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ORIGINAL REPORT

SEXUAL HEALTH POLICIES IN STROKE REHABILITATION: A MULTINATIONAL STUDY

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Objective: **To identify and explore sexual health policies at specialized stroke rehabilitation centres in relation to the perspectives of healthcare personnel concerning sexual health.**

Design: **Cross-sectional study.**

Subjects: **Nine specialized rehabilitation centres representing 7 countries, and healthcare personnel (*n* = 323) working with stroke rehabilitation at the 9 centres were included in the study.**

Methods: **Two structured questionnaires were used: (*i*) an organizational-audit on sexual health policies; (*ii*) an anonymous web-questionnaire assessing the perspectives of healthcare personnel concerning sexual health.**

Results: **Of the 9 centres, 5 scored high on having sexual health policy in stroke rehabilitation and 4 scored low. Healthcare personnel working at centres with high scores reported higher levels of knowledge and comfort in working with sexual health, and looked more positively on the workplace sexual health policies, than personnel working at centres scoring low on these factors. Most personnel expressed a need for knowledge on the topic. Being comfortable about addressing sexuality was significantly associated with higher levels of knowledge about sexuality and working at centres having sexual health policies.**

Conclusion: **A lack of sexual health policy represents a barrier to evidence-based practice in stroke rehabilitation. Such protocols need to be implemented in standard care in order to meet the sexual rehabilitation needs of stroke patients and partners.**

Key words: stroke rehabilitation; sexual health; healthcare personnel; stroke policy.

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LAY ABSTRACT

Stroke survivors and their partners have been found to have unmet sexual rehabilitation needs. Stroke guidelines recommend that sexual health should be part of standard care, but sexuality is not consistently addressed in stroke rehabilitation. This study explored sexual health policies at 9 specialized stroke rehabilitation centres around the world and the perspectives of healthcare personnel on working with sexual health. Five centres had routines on sexual health, while 4 had few or none. Personnel working at centres with routines felt more knowledgeable and comfortable working with sexual health, and responded more positively to having routines at their workplace concerning sexual health than did personnel at centres having few or no such routines. Those who felt comfortable more often felt knowledgeable addressing sexuality and more often worked at a centre having routines on sexual health. Sexual health policies should be implemented in stroke care in order to meet the needs of patients and their partners.

International guidelines on stroke recommend that sexual health should be addressed as an integral part of standard stroke care (1–6). There is a high prevalence of sexual problems and dysfunction among stroke survivors and their partners (7–9). A previous multinational study, conducted within the same research network as the present study, found that patients reported their sexual life to be one of the most dissatisfactory areas in life (10, 11), confirming the need for sexual rehabilitation after stroke. Patients often do not raise questions about sexuality as they feel embarrassed, and those patients may want their healthcare providers to raise the topic (12–15). Healthcare personnel (HCP) should therefore be prepared to initiate conversations about sexuality in order to meet the needs of patients and partners. However, sexuality is not consistently addressed in stroke rehabilitation and is often overlooked by HCP (15–17).

Significant barriers to initiating sexuality-related communication have been reported among HCPs, such as lack of training and knowledge, feeling uncomfortable, lack of hospital policy and unhelpful attitudes, such as disabled or elderly people being asexual, or that raising the topic would cause distress or embarrassment in patients (15, 18–21). Cultural aspects can also influence how sexuality is approached. A World

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Health Organization (WHO) report states that the way in which sexual health is and can be addressed within different countries is largely culturally determined, being bound by gender constructs and religion, and reinforced by politics (22). According to the WHO (23), the disconnect between patients' wishes to discuss sexual concerns and the services actually provided by HCPs highlights that communication on intimate issues is an area requiring urgent attention.

The extent to which sexual health is addressed in hospital stroke policies (meaning clinical practice procedures and routines) is unknown. The perspectives of HCPs addressing sexual health in stroke rehabilitation has been explored only to a limited degree, while factors associated with HCPs' perceived discomfort when communicating about sexuality have been explored to a lesser extent.

Objectives

The objectives of this study were to identify and explore sexual health policies at stroke units at different specialized rehabilitation centres in relation to: (*i*) HCPs' experiences and perspectives on workplace practices concerning sexual health after stroke, and (*ii*) HCPs' perceived level of knowledge and comfort working with sexual health and educational needs.

