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ORIGINAL REPORT

SUPPORTING SEXUAL FUNCTIONING AND SATISFACTION DURING REHABILITATION AFTER SPINAL CORD INJURY: BARRIERS AND FACILITATORS IDENTIFIED BY HEALTHCARE PROFESSIONALS

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Objective: **To explore healthcare professionals' perspectives on the barriers and facilitators impacting provision of support for sexual functioning/satisfaction during spinal cord injury rehabilitation.**

Design: **Qualitative, semi-structured interview design.**

Methods: **Sixteen healthcare professionals working in spinal cord injury rehabilitation settings were recruited (14 females, 2 males). Semi-structured interviews were conducted using a 9-item interview guide. Interviews were transcribed verbatim and inductively analysed following Braun and Clarke's (2006) 6 phases of thematic analysis.**

Results: **Five inductive themes were generated describing healthcare professional-perceived barriers and facilitators impacting upon care delivery post-spinal cord injury: (1) Integrating sexual wellbeing in rehabilitation; (2) Sex-informed multi-disciplinary teams; (3) Acknowledging awkwardness; (4) Enhancing approachability; and (5) Recognizing the partner.**

Conclusion: **Sexual functioning and satisfaction are priority areas for rehabilitation, yet they are persistently side-lined in multi-disciplinary team (MDT) rehabilitation agendas. Healthcare professionals do not feel supported to engage with their patients to improve and manage sexual functioning/satisfaction. Ensuring that healthcare professionals are equipped and made aware of sexuality-specific guidelines and operational frameworks, which can be easily interpreted, structured and implemented as a standard part of spinal cord injury rehabilitation is key. This would be instrumental in enabling healthcare professionals to be more informed and comfortable in creating an atmosphere in which sexual topics can be openly discussed to support individuals with spinal cord injury.**

Key words: spinal cord injury; rehabilitation; sexual functioning; sexual health; healthcare professional; multi-disciplinary team; barriers; facilitators; sexual wellbeing.

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LAY ABSTRACT

Spinal cord injury can affect sexual functioning and satisfaction. However, support for sex is often overlooked in spinal injury rehabilitation. Healthcare professionals can feel uncomfortable, and lack confidence and training to address this with patients. There is a need to gain insight into what enables healthcare professionals to deliver better support for sexual wellbeing, and what limits them. Knowing what helps or hinders professionals in working with sexual issues after spinal cord injury would enable growth and development in tailored rehabilitation services. The aim of this study was to identify how healthcare professionals see the challenges facing sexual rehabilitation, focusing on issues that may affect the sexual functioning and satisfaction of patients. The results showed that healthcare professionals are concerned about the absence of professional support for sexuality in their rehabilitation services, they felt embarrassed when addressing sex, they felt they lacked specialist training, and had limited resources and materials to work from. Programmes are needed that provide education and psychological support for people with spinal cord injury who want to maintain sexual engagement and, critically, this requires improvements in knowledge and skills for the healthcare professionals who are providing spinal cord injury rehabilitation.

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Sexuality and sexual wellbeing are important aspects of an individual's identity following a spinal cord injury (SCI) (1). Improvement in and return to sexual functioning should be considered a priority in rehabilitation (2). Targeted education around sexual functioning/satisfaction following SCI is rare (3), and while sexual function should be a topic of discussion and goal-setting in SCI rehabilitation, typically this is not the case (4). The variability in post-SCI sexual rehabilitation services can represent a conflict between the support that is desired by patients and that which is currently delivered (4). Low satisfaction with sexual life is seen in adults with long-term SCI (5), yet people with SCI who are able to adapt to their injury and maintain a satisfying sex life, report better overall quality of life (QoL) (6). Consequently, support around sexual functioning/satisfaction following injury should be a primary consideration for those living with SCI (7).

