI). All UK nations were represented. 73% were female, 44% were qualified > 20 Years. Most worked in the NHS (74%) and worked in a neuromusculoskeletal setting (62%). 10% of respondents had been involved in litigation. 128 claims were reported with some respondents being involved in more than 1 case. Litigation was a highly stressful experience for those who experienced it and was a source of concern for many others. The personal impact was stress (76%) and worry and anxiety (67%). The most common professional impact was defensive practice (68%). Most respondents incorrectly identified who should provide their legal support. 46% were not satisfied with the support received. Most (77%) reported that litigation training should be included in preregistration, as well as postgraduate (68%) programs.

Conclusion This is the first UK survey that has investigated the experiences of litigation on the UK physiotherapy profession. Ten percent of physiotherapists in our survey had been involved in litigation. Litigation impacted physiotherapists' physical and mental wellbeing and their clinical practice. Improved support, both emotional and legal is required. Clinical negligence training should be included in preregistration and postgraduate programs.

Contribution of the paper

- This is the first national survey to investigate the extent of litigation in UK physiotherapy, across all employment sectors, specialities and grades.
- This is the first national survey to explore the impact of litigation on the UK physiotherapy profession, including physiotherapists who had been involved in litigation and those who had not.
- Recommendations have been made to improve the overall experience of physiotherapists involved in litigation with emphasis on their health and wellbeing.

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Litigation in healthcare in the United Kingdom (UK) is increasing, with an 8% increase in claims between 2012–2018 [1]. To cover the cost of compensation claims, National Health Service (NHS) trusts in England pay into the Clinical Negligence Scheme for Trusts, which costs some NHS trusts over 40 million pounds annually,

Introduction

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representing 2% of the NHS budget [2]. However, there is a dearth of literature that has investigated litigation in UK physiotherapy. Physiotherapists are increasingly involved in litigation cases, which may be related to their changing role. With more physiotherapists undertaking advanced roles, they are increasingly likely to be the first point of contact for complex patients who have not been screened by a medic and as such, are at an increased risk of being involved in litigation [3]. The extent of Cauda Equina Syndrome (CES) claims involving UK physiotherapists has been previously investigated [3]. It was found that of the 2496 CES cases reported between 2012–2020, only 51 were attributed to physiotherapists, however, this is now thought to be an underestimation due to deficiencies in reporting methods [3]. Physiotherapists involvement in CES litigation has been found to be mainly due to delays in specialist centre referrals, recognising symptoms early, responding to Red Flag symptoms, and delays in scanning [4]. CES litigation has been reported to cost the NHS in England in excess of £186 million over a 10-year period [4]. Previous research has found a lack of information regarding the legal process and support available for physiotherapists involved in a clinical negligence case [5]. In other healthcare professions (HCP) such as midwifery, being involved in litigation has been reported to cause physical and mental illhealth [6]. The term 'second victim' has been coined to capture the trauma the HCP may experience from being involved in a patient safety incident [7]. The Patient Safety Incident Response Framework [8] recognises that for learning to occur to improve patient outcomes following a patient safety incident, systems and processes that support those involved, including the HCP, are required.

However, it is unclear how many claims involve physiotherapists, what guidance and processes are in place to support those involved in a clinical negligence case or the impact being involved in litigation can have. This is the first UK-wide national survey to explore the extent and impact of litigation on the UK physiotherapy profession. The objectives were:

- 1. To investigate the extent of litigation cases amongst physiotherapists
- 2. To understand the experiences and opinions of physiotherapists in relation to litigation
- 3. To understand the support needs of physiotherapists
- 4. To explore the potential training needs for physiotherapists in relation to litigation.

Methods

Design

A cross-sectional online survey design hosted by Online Surveys was used to investigate the objectives (https://www.onlinesurveys.ac.uk). The checklist for reporting of survey studies (CROSS) was used in the reporting of the study [9].

Sample

The population of interest was all qualified physiotherapists who have practiced physiotherapy in the UK, including those currently practising and those who have retired. The number of physiotherapists in the UK in 2021 was approximately 78,000 [10]. As there was no single list of contact information for this population, to facilitate construction of a sampling frame, sampling was conducted through a variety of self-selecting snowball sampling methods i.e., twitter posts, personal and professional networks, conferences, and networking events. The minimum sample size (N = 383) was calculated a-priori using an online sample size calculator [11], assuming a normal distribution, a 5% margin of error and confidence interval of 95% [12].