METHODS

Participants

This descriptive cross-sectional study explored sexual health policies at stroke units and the perspectives of HCPs; thus it included participants at an organizational and individual level. Stroke units at 9 specialized rehabilitation centres from 7 countries in different parts of the world were included: Alamal Rehabilitation Centre, Islamic University (Gaza, Palestine); Bethlehem Arab Society for Rehabilitation (Bethlehem, Palestine); Sheba Medical Center (Tel Aviv, Israel); Bayi Rehabilitation Center (Chengdu, China); Polyclinica nr.2, Respublikanskaja Bol'nica imeni Baranova (Petrozavodsk, Russia); Rusk Rehabilitation, NYU Lagone Health (New York, USA); Sahlgrenska University Hospital (Gothenburg, Sweden); Stockholm's Sjukhem (Stockholm, Sweden); and Sunnaas Rehabilitation Hospital (Oslo, Norway). Eight of these belong to a well-established research network, described elsewhere, and where specialized rehabilitation standards have been found to be comparable (10). One collaborating Swedish centre was added (Stockholm Sjukhem) in the present study. Participants were recruited from each centre. Inclusion criteria were: HCP, all professionals, in clinical positions working with specialized stroke rehabilitation.

Data collection procedures

Data were collected from each specialized rehabilitation centre, with administrative leaders and contact persons responsible for reporting data concerning stroke unit sexual health policy to the research group.

Data from participating HCPs from the 9 centres were collected anonymously using a web-survey. Contact persons at each site provided oral and written information to staff members about the survey. An information letter was translated into the preferred languages of participating centres and e-mailed to employees. The letter contained brief information and a request to complete the anonymous web-survey via an attached survey link.

The methodology was the same at all participating centres. In order to ensure identical procedures and optimal responses an English-speaking contact person was selected at each centre and the research group communicated with the contact persons and administrative leaders.

Measurements

Two structured questionnaires were used:

- An *organizational-audit tool* developed by the Australian Research Centre in Sex, Health & Society at La Trobe University in collaboration with the Victorian Stroke Network (24). The audit was developed to determine the capacity of organizations to provide patients and partners with information on sexuality after stroke. The audit consist of 10 statements covering policies and practice concerning providing information to patients and partners, education to staff, assessment and documentation of sexuality after stroke, and stakeholder involvement. Items are based on the WHO's principles for successful sexual health programmes (22, 25). Each statement was rated as not met (0 points), partly met (1 point) or met (2 points). The total score range was 0–20. A positive score ("partly met"/"met") on 5 or more of the 10 statements was categorized by us as "high score", and less than 5 as "low score". This cut-off was set based on an understanding that having routines within at least 5 of these items would have an effect on clinical practice.
- A *HCP questionnaire* of 33 questions (32 multiple choice and 1 open-ended) was developed with the purpose of exploring the perspectives and experiences of HCPs working with sexual health in stroke rehabilitation. The questionnaire included 9 questions modified from a Norwegian survey on "rehabilitation and sexuality" (26) and 5 from the Australian "Sexuality after stroke" (SOX) staff survey (24). The selected questions were chosen based on scientific and clinical literature and tested among professionals working with stroke rehabilitation and a user consultant to ensure that questions were understandable and relevant. In the present study, a total of 20 of the 33 questions were selected in order to capture: (*i*) socio-demographic variables: workplace, age, gender, profession, years of work experience and sexological education; (*ii*) HCPs' clinical experiences and perspective on sexual health in stroke rehabilitation: experiences of workplace prioritizing giving information on sexuality to patients and providing sexological education to staff, having access to guidelines or procedures concerning sexual health and stroke, educational/training preferences, responsibility for addressing sexuality in current practice and opinion on who should be responsible for addressing sexuality, experiences of patients addressing sexuality, perceived level of knowledge when working with sexual health (categories high, middle, low and none were dichotomized into high/middle and low/none), being comfortable addressing sexuality (categories very comfortable, comfortable, uncomfortable and very uncomfortable were dichotomized into comfortable and uncomfortable); and the impact of patient age, gender and marital status on level of comfort.

Translation, editing and proofreading of the HCP questionnaire was provided by Mapi Language Services (27). Language versions were in Norwegian, Swedish, English (US), Hebrew, Chinese and Russian. In addition, contact persons carefully revised the questionnaire to ensure it was adaptable and understandable in the specific context. The topic "sexuality" was also discussed among HCP from each site at network seminars to gain an understanding of possible cultural differences and how this survey could be conducted in the best possible way cross-culturally. Some of the topics discussed were the appropriateness of addressing sexuality with unmarried patients, older patients and with patients of opposite gender. However, since these questions were to be surveyed only among staff, and not patients, the questions were found adequate among network members.

