

ORIGINAL ARTICLE

IJPHY

Knowledge, Attitudes, and Practices of Managing Hemiplegic Shoulder Pain by Physiotherapists in Saudi Arabia

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ABSTRACT

Background: In Saudi Arabia, stroke incidence is 29.8 cases per 100,000 inhabitants annually, and Hemiplegic shoulder pain (HSP) is a prevalent issue after stroke, affecting approximately 47% of patients with stroke. This study aimed to assess physiotherapists' knowledge, attitudes, and practices toward Hemiplegic Shoulder Pain (HSP) management in Saudi Arabia.

Methods: This cross-sectional study included 523 physiotherapists who treated patients with stroke between August and November 2023 in Saudi Arabia. An online survey was administered to the physiotherapists. The questionnaire comprised four main parts, covering sociodemographic characteristics, participants' knowledge, attitudes, and current practices regarding HSP, HSP assessment, and HSP management.

Results: A total of 300 (57.63%) participants responded. The results showed that 48% of the participants treated 1–5 patients with stroke in their daily practice. In addition, 46.3% of the participants reported that up to 75% of the patients with stroke they treated experienced HSP. Furthermore, the most commonly used interventions to manage HSP were repetitive task-specific practice, functional strengthening exercises, and range of motion exercises. A notable correlation was observed between the participants' educational level and experience and their responses regarding their knowledge and attitudes toward HSP.

Conclusion: Physiotherapists in Saudi Arabia demonstrated positive attitudes, knowledge, and practices toward HSP rehabilitation. The complex challenges related to HSP rehabilitation highlight the importance of sharing knowledge and information, teamwork, and up-to-date exercise practices for the effectiveness of HSP rehabilitation.

Keywords: hemiplegic shoulder pain, knowledge, attitude, management, physiotherapist.

Received 26th April 2025, accepted 15th August 2025, published 09th September 2025



www.ijphy.com

10.15621/ijphy/2025/v12i3/1855

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INTRODUCTION

Stroke is a neurological injury caused by the interruption or diversion of blood flow to the cerebrum. The primary etiology of stroke is either ischemic or hemorrhagic injury to the cerebral arteries. Stroke is one of the top three causes of mortality and acquired adult disability in developed countries. In Saudi Arabia, stroke incidence is 29.8 cases per 100,000 inhabitants annually [1].

Hemiplegic shoulder pain (HSP) is a prevalent issue after stroke, affecting approximately 47% of patients with stroke [2]. After experiencing a stroke, patients commonly exhibit a loss of motor control in their upper limbs, characterized by muscle weakness, lack of muscle tone, uncoordinated movements, and abnormal muscle tension (either too low or too high). This condition may continue for a duration ranging from 24 h to more than 1 year. Furthermore, patients often face various challenges that greatly affect their ability to practice their daily living activities and their overall well-being.

The possible causes of HSP include glenohumeral subluxation, shoulder contractures, limited shoulder range of motion, muscular dysfunctions such as rotator cuff problems, spasticity of the subscapularis and pectoralis muscles, and muscle imbalance. Additionally, HSP can be caused by humeral fracture, bursitis, tendonitis, and other conditions, such as shoulder-hand syndrome. However, the exact cause of HSP remains unknown. Recent studies have shown that HSP may result from a mix of many variables [3].

Numerous interventions have been developed to address HSP, including strategies such as extremity positioning, appropriate handling, upper extremity supports (i.e., support, splints, and taping), passive movement exercises, electrical stimulation to induce muscular contraction or for pain relief, intra-articular injection of steroids, and intramuscular Botox injections [4,5]. These interventions aim to prevent shoulder laxity, alleviate pain, and improve function. However, consensus has not been reached on which of these interventions is the most commonly administered and effective for managing HSP [5]. In addition, previous studies have highlighted the importance of HSP assessment and measurements because comprehensive assessment is considered the initial step in rehabilitation and the basis for all subsequent efforts [6].

