RESEARCH ARTICLE



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The Value of Master's Degree Programmes in Health **Professions Education: A Scoping Review**

Charlotte O'Callaghan 🕒 | John Sandars 🕒 | Jeremy Brown 🕒 | Cathy Sherratt 🗅

CLINICAL TEACHER

Medical School, Edge Hill University, Ormskirk, UK

Correspondence

Charlotte O'Callaghan, Medical School, Faculty of Health, Social Care and Medicine, Edge Hill University, St Helens Road, Ormskirk L39

Email: ocallagc@edgehill.ac.uk

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Abstract

Introduction: There are increasing numbers of Master's Degree Programmes in Health Professions Education (MHPE), and the value to their students and graduates is not well understood. We conducted a scoping review to explore what is known about the value of MHPE programmes to their students and graduates.

Methods: A scoping review was conducted using Arksey and O'Malley's five-stage framework. PubMed, CINAHL, Cochrane, BEI, ERIC and EThOs databases were searched in addition to cited reference searching. Original research with an evaluation and published in the English language were included.

Results: Nineteen studies were included. Studies were based in a variety of locations on five continents, and included in-person, distance and blended learning. Students and graduates of MHPE programmes self-reported development of their pedagogical knowledge, confidence and credibility in their role as an educator, and educational scholarship. Enhanced career opportunities and opportunities for collegial interactions and networks were also reported. Important barriers included struggling with the time and financial commitments required for studying on a MHPE programme.

Conclusions: There are a variety of dimensions of value of MHPE programmes to their students and graduates. Important practical recommendations for MHPE programme providers and employers include providing opportunities for the development of networks and supporting the time and financial commitments required for studying.

INTRODUCTION

Over the past two decades, there have been an increasing number of participants studying on Master's Degree programmes in Health Professions Education (MHPE).1-3 These programmes are also increasingly aligned to global standards for their content, delivery, assessment and governance.^{3,4} In contrast to the many short faculty development and continuing professional development courses available to Health Professions educators, studying on a MHPE programme requires a substantial commitment from learners. For example, participants are usually required to continuously engage in the academic study of a variety of topics over an average of 2 years and to satisfactorily perform at several assessments of the programme's intended learning outcomes. In addition, the fees for MHPE programmes are often very high.⁵

A previous literature and web search has provided descriptive information of the content and format of MHPE programmes, 1 but we are not aware of a review of the value of these programmes to their students and graduates. Value is a useful theoretical lens for understanding the importance and usefulness of an educational intervention from several stakeholder perspectives and has a wider perspective than considering its effectiveness.⁶ For example, graduating

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from a MHPE programme may be of value to a doctor by developing their network of educators, but perhaps this is perceived of less value to their prospective employers. Value is not intrinsic to an object, in this case an educational qualification, but instead in how that qualification is used and what it allows an individual to do.7

Previous studies of the value of short faculty development and continuing professional development courses to Medical and Health Professions educators includes self-reported improvements in pedagogical knowledge, increased confidence and credibility, widening of future career opportunities, development of networks and increased educational scholarship.⁸ However, to the best of our knowledge, there have been no similar reviews of the value of MHPE programmes.

The aim of our scoping review was to explore what is known about the value of MHPE programmes to their students and graduates.

2 **METHODS**

Scoping reviews are intended to 'map' the breadth and depth of a topic so that recommendations can be made about future practice. policy and research. Conducting a scoping review requires a systematic process but there is a balance between feasibility and breadth of the search, for example by limiting the number of databases, grey literature and journal hand-searching.9

We followed Arksey and O'Malley's five stage framework for conducting our scoping review, with modifications as recommended by Levac et al. 10 We ensured that our search process was explicit to ensure rigour and replicability. The research team consisted of experts in medical and Health Professions Education (J. B., C. O. 'C., C. S. and J. S.) and C. S. was also academic lead for a MHPE. We consulted with an expert information specialist librarian (L. C.) at Edge Hill University to refine our search strategy.

2.1 Stage 1: Identifying the research question

Our research guestion was "What is known about the value of MHPE programmes to their students and graduates?"

2.2 Stage 2: Identification of relevant studies

The search terms that related to MHPE programmes were based on Tekian and Harris's review of institutions offering these qualifications. We included 'diploma' in our search, as some programmes may offer this award to students who have completed all but the dissertation component. We added the terms 'value' OR 'evaluation' to the search to reflect our research question and to limit the return of purely descriptive papers. Terms were combined using Boolean operators and searched for in titles or abstracts in several major relevant databases, including doctoral dissertations (see Table 1). We also searched the references from selected returned articles for further references in a snow-balling technique. 11 The searches were conducted in July 2022 and included all available years on the databases but limited to articles available in the English language.