Statistical analysis

Descriptive data are presented as frequencies, percentages, standard deviations (SD), medians and ranges. χ^2 or Fisher's exact test and Student's *t*-test were applied for the comparison of independent groups as appropriate. Logistic regression analyses were performed in order to estimate crude and adjusted odds ratio (OR) with 95% confidence intervals (95% CI) for the association between HCP's comfort with addressing sexuality (dependent variable) and explanatory variables theoretically relevant for the outcome. Testing for multicollinearity was carried out by building separate models with covariates. Years of work experience were correlated with age and was therefore not included in the regression model. Gender, age, profession, level of knowledge and workplace categorized by sexual health policy score were all associated with the outcome in crude analyses and were included in the direct multivariable logistic regression model. Statistical significance was set to $p<0.05$. Statistical analyses were performed using SPSS (IBM Corp Released 2014, Version 23.0).

Ethics

Each participating centre approved and consented for the study to be conducted according to local ethical regulations. The study was, in addition, approved by the Norwegian Data Protection Officer (Oslo University Hospital) and the Regional Ethical Committee (REK Sør-Øst 2018/1988 A), confirming that the study collects anonymous non-sensitive and non-health-related data voluntarily from employees.

RESULTS

The *organizational-audit* tool was completed at all 9 participating centres. Table I shows the number of centres responding to each response-category of the 10 statements in the organizational audit. The total score on the organizational audit varied from 0 to 17 points. Only one centre responded positively to all statements. Two centres responded as not meeting any of the statements.

Five of 9 centres responded positively (partly met or met) to 5 or more statements and were categorized as having a high policy score. Four centres responded positively to less than 5 statements and were categorized as having low policy score. The 9 centres were dichotomized *ad hoc* into groups labelled "high policy score centres" and "low policy score centres" based on their scores in the organizational audit. Table II shows the categorization of each centre and the number of respondents and response rate of HCPs on the *HCP questionnaire*.

A majority of the 323 clinical employees answering the HCP questionnaire were female, aged between 30 to 49 years, and allied professionals (Table III). At centres with high policy scores there were more male respondents ($p<0.001$), aged over 30 years ($p<0.001$) and allied professionals ($p=0.004$) and fewer nurses ($p=0.004$) than at centres with low scores. HCPs at

Table I. Responses from the 9 participating centres on the organizational audit tool*

Question	Response		
	Not met	Part met	Met
1 Our service/unit provides all stroke survivors, and their partners, with information on sexuality after stroke.	4	5	0
If yes list evidence to substantiate. If no list action to rectify.			
2 Our service/unit invites all stroke survivors to discuss sexuality with staff.	4	3	2
If yes list evidence to substantiate. If no list action to rectify.			
3 Our service/unit has a policy outlining how information on sexuality after stroke will be provided to stroke survivors and their partners.	6	2	1
If yes list evidence to substantiate. If no list action to rectify.			
4 Our service/unit has a guide for assessment and documentation of sexuality after stroke.	5	4	0
If yes list evidence to substantiate. If no list action to rectify.			
5 Our service/unit has documented the roles of all disciplines in the provision of information on sexuality after stroke to stroke survivors.	5	3	1
If yes list evidence to substantiate. If no list action to rectify.			
6 Our service/unit has a systematic strategy for interdisciplinary communication relating to sexuality after stroke.	5	3	1
If yes list evidence to substantiate. If no list action to rectify.			
7 Our service/unit has consulted stroke survivors to design and review strategies for providing information on sexuality after stroke.	5	3	1
If yes list evidence to substantiate. If no list action to rectify.			
8 Our service/unit assesses the knowledge, values and beliefs of staff relating to sexuality after stroke.	6	3	0
If yes list evidence to substantiate. If no list action to rectify.			
9 Our service/unit ensures that information and education is valuing and inclusive of diversity of sexual orientation and gender identity.	4	3	2
10 Our service/unit has a systematic process for providing staff education relating to sexuality after stroke.	6	2	1
If yes list evidence to substantiate. If no list action to rectify.			

*Reference: Barrett C, Whyte C. Sexuality after stroke: a report on the 2013 sexuality after stroke project. Australian Research Centre in Sex, Health and Society. La Trobe University. Melbourne Australia 2014. Permission to use and publish given by Dr Catherine Barrett, Chief investigator of the SOX-program.
Number of centres responding to each response category (not met, part met, met) of 10 statements is reported.