Potential treatment frameworks, such as the PLISSIT model (Permission, Limited Information, Specific Suggestions and Intensive Therapy) (8), have existed for over 40 years, aiding professionals working with individuals with acquired disabilities and chronic illness in addressing sexual wellbeing. Sexuality is part of the International Classification of Functioning, Disability and Health (ICF) Core Sets, used to comprehensively describe and rate consequences of SCI in early acute and longer-term care contexts (9). Specific guidelines and e-resources for clinical practice on sexual wellbeing and reproductive health in SCI are available for healthcare professionals (HCPs) (10). Although such guidelines exist, this does not guarantee full implementation or usage in rehabilitation if barriers to HCP adoption remain present. Continued challenges around fully integrating support for sexual functioning/satisfaction within SCI rehabilitation are potentially due to inadequacies in healthcare provider awareness, training and education (11). This results in HCPs experiencing awkwardness and embarrassment when initiating and navigating such discussions (12). Resources, facilities and staffing levels further contribute towards the lack of structured sexual wellbeing interventions available during the inpatient and long-term phases of SCI rehabilitation (13). Despite the clear need and request for such programmes by people living with SCI in the community, healthcare providers continue to minimally address sexual health in both inpatient and outpatient settings (2).

To ensure sexual support is fully accessible within SCI rehabilitation, it is vitally important for healthcare providers involved in the delivery of such services to be both competent and confident in addressing sexual wellbeing/functioning. The need for HCPs to willingly discuss issues of a sexual nature and understand the components of illness and disability that impact on sexual functioning/satisfaction is paramount (14). Evidence suggests that to adequately assist individuals, further exploration of the barriers impacting upon care delivery on the part of HCPs is required (14). Distinguishing the barriers to and facilitators of effective sexual support provision in SCI rehabilitation would help determine service improvement requirements from an HCP perspective and thus provide a foundation for enhanced service provision. Developing a strategic intervention to address sexual functioning and satisfaction requires HCPs to be involved in its creation, in order to optimize utilization of such an intervention and embed it within rehabilitation. This research therefore aimed to explore HCPs perceptions of the barriers and facilitators impacting on their support provision for sexual functioning and satisfaction post-SCI.

METHODS AND MATERIALS

Design

A qualitative semi-structured interview design was used. Thematic analysis of in-depth interviews was conducted (15). This study was pre-registered with Research Registry (registration number 6979).

Participants

Participants for this study were recruited through Spinal Injury Case Management Ltd, a private case management company specialist in SCI care in the UK. To identify allied HCPs working in SCI rehabilitation, purposive sampling was used (16). Inclusion eligibility criteria included people who were: *(i)* HCPs currently working with people with SCI; *(ii)* aged over 18 years; and *(iii)* verbally proficient in English. HCPs who were not employed in specialist (inpatient or outpatient) SCI rehabilitation settings were excluded. In total, 50 HCPs and 28 spinal consultants were invited via email to take part in the study. Sixteen HCPs were willing to take part (overall response rate: $n=16$ (of 78), 20.51%; response rates per profession: nurses, $n=3$ (of 12), 25%; case managers, $n=4$, (of 13), 30.76%; physiotherapists, $n=3$, (of 7) 42.85%; occupational therapists, $n=2$ (of 7), 28.57%; psychologists, $n=2$ (of 8), 25%; (psycho)sexual therapists, $n=2$ (of 3), 66%). No spinal consultants/physicians elected to take part. This final sample of 16 HCPs consisted of 14 females and 2 males, with time in clinical practice ranging from 12 to 41 years (Mean = 23.31, Standard Deviation = 9.32). Participant demographics are shown in Table I. Participants did not receive any reward for participation.

Materials

To explore barriers and facilitators associated with HCP provisions for sexual wellbeing within SCI rehabilitation, a 9-item semi-structured interview schedule was developed (see Table II). Key areas for consideration were identified by topical qualitative elicitation interviews with people with SCI, and through consultation of existing psychosexual literature aiding the development of the interview schedule; training and resources (17), clinician competency and communication, (12) and personal autonomy (13).