Survey tool

The survey was anonymous, with no internet protocol addresses collected. Survey questions were developed based on a review of the literature, Patient and Public Involvement and the expertise of research team [3,5] (supplementary file 1). The survey was piloted by physiotherapists from various backgrounds (an NHS employed physiotherapist, a self-employed physiotherapist, a nonclinical physiotherapist, and a retired physiotherapist) to ensure questions were applicable, understandable and that the survey skip logic worked correctly and to estimate the time taken to complete. Minor changes to the survey were made following piloting, including grammatical edits and one mechanical adjustment to the number of options participants were able to choose. The time taken to complete the survey was between 5–10 minutes. The survey was live for 3 months, opening in November 2021 and closing January 2022.

Analysis

Descriptive analysis was undertaken on the data. There were no missing data as all questions were compulsory to answer and survey responses were only collected once the participant clicked the 'finish' button at the end of the survey.

Ethics

Ethical approval was obtained from Manchester Metropolitan University Faculty of Health and Education Ethics Committee, UK (Ref: 18122).

Results

A total of 688 respondents completed the survey (96% confidence interval, 4% margin of error). Percentage totals

Table 1 Demographic Employment Data.

Employment	N (%)	Role	N (%)	Area of practice	N (%)	Years qualified	N (%)
NHS	507 (74)	AFC* Band 8	180 (36)	Neuromusculoskeletal	408 (62)	>20 years	306 (44)
		AFC Band 7	172 (34)	Neurology	41 (6)	16-20 years	121 (18)
		AFC Band 6	129 (25)	Respiratory	20 (3)	11-15 years	112 (16)
		AFC Band 5	24 (5)	Paediatrics	19 (3)	6-10 years	73 (11)
		Other	2(1)	Women's health	14 (2)	0-5 years	76 (11)
Non-NHS	82 (12)	Senior physiotherapist	32 (39)	Oncology	4(1)	-	
		Manager/head of service	15 (18)	Learning difficulties	4(1)		
		Advanced practice physiotherapist	12 (15)	Cardiovascular	3 (1)		
		First contact practitioner	7 (9)	Mental health	2(1)		
		Junior physiotherapist	4 (5)	Burns	1(1)		
		Consultant physiotherapist	2 (2)	Cystic fibrosis	1(1)		
		Other	10 (12)	Transplants	1 (1)		
Self-employed	72 (10)	Private practitioner	37 (51)	Other	143 (22)		
		Private practice owner	33 (46)				
		Other	2 (3)				
Non-clinical	25 (4)						
Retired	2(1)						

^{*} AFC = Agenda for change [32]

may vary as respondents could tick more than one response for some questions.

Demographic data

Of the 688 responses, 73% were female (n = 503), 44% were qualified > 20 Years (n = 306). Most worked in the NHS (74%, n = 507), and 62% worked in musculoskeletal (MSK) practice (n = 408) (Table 1).

Most respondents were from England (76%), 12% were from Wales, 7% from Scotland and 5% from Northern Ireland (Fig. 1).

Extent of litigation (objective 1)

Ten percent (N = 72) of respondents had been cited in a litigation case. Most respondents who had been involved in a claim worked in England (N = 53), then Scotland (N = 8), followed by Northern Ireland (N = 6) and Wales (N = 5).

There were 128 claims reported, indicating some had been involved in more than 1 case. Most had been involved in one claim (75%, N = 54), 17% (N = 12) had been involved in 2–3 cases. Eight percent (N = 6) had been involved in ≥ 4 claims.

The job role at time of claim showed that 29% (N = 21) were private practitioners, 21% (N = 15) were junior physiotherapists, and 21% (N = 15) were an advanced practice physiotherapist (Fig. 2).

Claims were mostly settled out of court (38%, N = 49), 24% (N = 31) of claims were dropped, 13% (N = 16) went to court proceedings. However, 20% (N = 25) of physiotherapists were not informed of the outcome of the claim.