Table II. Classification of 9 specialized stroke rehabilitation centres as High or Low policy score centre; number (%) of healthcare personnel (HCP) responding and response rate on web survey

Country, Specialized stroke rehabilitation centre	Category[a]	HCP *n* (%)	Response rate %, HCP
Palestine: Alamal Rehabilitation Centre and Islamic University – Faculty of Medicine and Health Sciences, Gaza	High	19 (6)	29
Palestine: Bethlehem Arab Society for Rehabilitation, Bethlehem	High	28 (9)	56
Israel: Sheba Medical Center, Tel Aviv	High	80 (25)	83
China: Bayi Rehabilitation Center, Chengdu	Low	72 (22)	100
Russia: Polyclinica nr.2; Petrozavodsk; Respublikanskaja Bol'nica imeni Baranova	Low	20 (6)	80
United States: Rusk Rehabilitation, NYU Lagone Health, New York	Low	19 (6)	54
Sweden: Sahlgrenska University Hospital, Gothenburg	High	12 (4)	26
Sweden: Stockholm's Sjukhem, Stockholm	Low	43 (13)	72
Norway: Sunnaas Rehabilitation Hospital, Oslo	High	30 (9)	48
Total	–	323 (100)	64

[a]A positive score for 5 or more statements on the "Organizational Audit" was categorized as "High policy score" and less than 5 as "Low policy score".

high-scoring centres had significantly ($p < 0.001$) more years of work experience (mean 10.6, SD 9.7 years) than at low-scoring centres (mean 6.6, SD 6.0 years).

Among HCPs having lectures in sexual medicine/sexology in their professional education (46%) a majority had 1–2 h of lectures and 5% had more than 10 h, most of the latter being physicians. A need for education or training within sexual health issues was expressed by 90%, with "stroke and sexuality" (68%), "medication and side-effects" (48%) and "sexual dysfunction" (44%) reported most frequently. Preferred models for sexological education and training were interdisciplinary (46%), intradisciplinary (36%) and "e-learning" (29%) courses, with no significant differences between centres with high and low scores. However, 10% of HCPs in both high- and low-scoring centres explicitly reported that they did not want to work with sexuality-related issues.

Table III. Characteristics of respondents, healthcare personnel

Characteristics	*n* (%)
Gender (*n* = 323)	
Male	86 (26)
Female	235 (73)
Other gender identity	2 (1)
Age (*n* = 321)	
< 30 years	95 (30)
30–49 years	168 (52)
≥50 years	58 (18)
Profession (*n* = 323)	
Physicians	59 (18)
Nurses	89 (28)
Nurses (23%)	
Assistant nurses (5%)	
Allied professionals	175 (54)
Physiotherapists (18%)	
Occupational therapists (17%)	
Speech therapists (8%)	
Psychologists (5%)	
Social workers (3%)	
Others (3%)	
Years of work experience in rehabilitation (*n* = 316) median (range)	6 (1–50)
Lectures in sexual medicine/sexology during professional training (*n* = 314)	136 (46)
Attended continuing education in sexual medicine/sexology (*n* = 314)	13 (4)

Workplace routines and practices

Fig. 1 shows that significantly more HCPs working at high rather than low policy score centres reported that their workplace prioritized giving information about sexuality to patients ($p = 0.009$), offered education in sexual medicine/sexology ($p < 0.001$) and that they had access to guidelines or procedures on sexual health ($p < 0.001$). In total, 24% of respondents reported that they did not know who was responsible for addressing sexuality in current practice at their workplace, with significantly ($p < 0.001$) more at low- than at high-scoring centres. HCPs at low-scoring centres also more frequently reported that patients did not initiate talking about sexuality ($p < 0.001$) than those at high-scoring centres.

In total, 8% of respondents reported that all professionals have a shared responsibility for communication on sexual health in current practice, while 19% believed that this should be a shared responsibility among HCPs, with no significant differences between centres scoring high and low on sexual health policy.

Level of knowledge and comfort

HCPs at centres scoring high on sexual health policy rated both their level of knowledge ($p < 0.001$) and comfort ($p < 0.001$) working with sexual health significantly higher than those at low-scoring centres (Table IV).

HCPs were asked if the age, gender or marital status of the patients or their partners affected their comfort with addressing sexuality. A higher patient age (>50 years) was found to negatively affect the feeling of comfort in 38% of HCPs, with more discomfort ($p < 0.001$) at low- than high-scoring centres. The gender of stroke patients affected 45% of HCPs, with both female and male personnel being most comfortable with patients of the same gender as themselves; no significant differences were identified between high- and low-scoring centres. Nor were there any significant differences regarding patients' marital status, although