2.3 Stage 3: Selecting relevant studies

Studies were considered eligible for inclusion if they were (a) an original evaluation study of students or graduates of a MHPE programme, including 'diplomas' MHPE and (b) conducted using quantitative, qualitative or mixed methods. Exclusions included (a) opinion or discussion articles, (b) available as only an abstract and (c) not available in the English language. Titles and abstracts were initially screened by C. O. 'C. to determine which full articles were potentially relevant to the review, scanning the returns twice to ensure relevant studies were not missed. A random sample was checked by J. S. All full text articles obtained were examined for additional references. Any uncertainties about the inclusion of articles were discussed and agreed by all authors.

Stage 4: Charting the data 2.4

A data abstraction form developed via Microsoft Excel¹² by all authors was used by C. O. 'C. to extract and summarise the data. Charting the data was an iterative process, with the abstraction form repeatedly updated in view of findings to determine the relevant variables to address the study question, as recommended by Levac et al. 10

Stage 5: collating, summarising and reporting the results

As suggested by Levac et al., 10 this stage involved a descriptive summary and analysis of themes. The selected articles were collated and

TABLE 1 Scoping review search strategy. Terms were searched in title and/or abstract.

Databases and registers searched	PubMed, CINAHL, EThOS, Cochrane Reviews, Cochrane Register of Controlled Trials, British Education Index (BEI), Educational Resources Information Centre (ERIC)
Search 4	(search 1) AND (search 2) AND (search 3)
Search 3	Value or evaluation
Search 2	MSc OR master* OR diploma OR graduate OR postgraduate
Search 1	'medical education' OR 'health profession* education' OR 'clinical education' OR HPE

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summarised on the data abstraction form by C. O. 'C. to provide a descriptive summary (see Table 2). The qualitative data from the studies were then analysed using template analysis. 13 A list of a priori themes were generated by all authors based on the findings of previous studies of short faculty development and continuing professional development courses and these were used for preliminary coding. C. O. 'C. initially applied the template to the studies under review and then all authors iteratively developed and refined themes as they became apparent. Any differences in opinion were resolved by consensus. The final template was checked against a random selection of studies by JS.

3 **RESULTS**

The initial search returned 3.590 papers - 19 were included in the final review (See PRISMA flow diagram in Figure 1). Ten of these studies were published within 5 years of this scoping review.

Descriptive summary of studies included in the review

An outline of the studies included in the review is presented in Table 2. The MHPE programmes were based in a variety of international locations in Europe, North America, Central America, Asia, Middle East and Africa. The mode of delivery of the programmes included in-person, distance and blended learning.

Study size ranged from seven to 244 participants, mean 55.8, median 36. Most studies utilised qualitative or mixed methods, with one study¹⁴ presenting only quantitative data.

Where professional background was stated, most students and graduates of the MHPE programmes were medical doctors, with smaller numbers of other health care professionals also included. Four studies did not disclose the professional background. 19,21,24,30 Three studies were of programmes that only had their students from the same country as the programme. 15,18,26 with two of these studies 15,18 investigating the same population. Eight studies did not disclose the country of residence of their students 16,19,20,21,24,25,29,31 with the remainder offering their programme to both local and international students.

Most students and graduates of the MHPE programmes were medical doctors.

Five studies discussed a theoretical framework for the study. Bell²⁶ retrospectively applied a technical rational approach; Aitken et al. 17 retrospectively applied Bourdieu's concepts of field, capital and habitus; Mohebi et al.²⁴ utilised Eisner's educational connoisseurship and criticism model in both study design and interpretation, and Sethi et al.²² prospectively utilised communities of practice theory and social cognitive theory. Aitken et al. 17 designed their evaluation based on their

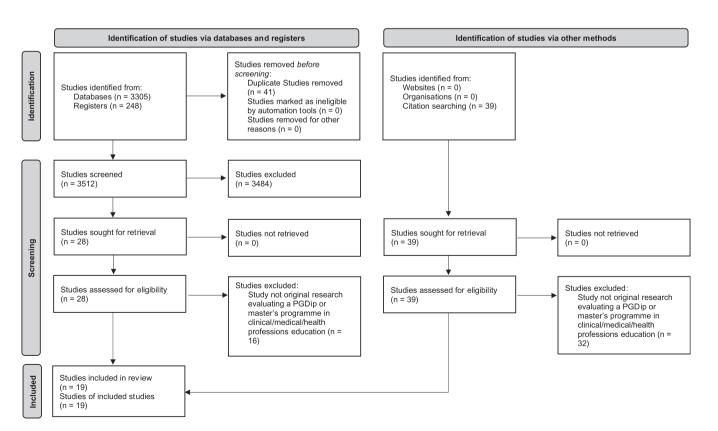


FIGURE 1 PRISMA flow diagram of scoping review process.