The category of health condition the claim related to was:

- 74% (N = 53) Neuromusculoskeletal
- 6% (N = 4) Neurology
- 4% (N = 3) Paediatrics
- 19% (N = 14) Other

Within the neuromusculoskeletal category, the most common claim was CES:

- Cauda Equina Syndrome (23%, N = 12)
- Undiagnosed Fracture (11%, N = 6)
- Manual therapy / manipulation (9%, N = 5)
- Prolapsed discs (8%, N=4)

Further claims in this category related to burns (4%, N=2), Achilles-tendon ruptures (4%, N=2), osteosarcomas (4%, N=2), spinal infection (2%, N=1), and acupuncture (2%, N=1). Fifty one percent (N=27) of respondents selected 'other' within the neuromusculoskeletal category.

Experience of litigation (objective 2)

Sixty four percent (N=46) of respondents agreed or strongly agreed that being involved in litigation impacted them personally (Table 2). This included: Stress (76%, N=55); Worry & Anxiety (67%, N=48); Low mood / depression (33%, N=24); Feeling overwhelmed (28%, N=20); Sleep problems or insomnia (28%, N=20); Struggling to make decisions (24%, N=17).

Additionally, 50% (N = 36) of respondents indicated being involved in litigation impacted them professionally (Table 2). The changes they made professionally because of being involved in a claim were: Defensive practice (68%, N = 49); Changed employer (7%, N = 5); Reduced working hours (6%, N = 4); Additional insurance cover (6%, N = 4); Changed career (4%, N = 3); None (22%, N = 16).

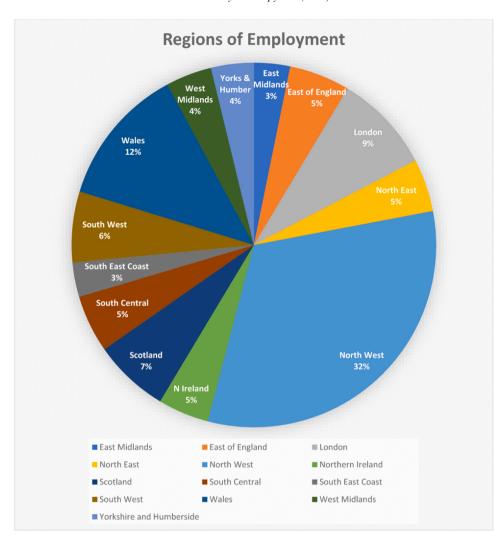


Fig. 1. Where in the UK respondents worked (based on Chartered Society of Physiotherapy nation and region networks [31]).

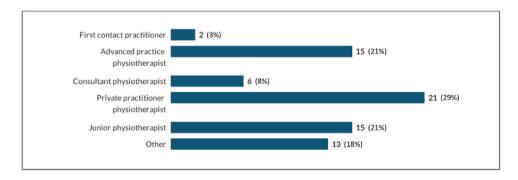


Fig. 2. Job role at time of claim (n %).

Respondents who had not been involved in a claim reported how awareness of potential litigation affected them personally (Table 3). Whilst 48% (N = 277) stated it had no effect, 42% said they felt stressed, with 37% responding

they felt worried and anxious. They were then asked how awareness of potential litigation affected them professionally, 69% (N = 399) responded they practiced defensively (Table 3).

Table 2 The impact of being involved in litigation personally and professionally.

'There was a	n impact on me per	rsonally as a resu	lt of litigation'					
Strongly Disa	igree	Disagree		Neutral	Agree		Strongly A	gree
1	2	3	4	5	6	7	8	9
N = 7	N = 7	N = 6	N = 1	N = 5	N = 3	N = 6	N = 9	N = 28
'There was a	n impact on me pro	ofessionally as a r	esult of litigation	,				
1	2	3	4	5	6	7	8	9
N = 13	N = 9	N = 8	N = 3	N = 3	N = 4	N = 8	N = 9	N = 15

How awareness of potential litigation affects physiotherapists personally and professionally.

How does awareness of	of potential litigation affect yo	u personally		
No effect Stress		Worry & Anxiety	Feeling overwhelmed	Struggling to make decisions
N = 277	N = 245	N = 215	N = 102	N = 90
How awareness of pote	ential litigation affected you p	professionally		
Defensive practice No effect on practice		Additional insurance cover	Reduced working hours	Changed career
N = 399	N = 148	N = 52	N = 29	N = 22

Litigation Support (objective 3)

The majority (70%, N = 431) of respondents who had not been involved in a litigation case said they would know where to go for support with the legal process if they found out they were involved in litigation. Most physiotherapists (57%, N = 247) said they would contact the Chartered Society of Physiotherapy (CSP) for initial support, of these 74% (N = 507) were employed. Thirty-nine percent (N = 168) said they would contact their employer, 2% (N=7) said they would contact the Health and Care Professions Council (HCPC) or their own solicitor (2%, N=6).