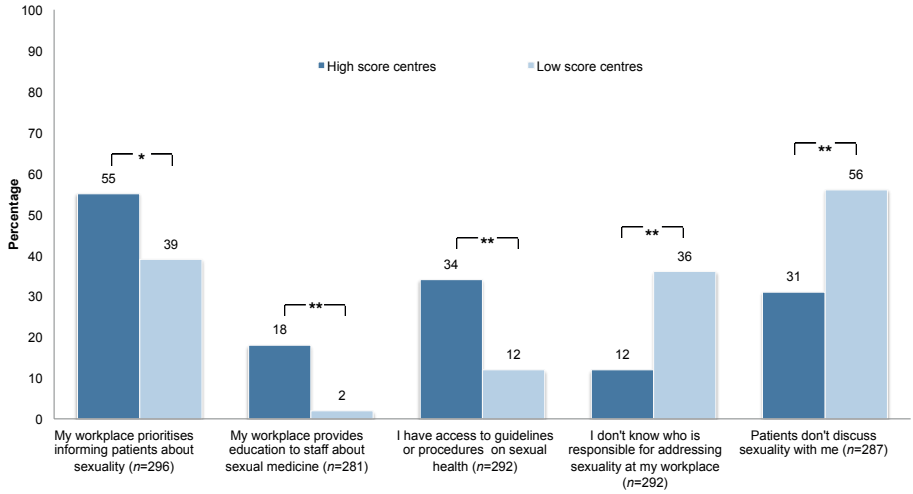

Fig. 1. Routines and practices at specialized stroke rehabilitation centres reported by healthcare personnel working at centres scoring high (High-score centres) on the organizational audit conserning sexual health and centres scoring low (Low-score centres). *p-value < 0.01, **p-value < 0.001.

this affected comfort in 27%, with the greatest comfort reported with married patients.

Logistic regression showed that all explanatory variables (HCPs' gender, age, profession, centre by policy score and level of knowledge) were significantly associated with HCPs' comfort in the crude analyses. When all variables were entered in a logistic regression simultaneously, age and gender were rendered non-significant. Being an allied professional lowered the odds of being comfortable compared with being a physician (OR 0.36; 0.17–0.76); whereas comfort among nurses compared with physicians remained non-significant. A perception of higher/middle level of knowledge (OR 8.43; 4.02–17.69) and working at a "high policy score centre" (OR 2.34; 1.30–4.21) were also significantly associated with and increased the odds

Table IV. Perceived level of knowledge and comfort working with sexuality in stroke rehabilitation reported by healthcare personnel (HCPs) working at centres scoring high (High-score centres) on the organizational audit on sexual health and at centres scoring low (Low-score centres)

Variables	High-score centres n=252 n (%)	Low-score centres n=139–138 n (%)	Total n=291–290 n (%)	p-value
HCPs perceiving high/middle level of knowledge[a]	50 (33)	14 (10)	64 (22)	<0.001
HCPs feeling comfortable[b]	82 (54)	40 (29)	122 (42)	<0.001

[a]Level of knowledge dichotomized into categories "high/middle" and "low/none".
[b]Level of comfort dichotomized into categories "uncomfortable" and "comfortable".

Table V. Logistic regression analyses of the association between healthcare personnel (n = 289) feeling comfortable addressing sexuality with stroke patients and their partners and gender, age, profession, workplace and level of knowledge

Explanatory variables	Crude OR (95% CI)	p-value	Multivariable adjusted[a] OR (95% CI)	p-value
Gender				
Female (reference)	1		1	
Male	1.98 (1.16–3.37)	0.012	1.17 (0.62–2.22)	0.663
Age				
<30 years (reference)	1	0.025	1	0.822
30–49 years	1.69 (0.96–2.96)	0.068	1.09 (0.57–2.10)	0.790
≥50 years	2.76 (1.35–5.66)	0.007	1.31 (0.56–3.07)	0.533
Profession				
Physician (reference)	1	0.016	1	0.022
Nurse	0.57 (0.28–1.14)	0.097	0.60 (0.26–1.37)	0.223
Allied	0.40 (0.22–0.75)	0.004	0.36 (0.17–0.76)	0.008
Centre by policy score				
Low policy score (reference)	1		1	
High policy score	2.91 (1.79–4.74)	<0.001	2.34 (1.30–4.21)	0.005
Perceived level of knowledge				
Low/none (reference)	1		1	
Middle/high	10.89 (5.36–22.12)	<0.001	8.43 (4.02–17.69)	<0.001

[a]All variables entered simultaneously. Nagelkerke R2: 0.306; 72% correct classifications.
OR: odds ratio; CI: confidence interval.

of being comfortable addressing sexuality with patients and their partners (Table V). The entire model was statistically significant: χ^2 (7, n=289)=74.6, p<0.001.

DISCUSSION

Lack of sexual health policy: A barrier to addressing sexuality

These results indicate that a lack of sexual health policy represents a barrier to evidence-based practice in this area during stroke rehabilitation. A considerable variation in sexual health policies was found between the 9 participating centres; being completely absent in some cases and sparse in most. At centres with high policy score, HCPs' responses were consistently more positive about having routines and resources concerning sexual health at their workplace than at low-scoring centres. Thus, responses from HCPs are in accordance with the responses given by administrative leaders regarding their stroke rehabilitation unit's sexual health policy.