Physiotherapy practices in healthcare systems have been investigated in numerous nations [7–9]. However, the diversity and cultural aspects of these nations, the physiotherapy training programs, and the nature of the practice have substantial effects on the specific types and approaches of physiotherapy treatments for HSP. Additionally, data obtained in these countries should not be generalized without considering these factors.

In Saudi Arabia, research on the knowledge, attitudes, and practices of physiotherapists toward the care of patients with HSP is lacking. Investigating these issues can contribute to our understanding of HSP and serve as a crucial initial

phase in enhancing evaluation, administration, and patient care.

Therefore, this study aimed to enhance our understanding of the current practices employed by Saudi physiotherapists in managing HSP. Additionally, this study aimed to investigate how Saudi physiotherapists use and apply current information to inform their clinical practice, implement this in practice, and create, adapt, and implement evidence-based practices for the management of HSP.

METHODS

This was a cross-sectional study in which physiotherapy centers' managers and physiotherapy hospital departments' heads were contacted. The study took place in Saudi Arabia from September to December 2023. The managers of the rehabilitation centers were contacted via telephone to discuss the project and obtain guidance from the regional coordinators. Email addresses and phone numbers of potential coordinators of stroke rehabilitation who treat patients with HSP were collected. Interested participants were invited to an online presentation discussing the project, where the study's aims and goals were explained, and any questions were addressed.

Participants

The inclusion criteria included licensed physiotherapists who were actively involved in treating patients with hemiplegia in Saudi Arabia and working in either governmental or private rehabilitation centers within the country, as well as those who were able to understand and communicate in English.

The study employed a modified version of the questionnaire used by Connell et al [2014]. In their investigation of British physiotherapists, with all the necessary governance approvals obtained before data collection commenced. Approval for the study was granted by the Research Ethics Committee of Majmaah University (HA-01-R-088) [10].

Procedure

The researchers contacted physiotherapists who had previously consented to be contacted for research purposes. The questionnaire was administered to the physiotherapists. Each distributed survey was assigned a distinct code linked to the physiotherapist's identity, whereas the researchers remained blinded to the specific individuals who completed the questionnaire.

The questionnaire comprised four parts: sociodemographic characteristics; knowledge, attitudes, and practices of physiotherapists toward HSP; HSP assessment; and HSP management. The modified questions included demographic characteristics, such as band and workplace, and open-ended questions, such as "When appropriate, who do you think should take the lead on prescribing upper limb exercises?" and "How do you measure the effectiveness of the prescribed upper limb exercises?" In contrast, questions related to occupational therapy were deleted. The items were evaluated on a 5-point Likert scale.

The categories “always” and “often” were combined into a single category, labeled “always.” In addition, “rarely” and “never” were combined into one item, “never.” Moreover, items evaluated on a 5-point Likert scale were shortened into the final three categories: “agree,” “neutral,” and “disagree.”

Data analysis

The questionnaire data were analyzed for descriptive statistics using the Statistical Package for the Social Sciences (SPSS version 25). Response frequencies for the survey questions were determined and presented in both graphical and tabular formats to address our research questions. After exploring the response rate and before examining the association between the study variables, certain items in the demographic part were consolidated into broader categories to make the comparison easier with a sufficient sample size (i.e., satisfying the statistical assumptions). The responses were divided into subgroups by age (<30 years and ≥30 years), years of practice (≤5 years and >5 years), and level of education (undergraduate degrees (diploma and bachelor’s degrees) and postgraduate degrees (master’s and doctorate’s degrees). The relationship between the responses provided by the participants and their demographic characteristics (i.e., level of experience and education) was examined using a chi-square association test (χ^2).

RESULTS

A total of 523 physiotherapists were included in this study. Table 1 shows the characteristics of the responding therapists. Of the 523 physiotherapists, 300 responded to the questionnaire (response rate 57.63%). The gender distribution was nearly equal. Most participants were specialized physiotherapists. Over half were employed in the private sector, and 78.3% had a bachelor’s degree.