Table I. Participant demographics

Pseudonym	Sex	Profession/Job title	Practice setting	Education level	Length of clinical practice, years
Hilda	Female	Nurse/Case manager	Community	International Diploma	36
Alexandra	Female	Occupational therapist/Case manager	Community	Bachelor's degree	20
Leanne	Female	Nurse	Community	International Diploma	13
Harriet	Female	Nurse	Community	Bachelor's degree	24
Holly	Female	Physiotherapist	Community	Bachelor's degree	12
Sophie	Female	Occupational therapist	Community	Bachelor's degree	28
Ellie	Female	Physiotherapist	Community	International Diploma	32
Anna	Female	Clinical psychologist	Community	Doctoral degree	12
James	Male	Specialist spinal nurse	SCI centre	Bachelor's degree	17
Elizabeth	Female	Nurse/Case manager	Community	Bachelor's degree	41
Daniel	Male	Consultant neuropsychologist	Community	Doctoral degree	25
Mia	Female	Occupational therapist	SCI centre/Community	Bachelor's degree	20
Charlotte	Female	Physiotherapist	Community	Master's degree	15
Lisa	Female	Sex therapist	SCI centre/Community	Master's degree	32
Katherine	Female	Psychosexual therapist	SCI centre/Community	Bachelor's degree	14
Emma	Female	Nurse/Case manager	Community	International Diploma	32

SCI centre: spinal cord injury centre.

Procedure

Prospective participants expressing an interest in the study were sent study invitations via email, which included a participant information sheet. Electronically signed consent forms and demographic questionnaires were completed and returned in advance of interview. All participants were informed that their participation was confidential, voluntary and could be withdrawn or the interview paused at any point. Semi-structured interviews were conducted face-to-face ($n=5$) or using a virtual platform with use of video ($n=11$). Interviews were audio-recorded and varied in length between 35 and 115 min (Mean = 77.5, Standard Deviation = 22.91).

Data analysis

Thematic analysis was used to analyse and identify themes following Braun & Clarke's (2006) 6-step process: (1) Familiarization of the data; (2) Generation of initial codes; (3) Searching for themes; (4) Reviewing themes; (5) Naming the themes; and (6) Producing the report. To develop higher-order themes, initial codes, signifying barriers and facilitators were clustered together. Descriptive statistics were used to summarize demographic data.

A stopping criterion of 3 used to determine data saturation (18) with a sample of 10 participants initially set for recruitment (19). No new information was produced after interview 13 and no further themes identified. The stopping criterion was tested for each subsequent interview ($n=3$) until data saturation was established. In accordance with a coding reliability approach (20), inter-rater reliability analyses were performed because coding reliability has been recommended to enhance rigour and trustworthiness in qualitative clinical research, by triangulating codes between authors. An inter-rater reliability formula was used (following Miles & Huberman, 1994 (21) to confirm agreement, with the number of agreements divided by the total number of agreements plus disagreements, generating a high inter-rater agreement rate of 91.3%. Disparities were resolved through discussion within the research team and in close consultation with interview transcripts.

Ethical considerations

The University of Reading School of Psychology and Clinical Language Sciences Ethics committee approved the research study (2021-041-KF). Informed, written consent was obtained prior to interviews and participants were informed about their right to

Table II. Interview schedule

1	Many individuals who have sustained a spinal cord injury (SCI) feel there is a need for more support, understanding and education around sexual function and sexual satisfaction. To what extent do you feel this is the case?
2	Thinking of support for sexual function and sexual satisfaction, how important do you feel this support is for patients/clients?
3	How do you feel sexual function and sexual satisfaction could be better addressed for people with SCI?
4	When considering those living with a SCI, what do you feel helps most significantly with their sexual function and sexual satisfaction?
5	When considering those living with a SCI, what do you feel hinders their sexual function and sexual satisfaction most significantly?
	We are now going to move on to talk more about your role as a healthcare professional in supporting with sexual function and sexual satisfaction for those living with a spinal cord injury.
6	From your professional experience, what do you feel would enable you to increase your *support provisions* for sexual function and sexual satisfaction?
7	Again, from your perspective, what do you feel may hinder or act as a barrier to the *provision of support* for sexual function and sexual satisfaction?
8	Managing a SCI typically involves a wider multi-disciplinary team and works across both hospital and community contexts. Taking that wider perspective, where within a rehabilitative journey would you recommend support for sexual function and satisfaction should be addressed?
9	Is there anything else you would like to add?

withdraw. Interviews were pseudonymized during transcription in order to obscure any identifiable features, with participants selecting their own pseudonyms (22). The research adhered to the British Psychological Society (2021) code of ethics and conduct (Available from www.bps.org.uk).