These findings suggest that lack of sexual health policy leaves HCPs without guidance and with undefined roles and responsibilities when addressing sexuality in clinical practice, allowing disclaim of responsibility among members of the rehabilitation team. The Australian SOX study produced similar results, showing that employees were uncertain about their responsibility, underpinning the need for an interdisciplinary approach to addressing sexuality after stroke (24, 28). Based on their recent review of the literature, Grenier-Genest and colleagues recommended an interdisciplinary approach to sexuality in stroke rehabilitation to meet the complex impact of stroke on sexual wellbeing (8). However, results from the present study indicate a lack of interdisciplinary approach to sexuality in the majority of participants, as only one-fifth of HCPs indicated that addressing sexuality should be a mutual responsibility of the interdisciplinary team, and less than one-tenth reported such practice at their workplace.

The fact that healthcare services, to a large extent, do not follow recommendations on implementing sexual health in standard care (1–6) is concerning. One possible explanation for these recommendations not being followed may be the lack of specific advice in guideline documents and the sparsity of studies on how to manage practice and clinical care with respect to sexual health. Stroke guidelines recommend that patients and/or partners should be offered education and the opportunity to discuss sexuality with a healthcare provider, but they are not specific in defining roles or responsibility, and are limited regarding stroke-specific interventions for sexual problems or dysfunctions.

Not having access to practical guidelines, education and training can also influence HCPs' ability to address sexuality at an individual level. The present study shows that HCPs working at centres with high sexual health policy scores felt more comfortable with and more knowledgeable about sexual health issues than personnel at low-scoring centres. These findings are consistent with findings from qualitative studies of stroke and sexuality that describe a lack of policy as a barrier to HCPs initiating sexuality-related communication (20, 21). Policies on sexual health should therefore be designed in a proper way to be successful for use in clinical practice. This means taking into account needs at an organizational and individual level to facilitate having this topic raised and handled in accordance with evidence-based practice. The policies should provide specific recommendations for information and interventions on sexual rehabilitation after stroke to guide clinicians. Cooperation with user organizations, user consultants and other stakeholders is a key to ensure patient experiences and involvement in development of recommendations. The capacity and ability of hospitals or organizations to prioritize sexual health may also be a question of economy and hospital facilities as well as staff resources. Policies on sexual health therefore need to be rooted in health authorities for successful sexual health promotion.

Perceived low level of knowledge: A barrier to be overcome

Importantly, more than three-quarters of HCPs in this study reported having little or no knowledge about working with sexual health after stroke. Similar findings have been reported by others (8, 17, 20, 21) as one of the major barriers to provide information about sexuality to patients and their partners. Most HCPs expressed a need for knowledge within several areas of sexual medicine/sexology and preferred an interdisciplinary model for sexological education and training. It has been suggested that expertise may not be necessary when addressing sexuality, but emphasized the importance of strengthening communication skills (21). Results from the present study indicate that sexual health education is desired in order to support knowledge and comfort in HCPs. Given the complexity of the impact of stroke and the diversity of sexual problems, we believe that expertise should be available in the interdisciplinary team. The need for training and education in sexual health among all professions is emphasized by others (8). Perceived lack of knowledge is a barrier that can be overcome by supporting the correct education and training in sexual health. However, the ability and opportunity to change practice is more complex, being influenced by multiple interacting factors, including hospital policies as described, as well as social and cultural circumstances and personal level of comfort (12, 21).

Perceived low level of comfort: a multifactorial barrier

A majority of HCPs in the present study felt uncomfortable providing information about sexuality to patients and their partners. Personal level of comfort is described as an important factor in addressing sensitive topics, with personal life experiences, personality and workplace environment potentially playing a significant role (21).

The impact of patient's gender, age and marital status on level of comfort could preferably be explored with respect to possible societal or cultural differences. General assumptions have been described about elderly people and people with disabilities as asexual (21, 29). Training focusing on the diversity of sexuality throughout all stages of life might help to produce a more open-minded approach in stroke rehabilitation. Cultural sensitivity is necessary in order to ensure that patients' and partners' rehabilitation needs are revealed and dealt with in a respectful manner. Education for staff and hospital policies should therefore take these factors into account. For instance, the facilitation of patients talking to HCPs of the same gender if this represents a barrier to sexuality-related communication.

HCPs' age and gender were not found to be associated with level of comfort addressing sexuality, while those reporting a higher level of knowledge were more likely to feel comfortable. This confirmed previous studies describing knowledge as an important factor for being comfortable (8, 21). Being employed at centres scoring high on sexual health policy was also associated with being comfortable addressing sexuality. This interaction between individual level of comfort and factors at an organizational level, such as hospital policies, has been discussed in qualitative studies (20, 21). Richards et al. (21) developed a theoretical model illustrating that the action taken by HCPs is influenced by the interaction between their personal level of comfort and various barriers to addressing sexuality, such as environmental barriers, personal skills and attitudes. The more uncomfortable the HCPs, the more restricted they are by such barriers. This model is useful in understanding the findings in the present study. If HCPs feel uncomfortable addressing sexual health, the more important it is to have hospital policies contributing to strengthen their confidence and knowledge in doing so.