Table 1: Respondents’ socio-demographic characteristics

Variable name	Characteristic	Measurement n (%)
Gender	Male	151(50.3%)
	Female	149(49.7%)
Job region	East	5(1.7%)
	Central	150(50.0)
	West	40(13.3%)
	South	53(17.7%)
	North	52(17.3)
Job titles	Junior	42(14.0%)
	Senior	67(22.3%)
	Specialist	168(56.0%)
	Consultant	23(7.7%)
Workplace	Government sector.	133(44.3%)
	Private sector.	167(55.7%)
level of education	PhD	23(7.7%)
	MA/MSc	39(13.0%)
	BSc	235(78.3%)
	Doctor of physiotherapy/DPT.	3(1.0%)

Years of practice	< 1 year	7(2.3%)
	1-5 years	211(70.3%)
	6-10 years	58(19.3%)
	11-15 years	24(8.0%)
Number of stroke patients	1-5 Patients	144(48.0%)
	5-10 Patients	102(34.0%)
	11-15 Patients	28(9.3%)
	≥ 15 patients	26(8.7%)

Participants’ knowledge, attitudes, and current practices toward HSP

The results showed that 46.3% of the participants reported that up to 75% of the patients with stroke they encountered in their clinics experienced problems with their upper limbs, which underscores the importance of prescribed exercises. Over 50% of the participants frequently provided upper limb exercises to their patients at discharge, whereas 46.7% always provided these instructions. However, only 1.7% of the participants sometimes provided such instructions.

Additionally, upon discharge, 40.7% of the physiotherapists provided updated written instructions. However, when a patient with stroke transitioned to the care of another physiotherapist or team, 18.7% rarely or never formally handed the prescribed exercises over to the other physiotherapist or team (Table 2).

Table 2: Knowledge and attitude of participants towards the current practice of HSP

Statement	Al-ways n (%)	Often n (%)	Some-times n (%)	Rarely n (%)	Never n (%)
Do you advise the person with a stroke to continue with the prescribed upper limb exercises on discharge?	140 (46.7%)	155 (51.7%)	5 (1.7%)	0%	0%
Do you provide the person with stroke up to date written instructions for their prescribed upper limb exercises on discharge?	122 (40.7%)	105 (35.0%)	48 (16.0%)	24 (8.0%)	1 (.3%)
When the person with a stroke moves to the care of another therapist or team is there a formal handover of the prescribed upper limb exercises?	93 (31.0%)	56 (18.7%)	95 (31.7%)	54 (18.0%)	2 (.7%)
Do you progress the upper limb exercises you prescribe?	122 (40.7%)	141 (47.0%)	35 (11.7%)	2 (.7%)	0%

Physiotherapists primarily used handwritten instructions to communicate upper limb exercises to patients with stroke. 39.0% of the participants ranked handwritten instructions as their top choice, followed by verbal instructions (37.9%). Table 3 shows all participants’ responses to the questionnaire.

Table 3: Participants' responses to how they communicate upper limb exercises to individuals after a stroke.

Statement		Responses		Percent of Cases
		N	Percent	
In what form do you communicate upper limb exercises to individuals after a stroke	Verbally	247	37.9%	82.3%
	Handwritten instruction	254	39.0%	84.7%
	after stroke Physio Tools	54	8.3%	18.0%
	after stroke Manual Locally	52	8.0%	17.3%
	after stroke Manual Published	45	6.9%	15.0%

The results showed that 86.7% of the physiotherapists communicated the suggested upper extremity exercises to the carers of patients with stroke or their family members, whereas 9.33% did not. For example, 86.33% communicated these exercises to therapy assistants. All participants (100%) preferred communicating upper limb exercises to the physiotherapy team, indicating a strong tendency to ensure continuity of care within the professional team (Table 4).

Table 4: Do you communicate HSP exercises to the following people?