RESULTS

Five themes were identified in the thematic analysis of HCP interviews: (1) Integrating sexual wellbeing in rehabilitation; (2) Sex-informed multidisciplinary teams (MDTs); (3) Acknowledging awkwardness; (4) Enhancing approachability; and (5) Recognizing the partner. Themes represent the barriers and facilitators from an HCP perspective impacting support provision for sexual functioning/satisfaction during SCI rehabilitation.

Integrating sexual wellbeing in rehabilitation

HCPs recognized the importance of sexual functioning/satisfaction, intimacy, and personal relationships as a vital part of a person's rehabilitation, impacting on overall quality of life. Participants acknowledged the value of including sexual rehabilitation services within the inpatient and long-term phases of recovery and collectively agreed that increased services are required:

> "this is an area that desperately requires a review from the regional spinal injuries centres" (Liz, Nurse/Case Manager).

Participants agreed that including sexual functioning and personal relationships within standardized assessments would help provide a better structure for ensuring the topic of sexual functioning/satisfaction is not avoided/absent, as:

> "often it is the unsaid elephant in the room" (Daniel, Consultant Neuropsychologist).
>
> HCPs recommended that sexual wellbeing should be part of early assessment processes:
>
> "I think it [sexual activity] needs to be more naturally put into assessments and included right at the start. I do think healthcare professionals should offer a pre-assessment overview and tell patients that this assessment is going to include all aspects of life and everything which makes us part of a human being. I think with something like that and then going onto discuss and broach the subject, it is much better managed than not mentioning it at all." (Anna, Clinical Psychologist)

Deliberate inclusion of sexual wellbeing in assessments would normalize the subject, enabling this to be integrated into standardized rehabilitation, alongside other therapy disciplines:

> "I think it needs to become a standardized assessment or discussion like everything else, like are you able to wash and dress? Can you get off the floor if you fall out of your wheelchair? These are the types of regular discussions we have with clients. I don't think we have discussions about sexual function, but we should. It should be standardized across the board." (Mia, Occupational Therapist)

To provide holistic care, HCPs felt that a more proactive approach to addressing sexual functioning/satisfaction should be taken:

> "You are not delivering holistic care if you don't appreciate that there is a sexual impact and support someone to recognize that." (Lisa, Sex Therapist).

Sex-informed MDTs

This theme relates to HCPs' perceptions that sexual functioning/satisfaction is a specialist subject, which requires specific knowledge and training across the MDT, rather than a single, designated person. Participants felt there was no need to be an expert in the subject of sexual wellbeing and, that instead, all HCPs should open-up a dialogue with patients:

> "I don't think you can allocate a specific person. It will require a bit of everyone, I think. If we all just acknowledged that this is part of human functioning, we should all be involved." (Anna, Clinical Psychologist)

All participants agreed that the whole MDT was required when considering support and education around sexual functioning/satisfaction post-SCI:

> "The physio staff to help with positioning and mobility, the OTs [occupational therapists] to look at equipment and, also work with the partner, nurses, and incontinence nurses because we know bowel and bladder can be a huge problem when it comes to sex. Then, the psychologist to work through the emotional side of things and help with adjustment. And anyone else whom that person may need to include because obviously everyone's injury is different, and there'll be different things to consider for each person. Someone overseeing the medication side of things too, like the consultant. Everyone under their discipline can then bring in what that they know and work with the person to better manage all elements of sexual function because there is a lot involved and a lot to think about. After all, we are complex beings, not machines." (Harriet, Nurse)

The collaborative team approach was felt to offer overall support and help achieve the greatest results and outcomes:

> "I think it takes a bit of everyone, just because that MDT approach usually gets the best results. The patient is supported by several professionals in all different specialist areas of expertise. I just think that works better than singling out one person who couldn't possibly address everything that needs to be considered here." (Holly, Physiotherapist).