Descriptive summary of studies included in the review.

Author	Methods	Mode of programme delivery	Programme location	Participants	Professional background of student participants	Number of participants
Archer et al. ¹⁴	Qual, NTF	Blended learning	South Africa	Students	HCP	7
Junger et al. ¹⁵	MM, NTF	In person	Germany, Austria and Switzerland	Graduates	НСР	157
Kohli et al. ¹⁶	MM, NTF	Not stated	United States of America	Graduates	MD	47 (survey); 45 (CV analysis)
Aitken et al. ¹⁷	Qual, TF	Online	United Kingdom	Graduates	MD, N	13
Heide et al. ¹⁸	MM, NTF	In person	Germany, Austria and Switzerland			
Naeem & Khan ¹⁹	MM, NTF	Blended learning	Pakistan	Students & faculty	Not stated	22
Sánchez -Mendiola et al. ²⁰	Qual, NTF	In person	Mexico	Graduates, students & faculty	MD, NC	19
Skeith et al. ²¹	Qual, NTF	Blended learning	United States of America	Graduates	НСР	20 (survey) 10 (interviews)
Sethi et al. ²²	Qual, TF	Blended learning	United Kingdom	Graduates	MD	27
Sethi ²³	MM, NTF	Blended learning	United Kingdom	Graduates	MD	351
Mohebi et al. ²⁴	Qual, TF	Not stated	Iran	Graduates, students & faculty	Not stated	108
Al-Subait & Elzubeir ²⁵	MM, NTF	In person	Saudi Arabia	Students & faculty	MD, HCP	42
Bell ²⁶	Qual, TF	In person	United Kingdom	Students & graduates	MD	11
Seneviratne et al. ²⁷	MM, NTF	Distance learning	United Kingdom	Graduates	MD	53
Baker & Lewis ²⁸	MM, NTF	Online	United States of America	Students & graduates	MD	21

Key: Qual = qualitative; MM = mixed methods; Quant = quantitative; TF = theoretical framework used; NTF = no theoretical framework used; HCP = health care professionals unspecified; MD = medical doctors; N = nurses; NC = non clinical.

institution's graduate attributes framework. Al-Subait and Elzubeir²⁵ utilised existing World Federation for Medical Education (WFME) standards for master's degrees in Health Professions Education.⁴

Five studies presented self-reports of change in behaviour 15,17,22,23,27; no studies involved third-party observations of teaching or analysis of downstream impact on teaching and learning. None of the studies published since 2017 have used the WFME standards for MHPE. Archer et al.¹⁴ conducted the only longitudinal study included in this scoping review, interviewing their participants at the start of the programme and 1 year later. All other studies were retrospective in nature.

No studies involved third party observations of teaching or analysis of downstream impact on teaching and learning.

Only Sethi²³ and Lamba et al.²⁹ examined the reasons for studying on a MHPE programme. Participants in Sethi's²³ UK study reported

wishing to gain factual and procedural knowledge and credibility, the latter being considered to facilitate career opportunities. Lamba et al.'s²⁹ participants reported similar reasons, citing self-development, increase in scholarship and career advancement as reasons for undertaking the programme. Networking opportunities offered by the collaboration with another US institution were also cited as being influential in the decision to study on Lamba et al.'s programme.

Value to students and graduates 3.2

Five themes were identified for the value of MHPE programmes to their students and graduates:

1. Development of pedagogical knowledge

Nine studies reported subjective improvement in pedagogical knowledge. 14,16,20,23,25-27,29,30 Pedagogical knowledge is a broad term that includes the inter-related declarative ('knowing about') and procedural knowledge ('knowing how to') related to teaching and learning.32 These findings were reported in studies of programmes representing all modes of delivery and widely internationally distributed across the Americas, Europe, Africa and Asia. The programme's

teaching faculty reported improvement in the students' pedagogical knowledge in one study,²⁴ although no studies provided an objective measure of improvements in these areas.