Communicate HSP exercises to the following people	Yes n (%)	No n (%)	Not applicable n (%)
Family/Carer of the Person with Stroke	260(86.7%)	28(9.3%)	12(4.0%)
Therapy Assistants	259(86.3%)	26(8.7%)	15(5.0%)
Nursing Staff	224(74.7 %)	28(9.3%)	48(16.0%)
Occupational Therapy Staff	44(14.7%)	236(78.7%)	20(6.7%)
Physiotherapy Staff	300(100%)	0%	0%
Other	0%	0%	0%

Statistically significant differences in the provision of current written instructions for upper limb exercises to individuals with HSP were observed between respondents who did not acquire postgraduate degrees and had less experience in practice and those with more experience and postgraduate degrees ($p = 0.021$ and 0.042), respectively (Table 5).

Table 5: Association between respondents' score toward section 2 (Knowledge and attitude of participants towards current practice of HSP) and their characteristics

Do you provide the person with stroke up to date written instructions for their prescribed upper limb exercises on discharge?					
Factor		Always n (%)	Sometimes n (%)	Never n (%)	p-value
Level of education	Higher	35 (11.6%)	2 (.66%)	25 (8.3%)	0.021*
	Under	192 (64%)	46 (15.3%)	0 (0%)	

Do you progress the upper limb exercises you prescribe?					
Factor		Always n (%)	Sometimes n (%)	Never n (%)	p-value
Experience	≤5	208 (69.3%)	8 (2.6%)	2 (.66%)	0.042*
	>5	55 (18.3%)	27 (9%)	0 (0%)	

*: Significant level; #: number of participant; n%: The percentage ; χ^2 : chi square

Assessment

The results showed that 88% of the physiotherapists used validated pain assessment measures for patients with poststroke shoulder pain. Additionally, 87.67% of participants relied on verbal confirmation from patients to verify whether they performed the recommended upper limb exercises, with some using a written log. Surprisingly, 80.67% did not rely on verbal feedback from the patient's family to determine exercise compliance.

The responses to the questionnaire item "whether people who develop shoulder pain after stroke should be assessed using a validated pain assessment tool" were significantly associated with years of experience ($p = 0.001$), with more experienced physiotherapists reporting using validated pain assessment measures (Table 6).

Table 6: Association between respondents' score toward section 3 (Assessment) and their characteristics

People who develop shoulder pain after stroke should be assessed using a validated pain assessment tool.							
Section 3 (Assessment).	Factor		Agree n (%)	Neutral n (%)	Disagree n (%)	Total n (%)	χ^2 (p-value)
	Experience	≤5		185 (61.6%)	33 (11%)	0 (%)	218 (72.6%)
>5			79 (26.3%)	3 (1%)	0 (0%)	82 (27.3%)	

*: Significant level; #:number of participant; n%: The percentage ; χ^2 : chi square .

Management

Most participants (42%) chose repetitive task-specific practice as the most common type of exercise described to a person with poststroke upper limb problems, followed by functional strengthening exercises (20.7%) and range of motion exercises (15.3%).

When the participants were asked whether they would prescribe upper extremity exercises to a person with a stroke if they could elevate their scapula actively and have grade 1 finger/wrist extension, 61.3% ($n = 184$) strongly agreed or agreed, and only 9.7% ($n = 29$) disagreed with this statement. Additionally, 87 participants (29%) had a neutral opinion (Table 7).

Table 7: identify the extent to which you agree or disagree with the following statements

Statement	Strongly Agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly Disagree n (%)
I always prescribe upper limb exercises to a person with stroke if they can actively elevate their scapula and have Grade 1 finger/wrist extension	76 (25.3%)	108 (36.0%)	87 (29.0%)	29 (9.7%)	0%
I tend to prioritise transfers and mobilising over upper limb exercises for people with stroke	52 (17.3%)	160 (53.3%)	86 (28.7%)	2 (.7%)	0%
I tend not to prescribe upper limb exercises for people with stroke when they have shoulder pain	31 (10.3%)	52 (17.3%)	128 (42.7%)	88 (29.3%)	1 (0.3%)
I tend not to prescribe upper limb exercises for people with stroke when they have increased tone	31 (10.3%)	73 (24.3%)	77 (25.7%)	91 (30.3%)	28 (9.3%)
I tend not prescribe upper limb exercises to people with stroke until they have regained normal movement patterns through facilitation and re-education	46 (15.3%)	49 (16.3%)	112 (37.3%)	62 (20.7%)	31 (10.3%)