HCPs highlighted that, although an MDT approach to sexual wellbeing was paramount, the concept of a broader (MDT) sexual rehabilitation service provision was inhibited by limited access to knowledge and support.

> "I think everyone in all their different roles as healthcare professionals should have at least some basic knowledge and training, but there just isn't anyone to refer onto. This makes it quite difficult to address." (Alexandra, Occupational Therapist/Case Manager)

In confirmation, MDT professionals felt the lack of training and support available for HCPs further contributed towards difficulty working collaboratively as an MDT:

> "I suppose it is hard for us sometimes because there isn't much on offer for us either in terms of education and training and I think it just adds to the problem" (Leanne, Nurse).

Acknowledging awkwardness

Approaching sexual functioning with patients was considered conversationally difficult, and was contingent on one's own discomfort and concerns about patient reactions:

> "You are not sure how it is going to be perceived either and whether someone is going to take offence if you ask." (Charlotte, Physiotherapist).

The embarrassment and stigma attached to sexual functioning/satisfaction was felt to create an overall awkwardness, increasing conversational avoidance and the reluctance of HCPs to discuss this with their patients:

> "I think it is an easy subject to get around and bury in the sand because it isn't mentioned that much…The stigma and embarrassment around it could be a barrier and probably the biggest one. I suppose awkwardness from a professional and patient perspective." (Harriet, Nurse).

Often, HCPs' own reservations and cultural norms around sexual functioning/satisfaction posed barriers to discussion:

> "I think one of the problems is that we have a very multicultural society and whilst I am not blaming this on anybody, I just think it is part of the problem. I think culture and difference and sometimes it is the healthcare professional whose culture may be different, and they come with their own background of possibly being reserved about sex, not wanting to enter into that conversation, possibly being quite embarrassed themselves." (Lisa, Sex Therapist)

Collectively, such concerns about sexual wellbeing conversations inhibited willingness to overtly reference sexual wellbeing in care delivery:

> "I have, in the past, asked clients about it and have begun to type it into a report based on client's needs, but then I have found myself deleting it before sending the report across to the legal teams because you do have that little niggle and worry that somehow you shouldn't be including this or maybe it's not the right time and I suppose it is not knowing how others will react when reading that." (Hilda, Nurse/Case Manager).

Enhancing MDT approachability

The need to enhance approachability around sexual concerns for patients was of central importance. Professionals felt that, by overcoming unspoken assumptions of secrecy and the shame associated with sexual functioning/satisfaction, this would open-up opportunities for patients to comfortably broach the subject as part of their ongoing rehabilitation and recovery:

> "I think just in general we need to be getting better at letting patients know that sex is ok to talk about, not burying it in the sand as I think we all, unfortunately at times, have a little tendency to do this." (Elizabeth, Nurse/Case Manager).

By involving the individual and openly navigating discussions around sexual wellbeing, patients would be the given opportunity and permission to consider sexual functioning/satisfaction:

> "So, I think, the first thing is to break down some of these assumptions and actually involve the individual and ask them about their concerns around sexual function and sexual satisfaction." (Lisa, Sex Therapist)

The abundance of the non-sexual rehabilitation information available for patients to read on the spinal units was highlighted and contrasted against the absence of such material on sex:

> "Even something to read and digest about sex after spinal cord injury, that would all help towards better understanding it for the patient too." (Sophie, Occupational Therapist).

The absence of sex-focused material available for patients was felt to create an additional barrier, diminishing approachability for patients.

Recommendations for facilitating approachability were made and participants felt that through information delivery, patients could be encouraged and "permitted" to freely consider and think about their own sexual wellbeing:

> "Being open and being able to talk about this is not possible for a lot of people, so with the PLISSIT model, Permission, [Limited] Information, Specific Suggestions [and Intensive Therapy], so having posters up all over your spinal unit, having information available through charities and things like that." (Katherine, Psychosexual Therapist)

Recognizing the partner

All HCPs highlighted the impact of SCI on the partner(s)/spouse in relation to sexual functioning and intimacy. Participants felt that the partner without SCI was often ignored or unrecognized by HCPs:

> "It is difficult. I think sometimes the partner gets forgotten about." (Leanne, Nurse)

Recommendations were made to include the partner within discussions and provide partner education around sexual functioning/satisfaction. Specifically, the need for HCPs to understand that the partner is differently, but equally impacted was highlighted:

> "There is more than one person affected here. Partner interaction is super important in any context, but especially this area" (Lisa, Sex Therapist)

All HCPs agreed that support with sexual relationships is required for both patient and partner to maintain and sustain a strong and healthy relationship and aid effective communication as a couple post-injury:

> "Obviously the partner needs to be supported too because that's important for any relationship especially after a spinal cord injury, you cannot really support one without the other here" (Ellie, Physiotherapist).

The presence of a strong relationship was considered a key component impacting on recovery status:

> "Getting pleasure in both sex and intimacy is that which builds and holds a relationship and I think people forget this. Also, the impact the injury has had on the partner. There is still a lot of understanding needed and so many different aspects to think about from an individualistic, partner and couple perspective." (Anna, Clinical Psychologist)

HCPs felt partner anxiety and fear were common experiences for many with uncertainty and confusion about what was possible post-SCI requiring support:

> "There is a great deal of anxiety amongst couples [about] whether the non-injured partner is 'going to break' the injured person, whether it is possible to have sexual satisfaction." (Daniel, Consultant Neuropsychologist)

DISCUSSION

This study aimed to identify the barriers and facilitators to sexual rehabilitation for people with SCI, as perceived by HCPs. In particular, to characterize barriers and facilitators that challenge support for sexual functioning and satisfaction post-SCI, 5 themes were identified: Integrating sexual wellbeing in rehabilitation, Sex-informed MDTs, Acknowledging awkwardness, Enhancing approachability, and Recognizing the partner.

The importance of prioritizing support around sexual functioning/satisfaction within SCI rehabilitation was collectively highlighted in this study as a crucial area in overall rehabilitation, consistent with wider findings (23). The current results demonstrated that HCPs felt sexual wellbeing was poorly integrated into SCI rehabilitation and a vital area of priority for review and further development (17). Wider research has found the inclusion of sexual functioning/satisfaction as part of SCI rehabilitation is often overlooked or ignored (24), echoing findings from this study, whereby sexual health was thought to be sidestepped or avoided throughout both inpatient and long-term phases of SCI rehabilitation. The need to normalize sexual functioning/satisfaction within SCI rehabilitation presented as a key component to help overcome such stigmatization. Furthermore, the lack of an MDT sexual rehabilitation structure, assessment and formulation posed a key barrier, meaning HCPs did not feel free to initiate the discussion and management of sexual wellbeing. Such findings are consistent with wider research highlighting the importance of providing professionals with a specific format or intervention programme to address sexual health for those living with a SCI (12). Increased efforts are required to better tailor the rehabilitation structure in ensuring matters in relation to sexual functioning/satisfaction are fully embedded within SCI rehabilitation.

The current study demonstrated that sexual functioning was identified as a specialist area of rehabilitation requiring knowledge and training across the full MDT. All team members were expected to take responsibility for sexual wellbeing. Mirroring these findings, Emerich et al. (25) argued that there is a need for rehabilitative services to comprise of interdisciplinary specialists, who can collectively address medical, physiological, social and psychological issues to maximize patient outcomes. HCPs in the current study displayed a general reluctance to nominate a specific professional to address such issues; instead, the full MDT was felt best placed to together support patients with sexual wellbeing. By jointly sharing the management of sexual functioning and sexual satisfaction, this would reduce the pressure, expectations and responsibilities from being placed on a single health professional (2). Though competency in sexual support across the full MDT was advocated by participants in this study, there is a risk that individual team members may not, individually, have enough knowledge to manage sexual rehabilitation themselves. There is an urgent need, therefore, to support all HCPs in acquiring operational and effective knowledge of sexual rehabilitation, providing adequate training where necessary.