2. Development of confidence and credibility in their role as an

The students and graduates of MHPE programmes in the United Kingdom, North American and South African studies 14,17,23,26,27 all described increased confidence in undertaking their educational roles, these findings being present in all modes of delivery. Graduates' level of confidence increased with the higher level of qualification (p < 0.05).²³ This increase in self-confidence is argued to lead to an iterative process whereby participants continued with their self-development over a longer time interval, further increasing their sense of achievement and self-efficacy.²² Archer et al.¹⁴ performed a two-stage analysis of current students. Early in the programme students' confidence in their ability and knowledge as an educator began to dip due to the epistemological differences between education. Initial discomfort clinical medicine and this epistemological shift was also observed by Bell²⁶ and Aitken et al., 17 with the latter perceiving this change as a transformation of the students' 'habitus' (patterns of thinking and behaviour), leading to the development of professional identity in the graduate.

Students and graduates of MHPE programmes ... described increased confidence in undertaking their educational roles.

Graduates of MHPE programmes reported an increased sense of credibility and a perception of being viewed by others as an expert. 17,22,23,27 Sethi et al. 22 interpreted this finding as contributing towards a graduate's professional identity. Aitken et al. 17 viewed such credibility and recognition as evidence of the graduate having accrued cultural capital in their role as a medical and health professions educator in the context of their practice.

Graduates of MHPE programmes reported an increased sense of credibility and a perception of being viewed by others as an expert.

3. Enhanced career opportunities

Recognition as an educator could lead to more educational career opportunities. Students and graduates in seven of the studies reported feeling that their qualification had improved their opportunities for educational work, including teaching and educational leadership roles. 16,17,21,22,25,27 Aitken et al. 17 theorised that the acquisition of cultural capital from the qualification helped graduates develop agency, thus enabling graduates to make active career decisions.

Recognition as an educator could lead to more educational career opportunities.

4. Opportunities for collegial interactions and networks

None of the studies formally studied the networks developed by participants on the programmes. However, several studies 15,17,21,23,25 reported that students valued collegial interactions on the MHPE programmes and the available networking opportunities. These programmes encompassed all delivery modes and were based in different continents (Europe, North America and Asia).

5. Development of educational scholarship

The North American studies of Baker and Lewis²⁸ and Kohli et al.16 were the only studies to provide a detailed examination of MHPE programme graduates' academic output, looking at publications, grants and presentations. Kohli et al. 16 reported an annual average of 2.27 publications per graduate since graduation. Neither study had a control group nor measured their pre-programme academic output. The graduates in Junger¹⁵ and Sethi et al.'s²² studies reported increased engagement in academic educational activities. Increased work of this nature was not reported by PGCert and Diploma students,²² although such work was not subject to any specific measures. 15,22

3.3 Barriers to studying on a MHPE programme

Although the initial aim of the scoping review had been to only look at the value of a MHPE programme, we increasingly recognised the important influence of the barriers to studying on a MHPE programme. We identified four inter-related themes in this area:

1. Balancing commitments

Graduates reported struggling to balance academic study with personal and professional commitments, especially when completing



their dissertation. ^{14,18,21,31} Although some students elected to study online to help with time management, students learning online still reported difficulties in this area. ³¹ Practical and financial support facilitated completion of studies. ¹⁸

2. Technical aspects of online delivery

Students and graduates reported technical difficulties with the virtual learning environment.

14,19,31 There were occasional reports of difficulties gaining access to suitable computer hardware and an internet connection of adequate speed.

19

3. Relationship with students on the programme

Some students and graduates reported negative social experiences, with difficulties working within peer groups ^{19,30} and there were also reports by students of bullying in group situations. ¹⁹ Asynchronous online communication was noted in one study to have led to misunderstandings, which impeded relationship building with other students in the programme. ³⁰

4. Relationship with teaching faculty

The importance of suitably skilled faculty was highlighted by graduates who struggled to learn how to teach from 'professors [who] have their own problems in being a teacher'. ²⁴ Difficulties in relationships with faculty included problematic interactions in seminars and inadequate feedback on coursework. ^{19,20,25}

Graduates reported struggling to balance academic study with personal and professional commitments.