Furthermore, a significant association was observed between years of experience and responses to the questionnaire item “whether prescribing upper limb exercises for people with strokes is appropriate when they have shoulder pain.” The responses of the participants with <5 years of experience in stroke rehabilitation were significantly different from those of participants with >5 years of experience in stroke rehabilitation (Table 8).

Table 8: Association between respondents’ score toward section 4 (Management) and their characteristics

I tend not to prescribe upper limb exercises for people with stroke when they have shoulder pain					
Factor		Agree n (%)	Neutral n (%)	Disagree n (%)	p-value
Experience	≤5	56 (18.6%)	98(32.6%)	64(21.3%)	0.033*
	>5	27(9%)	30(10%)	25(8.3%)	

*: Significant level; #:number of participant; n%: The percentage; χ^2 : chi square .

DISCUSSION

This cross-sectional study examined the attitude, assessment, and management strategies for HSP among physiotherapists in Saudi Arabia. In this study, 46.3% of the respondents reported that up to 75% of their patients

were diagnosed with HSP, and 89.3% reported that at least 50% complained of HSP. These findings indicate that the researchers intentionally selected a sample size that accurately reflects the practical factors of HSP rehabilitation in Saudi Arabia. An appropriate sample size is critical in scientific studies because it directly affects the precision and accuracy of research findings [11,12]addressing a wide range of policy questions. An important question when setting up a DCE is the size of the sample needed to answer the research question of interest. Although theory exists as to the calculation of sample size requirements for stated choice data, it does not address the issue of minimum sample size requirements in terms of the statistical power of hypothesis tests on the estimated coefficients. The purpose of this paper is threefold: (1.

This study showed that 98.4% of participants frequently provided prescribed upper limb exercises for patients with HSP at discharge, which is higher than the percentage reported in previous studies [7, 10, 13]. Additionally, 40.7% of the participants provided up-to-date written instructions for these exercises, highlighting the importance of patient education. Providing written instructions and effective communication has been reported to significantly enhance patient outcomes and the overall well-being of individuals with HSP [14]. Additionally, this study showed that 86.7% of the participants communicated with family members or caregivers about exercises for patients with HSP. This practice aligns with existing studies that highlight the importance of providing clear instructions to families and facilitating open discussions about necessary modifications based on the patient’s condition [10,13] frequency and duration of upper limb treatment provided by occupational and physiotherapists for people after stroke in the UK. Design: A cross-sectional online survey was used. Description and analysis of the data were based on items from the Template for Intervention Description and Replication (Who, Where, What and How much. Additionally, sharing exercise information with family members can help ensure that HSP exercises are performed correctly at home [7]thereby improving the patient’s ability to execute daily tasks. This article uses an existing American survey to compare Saudi physiotherapists’ current practice and preferred interventions in stroke rehabilitation with their counterparts in other countries. Method: An electronic survey was sent between September and October 2020 to physiotherapists (n = 287.

The results of this study showed that the participants preferred to communicate upper limb exercises to the physiotherapy team (100%), followed by nurses (74.67%). These findings are similar to those of other studies (Alatawi,2021; Stockley et al, 2019; and Connell et al (2014)) [7,10,13]thereby improving the patient’s ability to execute daily tasks. This article uses an existing American survey to compare Saudi physiotherapists’ current practice and preferred interventions in stroke rehabilitation with their counterparts in other countries. Method: An electronic survey was sent between September and October 2020

to physiotherapists (n = 287, which showed that efficient communication among individuals comprising a stroke rehabilitation team is necessary. Additionally, ensuring cooperation in care is crucial for optimizing patient outcomes.