Lack of training and support presented as a barrier impacting on both confidence and competence in initiating discussions on and sustaining dialogue about sexual functioning/satisfaction with patients. Educational provisions and expansion of sex-related knowledge were collectively welcomed by all participants. HCPs felt a structured signposting and referral system would offer structure and support, although such a system was felt to be currently absent within SCI rehabilitation. Yet such a referral process firstly relies on sexual health issues being openly addressed in the first instance (17). While frameworks and guidelines, such as the PLISSIT model (8), exist for HCPs supporting individuals with sexual functioning/satisfaction post-SCI injury, the current findings suggest that such framework may not be operational on the ground. HCPs felt support, knowledge, and a structured system to work from was absent in SCI rehabilitation care, thus suggesting an apparent gap between such framework and direct practice on the ground. Findings indicate a potential need for revision and operationalization of the guidelines to ensure they are, in fact, fully interpretable and implementable for professionals. Furthermore, few HCPs in the current study referred to specific frameworks or guidelines, suggesting a lack of awareness of the existence of guidelines and support. Further efforts are undoubtedly required to integrate such a framework within standardized HCP training for SCI rehabilitation. The findings of the current study show that a more holistic training programme for HCPs is needed to embed sexual wellbeing into the curriculum of SCI rehabilitation. Further equipping HCPs with tailored sexual rehabilitation training and the knowledge needed to be receptive to patients' sexual concerns would represent a major step forward, facilitating HCPs to engage more deeply with sexual rehabilitation. From this, a structured signposting system for HCPs to work within is required, particularly if specialist support is required outside of one's remit of expertise. Such a structure would maximize patient support and care delivery and provide HCPs with back-up when necessary.

The findings of this study validate previous research, demonstrating that difficulties broaching sexual functioning with patients were exemplified by feelings of embarrassment and awkwardness (12). Fear and uncertainty around patient reactions presented as a perceived barrier to addressing sexual wellbeing, resulting in HCPs steering conversations/notes away from sexual functioning/satisfaction and avoiding initiating such discussions. Recognizing the impact of this is key; patients who are sensitive to HCP discomfort and who also experience their own reservations in talking about sexual functioning/satisfaction are less likely to access sexual support and education (17). Normalization of sexual rehabilitation, and training on sexual functioning and satisfaction, would support HCPs in minimizing their feelings of discomfort, increasing their confidence levels.

Enhancing approachability by way of actively involving and engaging the SCI patient in discussions around sexual wellbeing featured as a key facilitator to potentially help increase support provision around sexual functioning in SCI rehabilitation. HCPs felt secrecy, taboos and shame associated with sexual functioning/satisfaction impacted on patient willingness to seek out support and education, which, in turn, influenced HCP decisions to broach the topic conversationally. Taboos around sexual functioning and disability can be resolved only through improved psychosexual education (26). Thus, combining HCP with patient psychosexual education and support would overcome such taboos and stigma associated with sexual functioning and disability, collectively enhancing approachability and sex-related QoL.

Working to develop sex-focused resources and materials for patients was thought to be a potential facilitator of sexual satisfaction. HCPs felt that this would increase approachability, providing the baseline knowledge and context needed for patients to independently explore such material, building their willingness to broach further discussions on sexual matters. This would grant patients "permission" to discuss sexual functioning/satisfaction. Leaflets, posters and wider reading materials were all considered viable targets for intervention development. Given the key to success in rehabilitation is patients' willingness to address sexual issues (2), HCPs felt that enhancing permission to explore sexual functioning/satisfaction would mutually help professionals and patients to collaboratively identify when such support is required.

The final perceived barrier for HCPs referred to when partners are often (unintentionally) forgotten about or ignored as the focus of rehabilitation is weighted towards the individual with SCI. Thus, working to better understand and recognize partner impact following SCI is crucial to ensure adequate support for the partner is offered during the SCI rehabilitation process. HCPs acknowledged that interpersonal patient-partner communication acted as a facilitator to a healthier relationship and sexual wellbeing, reducing levels of anxiety and fear. Therefore, sexual support cannot be just patient specific; it is key that such support is similarly available to partner(s). HCPs felt that currently, partners were not sufficiently supported during the rehabilitation process. This was felt to breed concerns, doubts and uncertainties about sexual activity and act as a barrier to sexual functioning and strong personal relationships. Wider research advocates the need for partner involvement to be promoted during the inpatient rehabilitation period (27). Therefore, efforts must be employed to develop support provisions in ways that are accessible for both the person with SCI and their partner.