(10%, N = 64).

For emotional support, respondents said they would turn to their family and friends (78%, N = 479), their line manager (66%, N = 408), followed by peer support (60%, N = 368), the CSP (39%, N = 240) and the HCPC

Based on the statement 'The level of support with the legal process I received was satisfactory', 46% (N = 33) of respondents involved in a litigation case disagreed or strongly disagreed with this statement (Table 4). The majority of physiotherapist's agreed or strongly agreed (69%, N = 50) that having a debrief with an independent professional to discuss the case confidentially would be helpful (Table 4).

Training needs (objective 4)

All respondents (with and without litigation experience), answered questions relating to training. Most (91%, N = 626) said it would be useful to have more resources available for support with the litigation process. Most preferred the resource to be online support information (91%, N = 624), followed by information over the phone (30%, N = 203), with 13% indicating information by mail/post would be their preference. Most indicated resources should

Table 4 Response to statements regarding support.

'The level of support with the legal process I received was satisfactory'									
Strongly Disagree		Disagree		Neutral	Agree		Strongly Agree		
1	2	3	4	5	6	7	8	9	
N = 13	N = 10	N = 9	N = 1	N = 9	N = 2	N = 12	N = 3	N = 13	
'It would be	helpful having a d	debrief with an ir	dependent profe	ssional to discuss t	he case confident	ially'			
1	2	3	4	5	6	7	8	9	
N = 5	N = 1	N = 7	N = 1	N = 8	N = 4	N = 8	N = 6	N = 32	

be available on the CSP website (90%, N=617), their employers' website (46%, N=319), and Frontline magazine (monthly magazine for physiotherapists published by the CSP) 21% (N=143). Other places to access resources included NHS Resolution website 12% (N=83), Physiopedia (an online evidence-based rehabilitation knowledge resource) 10% (N=67), with 2% (N=15) indicating that no further resources were required.

Regarding litigation training for physiotherapists, the majority said that training should be mandatory (78%, N = 540) and should be available at both undergraduate/pre-registration (77%, N = 529) and postgraduate level (68%, N = 470), with 4% (N = 28) indicating there should be no training. Most thought the CSP should be responsible for overseeing the training as a condition of membership (58%, N = 397), 49% (N = 337) felt it should be their employer as a condition of employment, and 41% (N = 285) felt the HCPC should oversee this as a condition of registration. Fifteen percent (N = 101) felt that litigation training should not be mandatory.

Discussion

Extent of litigation

This study found that 10% of respondents had been involved in a litigation case, with a quarter being cited in more than one case. Previous literature highlights physiotherapists working in advanced practice roles, including advanced and first contact practitioners are at increased risk of litigation [13,14]. This was seen in this study, with 21% of respondents being an advanced practitioner at the time of the claim. However, it was surprising to find that the same percentage of junior physiotherapists were also involved in a claim. This finding has not been previously reported and was unexpected. Whilst the reasons for a relatively large number of claims involving junior physiotherapists are not known, it could be postulated this may be related to many UK graduates working in the NHS at a time when it has undergone far-reaching reforms. It has been argued that these reforms have negatively affected NHS funding, leading to staff shortages with an associated increased work burden [15]. Furthermore, others have reported that organisational changes in the NHS have required junior staff to undertake tasks and activities that previously would have been undertaken by senior colleagues [16]. Clinical expertise develops through years of experience, with the newly qualified physiotherapist progressing through several stages from beginner to expert [17]. Thus, some junior physiotherapists may have experienced increases in caseloads, patient complexity and autonomous working that is incongruent to their stage of development and could have impacted their skill acquisition and competence [15,17,18]. However, further investigation is warranted.

This study also found that 29% of self-employed physiotherapists who responded were involved in litigation.

Previous research has investigated the extent of CES claims against NHS-employed physiotherapists in England [19] and self-employed UK physiotherapists [20]. A small number of successful CES claims, irrespective of employment status were found, however, no direct comparison could be made due to limitations in data. As reported elsewhere [3,21], limitations in recording of claim data can negatively impact the exploration of patterns within the data that may highlight areas of concern. As such, more transparent recording of claim data is needed to enable patient safety concerns to be identified.