In this study, most participants reported using a validated pain assessment tool for patients with shoulder pain, which is consistent with previous research findings [7,10,13] thereby improving the patient's ability to execute daily tasks. This article uses an existing American survey to compare Saudi physiotherapists' current practice and preferred interventions in stroke rehabilitation with their counterparts in other countries. Method: An electronic survey was sent between September and October 2020 to physiotherapists (n = 287. This study found that 99.67% of the participants used objective assessments to determine whether patients with stroke were completing the recommended upper limb exercises. Furthermore, reliance on verbal confirmation from patients with stroke (87.67%) and written logs (80.67%) was noted. In contrast, verbal feedback from family members was less emphasized, highlighting physiotherapists' dependence on external sources for informed decision-making [10,15].

This paper's findings showed that repetitive task-specific practice, functional strengthening exercises, and range of motion exercises were the top three exercises for upper limb rehabilitation. These findings are consistent with those of previous studies, which emphasize the significance of these exercises in restoring functional movement after stroke. Additionally, repetitive arm exercises can effectively enhance motor function and reduce impairments after stroke [5].

In this study, 61.3% of the participants were willing to prescribe upper extremity exercises to patients with stroke who could actively perform scapular elevation and demonstrate grade 1 finger/wrist extension. These findings are consistent with those of previous studies, which emphasize the importance of customizing upper limb training programs to meet the individual needs and abilities of patients with stroke [16] such as stiffness, deformity, muscle contractures, and cramping, requires strict adherence to recommended physiotherapy activity regimes. The aim of this paper is to conduct a critical narrative review of the available evidence focusing exclusively to the therapeutic advantages associated with various forms of physical therapy (PT). Furthermore, most participants prioritized transfers and mobility over upper extremity exercises for patients with stroke. Although this focus may vary according to individual needs, it is common in the early phases of rehabilitation because transfers and mobilization are crucial to enhancing independence and physical mobility [17].

The results showed that 42.7% of the participants gave a neutral response to "whether prescribing upper limb exercises for people with strokes is appropriate when they have shoulder pain," which indicates hesitation in their responses. These findings are consistent with those of

previous studies [7, 10, 13], which have shown that caution should be exercised and simple, painless exercises should be used to enhance shoulder stability and mobility. Many participants stated that they would not prescribe upper extremity exercises until normal movement patterns are regained [10, 13].

Limitations

In this study, the participants were selected based on a third-party distributor (physiotherapy center managers and physiotherapy hospital department heads), which may introduce selection bias, thereby limiting the generalizability of the study's results to all physiotherapists treating patients with stroke in Saudi Arabia. Additionally, the use of specific terminology in the survey might have hindered the understanding of some participants despite efforts to clarify these terms. The sample size was constrained by the MSc program's time and resource limitations, which restricted recruitment, particularly in the Western, Eastern, Southern, and Northern regions of Saudi Arabia. Furthermore, although the response rate was 57.63%, concerns about privacy or confidentiality might have influenced the participation rate. Internet connectivity issues might have contributed to the lower response rate.

CONCLUSION

HSP is a complex problem that many factors can cause. A systematic approach is necessary for HSP management. Complex challenges related to HSP rehabilitation, such as prevention of complicated HSP, assessment in a correct way with validated tools, prescribed upper limb exercise, keeping these exercises up-to-date, involvement of the family of the stroke patient in the rehabilitation process, teamwork, and sharing of information and knowledge by rehabilitation staff during the rehabilitation process, should be considered. Future research should explore alternative study designs, such as randomized controlled trials, experimental studies, and intervention studies.

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Knowledge, attitude and practice of managing hemiplegic shoulder pain by physiotherapists in Saudi Arabia.

INTRODUCTION

I am interested in gathering data regarding the attitudes, assessment, and management practices of HSP among Saudi physiotherapists. This questionnaire includes four parts: the first section is about demographic information, the second one is about the knowledge and attitudes and practice of physiotherapists regarding HSP, the third one is about outcome assessment of HSP, and finally the fourth section is about the management of HSP. This questionnaire should only take a few minutes to complete. Please tick on the appropriate answer. All information provided by you will remain confidential and be treated in accordance with data regulations. Please complete all sections.