4 | DISCUSSION

The aim of this scoping review was to understand the value of MHPE programmes to their students and graduates, and we also identified their barriers to obtaining value. With the global expansion in the number of institutions offering these qualifications, it is notable that our scoping review returned only 19 studies in this field. We identified several important themes related to the value obtained by the students and graduates of these programmes. A variety of interrelated barriers to studying and completion of a MHPE programme were identified but this was outside our initial study question. It was interesting that the students and graduates reported similar experiences in terms of value with all modes of delivery and across various geographical locations.

Students reported similar experiences in terms of value with all modes of delivery and across various geographical locations.

Similar to the literature on short faculty development and continuing professional development courses to Medical and Health Professions educators, key findings of the value obtained by students and graduates of MHPE programmes were the development of pedagogical knowledge, development of confidence and credibility, enhanced career opportunities, opportunities for collegial interactions and networking, and developing educational scholarship. A comparison of the extent to which there are differences in participants' value obtained from MHPE programmes compared with short faculty development and continuing professional development courses was not conducted in this review. This comparison with mainly qualitative data is a challenging task. Future research to measure cost-value could be possible with the development and implementation of new quantitative measures. For example, individual attributions of value can be operationalised using Sen's capability approach. 33

Our review has highlighted the importance of identity development for Medical and Health Professions educators and as an essential feature of the value of MHPE programmes to their students and graduates. Educators can have multiple roles and identities, with individuals juggling clinical, educational and managerial positions. 34,35 Identity can be conceptualised as being a combination of how one perceives oneself and how one is perceived by Cantillon et al.³⁵ A strong self-identity as an educator can help clinicians transition into the role of a clinical educator, ³⁶ and has been linked with the development of agency (the capacity to act freely and independently)³⁷ and career progression.³⁸ This development is encapsulated within all the inter-related dimensions found in our review and we recommend further research to explore the contribution of these dimensions to the identity development of health professions educators is recommended so that programmes can be enhanced with this development as a focus.

The importance of opportunities for collegial interactions and networking was also highlighted in our review. Networks are essential for medical educators, providing an important source of pedagogical knowledge, moral support³⁹ and career opportunities. ^{38,40,41} Collegial interactions and the potential to form new networks were a benefit reported in five studies in the current review. None of the studies specifically investigated the networks formed by students during MHPE programmes, although such research is important for creating

greater understanding of the socio-cultural context of programmes. 42 Value in this context can be thought of in terms of social capital, which can be defined as the benefits a person may obtain from their social contacts. 43 O'Callaghan et al. 44 have demonstrated the feasibility of understanding the value of a MHPE in terms of the social capital of the student or graduate by using mixed methods social network analysis. Development of networks can also be a means by which faculty development may provide sustainable capacity development, providing an impact on the wider system in which the educator is situated. 45 We recommend further research to explore the opportunities for collegial interactions and networking, including the impact on capacity development.

An important barrier to engagement with and completion of studies on MHPE programmes that we identified in our review was the difficult balance between academic, professional and personal commitments. This is a problem experienced widely by Medical and Health Professions educators, who have reported that the only way to engage in faculty development of any level was to do so within their own time.³⁶ One approach to offering programmes 'anytime, anywhere' is the use of online learning. However, our review identified several technical challenges with online learning. We recommend further research to explore the barriers to studying on MHPE programmes and to use these insights to inform the provision of education to ensure that students can achieve value. For example, programmes may need to implement changes in financial and practical support, such as the adjustment of professional commitments and virtual learning environment technical support, as well as timely feedback from tutors and moderation of online and classroom peer interactions.

4.1 Implications for future research

The size of the studies identified in our review were generally small, with most studies also containing a qualitative element with samples that were not selected to be representative of all students or graduates on the Programme. Qualitative research may be made more transferable to other similar situations if there are rich, detailed descriptions and/or the use of interpretative theoretical frameworks.⁴⁶ However, several studies provided only limited information about their programmes and/or participants, making transferability more challenging. In addition, five of the 18 studies (28%) in this scoping review specified a theoretical framework. Of these five studies, two^{17,26} applied a theoretical framework retrospectively. We recommend the use of theoretical frameworks to explore value of MHPE programmes to their students and graduates so that there is increased transferability of findings.

We also recommend future long-term studies to measure how the five themes that were identified for the value of MHPE programmes to their students and graduates influence their careers and practice as educators. Potential outcome measures could include retention, promotion and scholarly activities, such as conference presentations and publication.