In this study, most claims were dropped or settled out of court, which mirrors what is seen in clinical negligence cases across all specialities in the NHS [22]. However, a fifth of physiotherapists from our sample who were involved in a claim were not informed of the outcome of the claim. Not being informed of the outcome of the claim, could cause the physiotherapist involved undue stress and anxiety as they may believe the case is ongoing and would not have closure on the events relating to the claim. Importantly, failure to provide this information may result in a missed opportunity to learn from litigation. It has been found that learning from litigation is a key coping method, which allows the HCP to maintain their professional identity and enables them to move on from the claim [23].

Claims that participants were cited in were most frequently related to MSK conditions. Of these, CES was the most common. This is reflective of NHS claim data showing that CES is highly litigious with the NHS in England receiving 827 CES claims between 2008–2018 [4]. However, just over half of MSK claims in the current survey related to the category 'other'. As no open text facility was provided to record what this related to, it is unknown what category these MSK claims refer to. This result was surprising given that the options provided in the survey were informed by a contemporaneous scoping review [5], stakeholder consultation and feedback from the pilot study. As such, further research to investigate what the conditions within the 'other' category were, may be warranted.

Experiences of litigation

Respondents who had been involved in litigation revealed how it had impacted their physical and mental wellbeing, with the majority saying it caused them stress, worry and anxiety. This is supported by the findings of Yeowell et al. [24] in their qualitative study exploring UK physiotherapists' experience of being involved in CES litigation, with participants reporting, 'they felt sick', 'lost sleep over it' and describing the experience as 'harrowing'. Interestingly, these effects were mirrored by respondents in our survey who had an awareness of litigation but did not have their own experience. This highlights the far-reaching impact litigation appears to be having on physiotherapists. Similar findings in other HCPs, including midwives, medics and nurses have been reported, with litigation leading to

feelings of distress and fear that can persist well beyond the claim [7,25,26].

Almost 70% of respondents said that as a consequence of being involved in litigation they practiced defensively. A similar response was found in those with an awareness of litigation but no personal experience. Defensive practice is a default management strategy that refers to the practice of over-cautious management of patients, such as increased documentation, over-investigation, unnecessary appointments, or a low threshold to refer on [27]. Across both groups in our study, this included more detailed note taking, lower thresholds for referral to another department and/or to order investigations. Defensive practice has been reported in other HCPs, for example, amongst midwives who had been involved in a clinical negligence claim and in doctors, with over half of those surveyed admitting to practicing defensively [25,28]. With lower thresholds for referral, patients could be sent for unnecessary investigations. These unnecessary investigations, appointments and additional interventions are costly to the NHS and may not lessen patient worries [13,28]. This is not only a burden for the NHS, for the patient it can have negative health impacts especially in the case of excess radiation exposure through unnecessary imaging.

It is noteworthy that in this study, respondents had reduced their hours (N=33) or changed career (N=25) due to litigation, which has implications on the physiotherapy workforce. This is reflective of other HCPs who have reported similar findings [7,25].

Support

A key finding from the current study shows that most respondents believed they knew who to contact for support if they were involved in a litigation case. Most said they would contact the CSP. As support is based on the physiotherapists' employment, the CSP only provide legal support for those physiotherapists who are self-employed [3]. Given that the majority of respondents were employed, most should contact their employer for legal support if they become involved in a legal claim [3]. As such, clearer information and signposting should be provided to ensure physiotherapists receive the legal support required from the start. By having timely access to the correct legal support at the outset may help to mitigate some of the stress and anxiety experienced as a consequence of litigation.

In terms of emotional support, almost 70% of respondents in this survey indicated that having a debrief with an independent professional to discuss the case confidentially would be helpful. Other HCPs have found that sharing experiences with colleagues, family or friends were critical coping mechanisms [23]. However, almost one third of respondents in our survey did not receive any support. It has been reported that HCPs, including physiotherapists,

have struggled to find support following involvement in a clinical negligence claim [7,29]. Given the impact that litigation can have on a person's physical and mental well-being reported in this study, this is a cause of concern. Failure to support the physiotherapist through this difficult time could in part explain some of the consequences reported here, such as defensive practice and changes to role, including leaving the profession, which has been found previously in physiotherapy, and elsewhere in other HCPs [7,24,25].