The differences in comfort among professions when addressing sexuality support the need for interdisciplinary education and training among all professions, strengthening confidence and skills at an individual level, but also at an interdisciplinary level. However, in order to facilitate making sexual health a natural part of stroke rehabilitation, personal skills and knowledge alone are not sufficient; organizational factors also need to be considered.

In a qualitative study, Mellor et al. (20) described sexuality as taboo among HCPs, who considered sexuality a private matter that should only be raised by patients. Legitimizing sexuality as a part of rehabilitation by implementing standard care procedures and routines could therefore be significant in supporting the confidence and comfort of employees and thus, meeting the sexual rehabilitation needs of patients and their partners.

Strengths and limitations

The main strength of this study is the participation of specialized rehabilitation institutions in different countries, thus giving a broad impression of the topic in different countries. Furthermore, the integration of organizational and individual factors in understanding how sexual health is understood and handled in specialized stroke rehabilitation units supplies a new and important element to this research field. It should be noted that these results are limited to the practice policies adopted within individual stroke units at each hospital and do not represent general administrative hospital policies in general. A limitation when generalizing the results may be the low response rate at some of the centres, although the response rate overall is acceptable. There is a tendency of low response rate among centres with high policy score and high response rate among centres with lower scores, leaving a question as to whether we have captured the most motivated staff at high score centres. However, results from the study indicate that information from hospital administration on sexual health policies complies well with responses from staff. The lowest response rate at 2 high-score centres can be explained by organizational changes at the time of survey (Sahlgrenska University Hospital, Gothenburg) and political circumstances that limit the possibility of staff to participate in the survey (Alamal Rehabilitation Centre and Islamic University, Gaza).

Clinical implications

To the best of our knowledge this is the first study to investigate sexual health policies at specialized stroke rehabilitation centres and address the perspectives of HCPs on sexual health in several countries in different parts of the world. The present study supplies novel knowledge on the importance of sexual health policy and calls for action among stroke rehabilitation centres to implement such policies.

Evidence-based practice in stroke rehabilitation is needed and demanded, and clinical practice guidelines and procedures on sexual health will need to be developed and implemented with increasing speed as research evolves. Interventional studies are required on the effect of implementing standard care sexual health procedures on personnel taking action in addressing sexual health.

To overcome barriers preventing good clinical practice policies need to include defining roles and responsi-

bilities for addressing sexual health, and education and cultural sensitivity training for all professions working in interdisciplinary teams. Creating a permission-giving environment (8) will also make it easier for patients and their partners to raise sexuality-related questions. Using indicators for services provided at stroke units, such as the Organizational Audit tool (24), can provide useful needs analyses and an opportunity for measuring improvements in sexual health-related practices.

In conclusion, sexual health policies in stroke rehabilitation are important, and such protocols need to be implemented in standard care in order to meet the sexual rehabilitation needs of stroke patients and partners.