Despite the strengths of the findings, some limitations of the current study were demonstrated. Within the data, facilitators emerged to be more salient than barriers. Future research may therefore benefit from looking specifically at barriers in greater detail when further exploring sexual support provisions in SCI care. Furthermore, participants who took part worked within SCI inpatient and community-based rehabilitation settings across England and, therefore, their experiences may not replicate the experiences of those working in SCI rehabilitation settings elsewhere. The current study involved 12 HCPs working in community-based rehabilitation compared with 4 working in inpatient rehabilitation; therefore, further research exploring only HCPs working in a single setting may be beneficial for future intervention development.

In the current study, medical consultants' who were specialist in SCI did not volunteer to participate, although a significant proportion of specialist SCI consultants working at SCI centres (hubs for specialist inpatient SCI care) in England were contacted for participation ($n=28$). Therefore, these findings may not represent HCP experiences from a medical consultant/physician perspective. Future research may aim to recruit medical consultants specialist in SCI and physicians in order to further inform SCI sexual rehabilition from their clinical perspectives.

Furthermore, the current study involved 14 females and 2 males, and was therefore skewed towards female HCPs working in SCI rehabilitation. Although biological sex has not been found to be a barrier from a HCP perspective when discussing sexual issues with opposite-sex patients (28), patients can find it easier to talk with a same-sex professional (29). Thus, there is a possibility that sex-, or even culture-matching could enhance communication between HCP and person with SCI. Future research could aim to address sex-/culture-matched and mismatched professional-patient communication and may aim to explore sexual support services in SCI rehabilitation cross-culturally.

HCPs with and without specialized knowledge in sexual functioning/wellbeing post-SCI were recruited for this study, thus future research could specifically aim to recruit professionals who are uniquely specialist in sexual function and disability. Integrating aspects of sexual wellbeing in the curricula of different healthcare professionals, such as "experts by experience", peer counselling support and healthcare assistants may also be beneficial to further explore.

The study was undertaken during the COVID-19 pandemic, at a time when visiting restrictions within inpatient and community-based rehabilitation settings were greatly limited for the partner (30). Though partner inclusion continues to be widely advocated as the gold standard for SCI rehabilitation (27), it is acknowledged that the theme pertaining to partners may have had increased salience in this study due to pandemic-induced changes in rehabilitative care visiting restrictions. Thus, research could replicate this further, post-COVID-19 pandemic.

In conclusion, this study explored HCP perspectives on the barriers and facilitators on support for sexual functioning and sexual satisfaction within SCI rehabilitation. HCPs identified individual-level, team-level, social, organizational and environmental barriers and facilitators influencing sexual services and support in SCI rehabilitation. The findings demonstrate that the lack of coherent MDTs in which all members were trained and equipped with the knowledge and skills to address sexual wellbeing within SCI rehabilitation, combined with HCP feelings of awkwardness in broaching sexual functioning/satisfaction and broader failure to recognize the importance of the partner, all act as barriers. By contrast, facilitators were thought to be equipping HCPs with further tailored sexual education/training and enhancing conversational approachability by fostering an atmosphere of "permissive discussion", triggered by sex-focused resources and materials. By determining barriers and drivers in current rehabilitative practice, this research provides a strong foundation for the sexual wellbeing intervention development, which should become integral to rehabilitation after SCI.

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Statement of ethics

All applicable and governmental regulations concerning the ethical use of human volunteers were followed during the course of this research.

Conflicts of interest

The authors have no conflicts of interest to declare.

Data availability

The data-sets generated and/or analysed during the current study are available from the corresponding author on reasonable request under institutional restrictions.

Authors' contributions

KF/AH assisted OB with the study design and conceiving the research idea. OB undertook all data collection, OB/KF worked on data analysis and drafting the manuscript. OB/KF/AH assisted with coding of data and interpretation of results. KF/AH assisted with critical revision of manuscript.

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