4.2 Implications for future practice

The World Health Organization has long recognised that improving competencies of health care professions educators is key to improving the education of health care professionals.⁴⁷ From this literature review, we have identified that MHPE programmes provide particular added value to students in terms of their professional identity formation and agency. This can help educators transition into their educational roles, which is important for both the educator and also for their employer. Programme providers may wish to provide a focus on professional identity development within their curriculum. For example, O'Sullivan and Irby³⁷ have described workshops for health care professions educators to enhance their professional identity.

The studies also suggested that learners on MHPE programmes value opportunities to build social capital via social networks. Programme providers could enhance the network-building potential of programmes by providing opportunities for the development of networks. This could be a 'top down' approach, such as placing people in teams to stimulate interactions, or 'bottom up' to encourage educators to build their own existing networks.⁴⁸ Such activities are essential since social networks of health care professions educators are known to influence implementation of learning, with better connected educators being more likely to implement faculty development,⁴⁹ which can only benefit those who they are teaching. Therefore, funders of programmes may wish to see the development of social networks as an important outcome measure of MHPE programmes.

The studies noted that studying on a MHPE programme is time-consuming and expensive. Students experienced struggles to balance their studying with busy professional and personal lives, and were also more likely to succeed academically if they had both financial and practical help. An important recommendation for both programme providers and employers is the recognition of the need for increased support for students. Students reported similar experiences in terms of value with all modes of delivery and across various geographical locations, but there may be important issues related to online courses in all contexts and programme providers are recommended to ensure that there is appropriate technical and institutional support.

5 STRENGTHS AND LIMITATIONS

We ensured rigour and transparency in our review by following the framework established by Arksey and O'Malley. To further enhance rigour and to maximise the scope of our review, we assembled a team with appropriate wide expertise to help with literature searching techniques and ensure appropriate search terms were used. Our search included several major health care and educational databases, in addition to searches of unpublished doctoral theses and references of selected returned studies. Returned studies were from a wide variety of global locations and represented all potential modes

of programme delivery, suggesting that our results are representative of the literature in this field. The number of papers retrieved is likely to reflect the limited number of studies related to MHPE programmes.

The nature of scoping reviews is that they are not a full systematic review, but intended to map data, summarise research findings, identify gaps or the need for a full systematic review. We limited the number of databases searched and restricted our search to articles available in English. Whilst we searched returned studies for additional references, we did not perform an additional hand search of relevant journals. There were only a small number of relevant returns on our literature search. This may be reflective of the literature in the field, but it is possible that a more extensive search would have resulted in further returns. Additionally. although we have provided a narrative discussion of the quality of studies in the review, scoping reviews do not formally rate the quality of studies as would be expected for a systematic review.

CONCLUSIONS

Our scoping review highlighted several dimensions of the value of MHPE programmes to their students and graduates, and also several important inter-related barriers to obtaining value. Important practical recommendations for implementation include providing opportunities for the development of networks, and support for the time and financial commitments required for studying. There is also an overall paucity of high-quality evaluations of MHPE programmes and often no theoretical perspective is applied, which limits the transferability of findings.

AUTHOR CONTRIBUTIONS

Charlotte O'Callaghan: Conceptualization; investigation; methodology; writing-original draft; software; formal analysis; project administration; visualization; writing-review and editing; validation; data curation. John Sandars: Supervision; conceptualization; methodology; formal analysis; writing-review and editing; validation. Jeremy Brown: Conceptualization; methodology; supervision; formal analysis; writing-review and editing. Cathy Sherratt: Conceptualization; methodology; supervision; formal analysis.

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CONFLICT OF INTEREST

The authors do not report any conflict of interest. No patient data has been used for this paper, no materials have been reproduced, and this paper does not report on the outcome of a clinical trial.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study were derived from the following resources available in the public domain: [pubmed: https:// pubmed.ncbi.nlm.nih.gov/; Cinahl: https://www.ebsco.com/products/ research-databases/cinahl-complete; EThOS: https://libguides.ials.sas. ac.uk/az/ethos-electronic-theses-online-system; Cochrane Register of controlled trials: https://www.cochranelibrary.com/central/aboutcentral; British Education Index: https://www.ebsco.com/products/ research-databases/british-education-index; https://eric.ed.gov/? advanced

ETHICAL APPROVAL

This study did not involve any participants and did not require approval by an ethics committee. It was performed in accordance with the Edge Hill University Research Policy.

ORCID

Charlotte O'Callaghan https://orcid.org/0000-0002-5214-2049 John Sandars https://orcid.org/0000-0003-3930-387X Jeremy Brown https://orcid.org/0000-0002-0653-4615 Cathy Sherratt https://orcid.org/0000-0002-5073-0023

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