Training needs

Previous research found that physiotherapists felt unprepared for litigation and often did not understand the implications of being involved in a clinical negligence claim or where to go for support [3,24]. This may explain the findings from this study where respondents reported that mandatory training should be available at both preregistration and postgraduate levels. Including clinical negligence training in the pre-registration curriculum, which is built on throughout the physiotherapists' career, could help them feel more prepared in the event of a claim. HCPC standards of conduct include duty of candour and dealing with concerns and complaints [30], therefore including clinical negligence information alongside this within the curriculum is recommended. Previous research has highlighted the potential role for the CSP to be involved in post-graduate litigation training with the provision of an e-learning package as one suggestion [24], or to include it as part of an employee's mandatory training. Given that almost a quarter of respondents involved in a legal claim had 0-5 years' experience in their role at the time of litigation, this would allow physiotherapists to have some knowledge and insight of litigation from the outset of their career and may help to mitigate some of the consequence of litigation. Additionally, most respondents thought it would be useful to have more resources available for support with the litigation process. This would be most well received in the form of online resources, housed on the CSP website or physiotherapists employers' websites.

Strengths and limitations

This is the first UK-wide national survey to investigate the extent and impact of litigation on the physiotherapy profession, leading to new knowledge in this field. Furthermore, the current survey captured a larger sample than the minimum sample determined a-priori. Nonetheless, our sample were self-selecting and there is no knowledge about non-responders, and as such, the representativeness of the sample cannot be estimated.

No open text questions were used when designing the survey; instead, participants were required to select from

pre-determined options. Whilst this design was considered most appropriate where there are large numbers of respondents, this did not allow for qualitative responses, which could have provided greater insight. Moreover, it is not known what 'other' responses referred to in this study and can be considered a limitation.

Conclusion

A total of 10% of physiotherapists in the UK who responded to our survey have been involved in litigation. Having experience or an awareness of litigation affected physiotherapists' physical and mental wellbeing. It also impacted their clinical practice, including defensive practice. Clearer information is needed regarding accessing legal support and more emotional support is required. Litigation training should be included in preregistration, as well as postgraduate programmes.

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Conflict of interest: There are no conflicts of interest.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.physio.2024.02.007.

References

- Alkhenizan AH, Shafiq MR. The process of litigation for medical errors in Saudi Arabia and the United Kingdom. Saudi Med J 2018;39(11):1075.
- [2] Machin J, Navaratnam A, Hutton M, Hammond S, Vernon H, Briggs T. Learning from litigation claims: The Getting It Right First Time (GIRFT) and NHS Resolution best practice guide for clinicians and managers. May 2021.
- [3] Yeowell G, Leech R, Greenhalgh S, Willis E, Selfe J. Medico-legal litigation of UK physiotherapists in relation to cauda equina syndrome: a multimethods study. BMJ Open 2022;12(7):e060023.
- [4] NHS Resolution Did you know? Cauda equina syndrome [internet]. 2020. Available from: https://resolution.nhs.uk/wp-content/uploads/ 2020/07/Did-you-know-Cauda-Equina.pdf [Accessed February 2024].
- [5] Leech RL, Selfe J, Ball S, Greenhalgh S, Hogan G, Holway J, et al. A scoping review: investigating the extent and legal process of cauda equina syndrome claims for UK physiotherapists. Musculoskelet Sci Pract 2021;56:102458.