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REFERENCES

1. Rudd AG, Bowen A, Young GR, James MA. The latest national clinical guideline for stroke. Clin Med (Northfield Il) 2017; 17: 154–155.
2. Winstein CJ, Stein J, Arena R, Bates B, Cherney LR, Cramer SC, et al. Guidelines for adult stroke rehabilitation and recovery: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke 2016; 47: e98–e169.
3. Hebert D, Lindsay MP, McIntyre A, Kirton A, Rumney PG, Bagg S, et al. Canadian stroke best practice recommendations: stroke rehabilitation practice guidelines, update 2015. Int J Stroke 2016; 11: 459–484.
4. Stroke Foundation. Clinical guidelines for stroke management Melbourne 2017 [cited 2017 Dec 8]. Available from: https://informme.org.au/Guidelines/Clinical-Guidelines-for-Stroke-Management-2017.
5. Steinke EE, Jaarsma T, Barnason SA, Byrne M, Doherty S, Dougherty CM, et al. Sexual counselling for individuals with cardiovascular disease and their partners: a consensus document from the American Heart Association and the ESC Council on Cardiovascular Nursing and Allied Professions (CCNAP). Eur Heart J 2013; 34: 3217–3235.
6. Helsedirektoratet. Nasjonale retningslinjer for behandling og rehabilitering ved hjerneslag Oslo 2010 [cited 2017 Dec 8]. Available from: http://www.helsedirektoratet.no/publikasjoner/nasjonal-retningslinje-for-behandling-og-rehabilitering-ved-hjerneslag-fullversjon/Publikasjoner/nasjonal-retningslinje-for-behandling-og-rehabilitering-ved-hjerneslag-fullversjon.pdf.
7. Dusenbury W, Palm Johansen P, Mosack V, Steinke EE. Determinants of sexual function and dysfunction in men and women with stroke: a systematic review. Int J Clin Pract 2017; 71 [Epub ahead of print].
8. Grenier-Genest A, Gerard M, Courtois F. Stroke and sexual functioning: a literature review. NeuroRehabilitation 2017; 41: 293–315.
9. Louisa NG, Sansom J, Zhang NN, Amatya B, Khan F. Effectiveness of a structured sexual rehabilitation programme following stroke: a randomized controlled trial. J Rehabil Med 2017; 49: 333–340.
10. Langhammer B, Becker F, Sunnerhagen KS, Zhang T, Du X, Bushnik T, et al. Specialized stroke rehabilitation services in seven countries. Int J Stroke 2015; 10: 1236–1246.
11. Langhammer B, Sunnerhagen KS, Stanghelle JK, Sällström S, Becker F, Fugl-Meyer K. Life satisfaction in persons with severe stroke – a longitudinal report from the Sunnaas International Network (SIN) stroke study. Eur Stroke J 2017; 2: 154–162.
12. Dyer K, das Nair R. Why don't healthcare professionals talk about sex? A systematic review of recent qualitative studies conducted in the United kingdom. J Sex Med 2013; 10: 2658–2670.
13. Nilsson M, Von Koch L, Ytterberg C, Fugl-Meyer K. Sexuality six years after stroke-experiences, coping and communication with health care professionals. J Sex Med 2015; 12: 333–334.
14. Schmitz MA, Finkelstein M. Perspectives on poststroke sexual issues and rehabilitation needs. Top Stroke Rehabil 2010; 17: 204–213.
15. Stein J, Hillinger M, Clancy C, Bishop L. Sexuality after stroke: patient counseling preferences. Disabil Rehabil 2013; 35: 1842–1847.
16. Park JH, Ovbiagele B, Feng W. Stroke and sexual dysfunction – a narrative review. J Neurol Sci 2015; 350: 7–13.
17. Rosenbaum T, Vadas D, Kalichman L. Sexual function in post-stroke patients: considerations for rehabilitation. J Sex Med 2014; 11: 15–21.
18. McCluskey A, Vratsistas-Curto A, Schurr K. Barriers and enablers to implementing multiple stroke guideline recommendations: a qualitative study. BMC Health Serv Res 2013; 13: 323.
19. McLaughlin J, Cregan A. Sexuality in stroke care: a neglected quality of life issue in stroke rehabilitation? A pilot study. Sex Disabil 2005; 23: 213–226.
20. Mellor RM, Greenfield SM, Dowswell G, Sheppard JP, Quinn T, McManus RJ. Health care professionals' views on discussing sexual wellbeing with patients who have had a stroke: a qualitative study. PLoS One 2013; 8: e78802.
21. Richards A, Dean R, Burgess GH, Caird H. Sexuality after stroke: an exploration of current professional approaches, barriers to providing support and future directions. Disabil Rehabil 2016; 38: 1471–1482.
22. WHO. Defining sexual health-Report of a technical consultation on sexual health 28–31 January 2002. Sexual Health Document Series. Geneva: World Health Organisation, 2006.
23. WHO. Guidelines approved by the Guidelines Review Committee. Brief sexuality-related communication: recommendations for a public health approach. Geneva: World Health Organization, 2015.
24. Barrett C, Whyte C. Sexuality after stroke: a report on the 2013 sexuality after stroke project. La Trobe University. Melbourne: Australian Research Centre in Sex, Health and Society, 2014.
25. Barrett C. Auditing organisational capacity to promote the sexual health of older people. E J Appl Psychol 2011; 7: 31–36.
26. Storvand H, Sæther K, Tornås S. [How to put sexuality on the rehabilitation unit agenda?] Norway: Sunnaas Rehabilitation Hospital, 2002 (in Norwegian).
27. Mapigruop. Mapigroup language–services 2017 [cited 2017 27 Nov]. Available from: www.mapigroup.com/services/language-services/.
28. Barrett C, Whyte C. Sexuality after stroke: SOX guidelines for interdisciplinary practice. In: Australian Research Centre in Sex HaS, editor. La Trobe University. Melbourne, 2014.
29. Bouman WP, Arcelus J, Benbow SM. Nottingham study of sexuality & ageing (NoSSA I). Attitudes regarding sexuality and older people: a review of the literature. Sex Relation Ther 2006; 21: 149–161.