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Section 1: Demographic details about yourself.

1. What is your gender?

- Male
 Female

2. What is your job title?

- Junior physiotherapist.
 Senior physiotherapist.
 Specialist
 Consultant.

3. In which region do you work in?

- East
 Central
 West
 South
 North

4. What best describes your field of work?

- Government sector.
 Private sector.

5. Please indicate the highest level academic qualification that you have been awarded:

- PhD
 MA/MSC
 Bachelor degree/BSc
 Doctor of physiotherapy/DPT.
 Diploma

6. How many years you have been practicing as a physiotherapist

- < 1 Year
 1-5 years
 6-10 years
 11-15 years
 > 15 years

7. On average how many stroke patients do you see daily?

- 1-5 Patients
 5-10 Patients
 10-15 Patients
 > 15 Patients

Section 2 : Knowledge and attitude of participants towards current practice of HSP

8. On average approximately how many of people with stroke have problems with their upper limb?

- Up to 25% Up to 50% Up to 75% Up to 100%

9. Do you advise the person with stroke to continue with the prescribed upper limb exercises on discharge?

- Always Often Sometimes Rarely Never

10. Do you provide the person with stroke up to date written instructions for their prescribed upper limb exercises on discharge?

- Always Often Sometimes Rarely Never

11. When the person with stroke moves to the care of another therapist or team is there a formal handover of the prescribed upper limb exercises?

- Always Often Sometimes Rarely Never

12. Do you progress the upper limb exercises you prescribe?

- Always Often Sometimes Rarely Never

13. In what form do you communicate upper limb exercises to a person after stroke? (Tick all that apply)

- Verbally
 Handwritten Instructions
 PhysioTools or a Similar Software
 Manual (Locally Developed)
 Manual (Published)

14. Do you communicate these exercises to the following people?

Family/Carer of the Person with Stroke

- Yes No Not Applicable

Therapy Assistants

- Yes No Not Applicable

Nursing Staff

Yes No Not Applicable

Occupational Therapy Staff

Yes No Not Applicable

Physiotherapy Staff

Yes No Not Applicable

Other (please specify)

Section 3: Assessment

15. People who develop shoulder pain after stroke should be assessed using a validated pain assessment tool.

Strongly Agree Agree Neutral Disagree Strongly Disagree

16. To determine if the person with stroke is completing the prescribed upper limb exercises I rely on:

The word of the person with stroke

Yes No Not Applicable

A written log from the person with stroke

Yes No Not Applicable

Verbal feedback from the family/carer of the person with stroke

Yes No Not Applicable

Verbal feedback from other members of the rehabilitation team

Yes No Not Applicable

My own objective assessment findings

Yes No Not Applicable

Other (please specify)

Section 4: Management

17. Please rank these exercises in order, assigning 1 to the type of exercise you prescribe most often and 5 to the type of exercise you prescribe least often to a person with upper limb problems after stroke.

- Range of motion/stretching
- Functional strengthening
- Weight bearing through hand
- Trunk control
- Repetitive task specific practice

18. Please identify the extent to which you agree or disagree with the following statements:

I always prescribe upper limb exercises to a person with stroke if they can actively elevate their scapula and have Grade 1 finger/wrist extension

Strongly Agree Agree Neutral Disagree Strongly Disagree

I tend to prioritise transfers and mobilising over upper limb exercises for people with stroke

Strongly Agree Agree Neutral Disagree Strongly Disagree

I tend not to prescribe upper limb exercises for people with stroke when they have shoulder pain

Strongly Agree Agree Neutral Disagree Strongly Disagree

I tend not to prescribe upper limb exercises for people with stroke when they have increased tone

Strongly Agree Agree Neutral Disagree Strongly Disagree

I tend not to prescribe upper limb exercises to people with stroke until they have regained normal movement patterns through facilitation and reeducation

Strongly Agree Agree Neutral Disagree Strongly Disagree