- [6] Robertson JH, Thomson AM. A phenomenological study of the effects of clinical negligence litigation on midwives in England: the personal perspective. Midwifery 2014;30(3):e121–30.
- [7] Second Victim Support. What is a second victim [internet]. Available from: https://secondvictim.co.uk/ [Accessed June 2023].
- [8] NHS England. Patient Safety Incident Response Framework [internet]. August 2022. Available from: PAR1465 B1465-1.-PSIRF-v1-FINAL.pdf (england.nhs.uk) [Accessed June 2023].
- [9] Sharma A, Minh Duc NT, Luu Lam Thang T, Nam NH, Ng SJ, Abbas KS, et al. A consensus-based checklist for reporting of survey studies (CROSS). J Gen Intern Med 2021;36(10):3179–87.
- [10] Statista. Annual number of physiotherapists in the United Kingdom (UK) from 2010 to 2021. [internet] 2022. Available from: Number of physiotherapists in the UK 2010-2021 | Statista [Accessed June 2023].
- [11] Raosoft. Raosoft Sample Size Calculator. Raosoft Inc., Seattle [internet] 2004. Available from: http://www.raosoft.com/samplesize.html [Accessed June 2023].
- [12] Taherdoost H. Determining sample size; how to calculate survey sample size. Int J Econ Manag Syst 2017:2.
- [13] Finucane LM, Greenhalgh SM, Mercer C, Selfe J. Defensive medicine: a symptom of uncertainty? Musculoskelet Sci Pract 2022 Aug 1:60:102558.
- [14] Greenhalgh S, Selfe J, Yeowell G. A qualitative study to explore the experiences of first contact physiotherapy practitioners in the NHS and their experiences of their first contact role. Musculoskelet Sci Pract 2020;50:102267.
- [15] Bullock A, Burchell B, Konzelmann SJ, Mankelow R, Wilkinson F. NHS reforms and the working lives of midwives and physiotherapists. 2007.
- [16] Tucker R, Moffatt F, Timmons S. Austerity on the frontline-a preliminary study of physiotherapists working in the National Health Service in the UK. Physiother Theory Pract 2022;38(8):1037–49.
- [17] Persky AM, Robinson JD. Moving from novice to expertise and its implications for instruction. Am J Pharm Educ 2017;81(9):6065.
- [18] Chesterton P, Chesterton J, Alexanders J. New graduate physiotherapists' perceived preparedness for clinical practice. A cross-sectional survey. Eur J Physiother 2023;25(1):33–42.
- [19] Beswetherick N. Are NHS-employed musculoskeletal physiotherapists in England mis-diagnosing Cauda Equina syndrome? Physiotherapy 2019;105:e15-6.
- [20] Beswetherick N. Are self-employed musculoskeletal physiotherapists mis-diagnosing cauda equina syndrome? A retrospective study of clinical negligence claims in the UK. Physiotherapy 2017;103:e78–9.
- [21] Machin JT, Briggs TW, Krishnan H, Saker S, Bhamra J, Gillott E. Litigation in trauma and orthopaedic surgery. J Trauma Orthop 2014;2:32–8.
- [22] Machin JT, Hardman J, Harrison W, Briggs TW, Hutton M. Can spinal surgery in England be saved from litigation: a review of 978 clinical negligence claims against the NHS. Eur Spine J 2018;27:2693–9.
- [23] Chan ST, Khong PC, Wang W. Psychological responses, coping and supporting needs of healthcare professionals as second victims. Int Nurs Rev 2017;64(2):242–62.
- [24] Yeowell G, Leech R, Greenhalgh S, Willis E, Selfe J. The lived experiences of UK physiotherapists involved in Cauda Equina Syndrome litigation. A qualitative study. PLoS One 2023;18(9): e0290882.
- [25] Robertson JH, Thomson AM. An exploration of the effects of clinical negligence litigation on the practice of midwives in England: a phenomenological study. Midwifery 2016;33:55–63.
- [26] Sirriyeh R, Lawton R, Gardner P, et al. Coping with medical error: a systematic review of papers to assess the effects of involvement in medical errors on healthcare professionals' psychological well-being. Oual Saf Health Care 2010;19:e43.
- [27] Greenhalgh S, Selfe J, Finucane L, Yeowell G. Physiotherapy in the UK: the second victim in a perfect storm. In: Tingle J, Milo C,

- Msiska G, Millar R, editors. Research Handbook on Patient Safety and the Law. Edward Elgar Publishing; 2023.
- [28] Ortashi O, Virdee J, Hassan R, Mutrynowski T, Abu-Zidan F. The practice of defensive medicine among hospital doctors in the United Kingdom. BMC Med Ethics 2013;14(1):6.
- [29] Seys D, Scott S, Wu A, Van Gerven E, Vleugels A, Euwema M, et al. Supporting involved health care professionals (second victims) following an adverse health event: a literature review. Int J Nurs Stud 2013;50(5):678–87.
- [30] HCPC. Meeting our standards: The duty of candour [internet] 2022. Available from: The duty of candourl(hcpc-uk.org) [Accessed February 2024].
- [31] CSP. Nation and region networks. [internet] 2023. Available from: https://www.csp.org.uk/networks/nations-regions [Accessed June 2023].
- [32] NHS Employers. National profiles for physiotherapy. [internet] 2021.

 Available from: https://www.nhsemployers.org/sites/default/files/
 2021-06/physiotherapy-profiles.pdf [Accessed June 2023].

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