ORIGINAL ARTICLE

Knowledge, Attitude and Practice of Upper Cross Syndrome among Physiotherapists in Karachi

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Abstract

Background: Upper Cross Syndrome (UCS) has been considered one of the most prevalent musculoskeletal conditions reported worldwide. Understanding this condition is crucial for medical professionals to improve patient care. Despite that, data regarding knowledge, attitudes, and practice patterns in treating UCS among physiotherapists still need to be discovered.

Methods: A cross-sectional survey was conducted on 101 physiotherapists enrolled through purposive sampling techniques from secondary and tertiary care settings. All the participants were given consent and a structured self-designed questionnaire on KAP regarding UCS.

Results: The results showed good, fair, and poor knowledge of 65.3%, 23.8%, and 10.9% of physiotherapists, respectively. Meanwhile, 95%, 4% and 1% physiotherapists showed positive, neutral and negative attitudes, respectively. Furthermore, 61.4% of physiotherapists are good in practice, 21.8% are doing fair practice, and 16.8% have poor practice in giving the interventions to the patients of UCS. Evidence suggests a significant correlation between the attitude and qualification of the respondents ($p<0.01$), and there was no significant association between knowledge and qualification and practice and qualification ($p>0.05$).

Conclusion: It has been observed that physiotherapists have good knowledge and attitudes towards UCS. They are practicing well in this domain. Physical therapists are more concerned with promoting physical activity, so they must take responsibility for providing effective treatment at UCS.

Keywords

Musculoskeletal Disorders, Pain, Posture, Physical Therapy.

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Introduction

Upper Cross Syndrome (UCS) is the shortening and tightening of the upper trapezius, pectoralis major, and levator scapulae, simultaneously with the lengthening and weakening of the deep neck flexors and serratus anterior, more precisely the scalene, rhomboids, middle and lower trapezius.[1-2] The clinical presentation of individuals with UCS is forward-headed posture, increased cervical curvature, winged scapula, rounded upper back, and rounded shoulders. These structural changes make joints susceptible to damage in the neck, back, and shoulders[3-4].

Dr. Vladimir Janda was the first to understand and explore the patterns of muscle imbalances within the body[5]. He stated that improper body dynamics, with poor positioning, result in hyperactivity of specific joints and diminished movement of normal ones. According to the literature, early detection of this condition and rehabilitation may help to prevent further complications[6]. However, there needs to be more evidence about physiotherapists' knowledge, attitude, and practices (KAP) in intervening in UCS, specifically in the Asian population, due to its growing burden. As physiotherapists are healthcare professionals who deal with UCS, there is an immense need to determine whether the physiotherapists have sufficient knowledge, an essential attitude, and the effective practice of it[7]. Therefore, this study aimed to understand what physiotherapists know, believe, and do about UCS. The study will contribute to awareness regarding the condition, which may help develop targeted educational programs, improve patient outcomes, guide professional development, and support evidence-based practices, ultimately leading to better diagnosis and treatment of UCS.

Methodology

Study Design and Setting

This cross-sectional survey was conducted to determine the KAP of UCS among physiotherapists of Karachi. The data was collected from the secondary and tertiary care hospitals in the public and private sectors from November 2023 to April 2024.

Target Population

A sample size of n=101 physiotherapists was estimated using Open EPI software version 3.0, with 70% of the anticipated frequency regarding physical therapist's knowledge of UCS. Physiotherapists who graduated and were affiliated with a clinical setup in secondary and tertiary care hospitals were enrolled in this study using non-probability purposive sampling. In contrast, physiotherapy interns and diploma holders were excluded.

Data Collection Procedure

Before the survey, each respondent signed the informed consent form. Then, a self-administered questionnaire was given to them, which consisted of three main domains: knowledge, attitude, and practices about UCS. The questionnaire was developed to include respondents' demographic and educational background, attitudes and beliefs about the role of physiotherapists in preventing and managing UCS, current clinical practices, and knowledge of UCS.

Results

The socio-demographic data for the survey respondents are shown in Table-1. The respondents were up to 40 years old, with the highest response rate of 37(36.6%), acquired from the age group <25. Amongst these, a significant response of 61(60.4%) was received from females, while 40(39.6%) of the male physiotherapists responded to this questionnaire. The clinical experience varies from 6 months to 30 years. More than half of the physiotherapists' participants, 67(66.3%) respondents, had the experience of ≥ 5 years. It is shown obviously that large numbers of respondents, 71(70.3%) were graduates in physiotherapy, Doctor of Physical Therapy (DPT) and Bachelor in Physiotherapy (BSPT), 29(26.7%) with qualification of Post-graduation in Physiotherapy, Masters in Physiotherapy (MSPT) and Masters of Philosophy (M.Phil.) in physiotherapy and 1(1%) respondent was Doctor of Philosophy (PhD) in physiotherapy.

Table-1 Socio-demographic data of respondents	
Items	**n (%) of 101 Respondents**
Gender	
Male	40 (39.6%)
Female	61 (60.4%)
Age (Years)	
≤ 25	37 (36.7%)
26-30	27 (26.7%)
31-35	17 (16.8%)
36-40	10 (9.9%)
41 ≤	08 (7.9%)
Clinical Experience	
≥5	67 (66.3%)
6-10	22 (21.8%)
11-15	07 (6.9%)
16-20	2 (2%)
21-25	2 (2%)
26≤	1 (1%)
Qualification Level	
Graduation	71 (70.3%)
Post-graduation	29 (28.7%)
Doctor of Philosophy	01 (1%)

In the knowledge section, the five true-or-false questions about UCS are shown in Table-2. 65.3% of respondents have good knowledge, and 23.8% have fair knowledge. In contrast, 10.9% need better knowledge of basic information about UCS.

Table-2 Items related to Knowledge regarding UCS	
Items	**No. (%) of 101 Respondents**
UCS is a muscle imbalance in the upper quadrant	
True	97(96%)
False	4(4%)
Do Not Know	0(0%)
The UCS and forward head posture are used interchangeably	
True	61(60.5%)
False	35(34.7%)
Do Not Know	5(5%)
The UCS is assessed by postural evaluation	
True	95(94.1%)
False	3(3%)
Do Not Know	3(3%)
Muscular impairment in UCS shows tight middle trapezius	
True	49(48.5%)
False	50(49.5%)
Do Not Know	2(2%)
Physiotherapy for UCS includes stretching of the pectoralis major	
True	23(22.8%)
False	73(72.3%)
Do Not Know	5(5%)

Table-3 indicates the attitude. The Likert-type questions were used to ask the respondents to rate their attitude to which they agreed or disagreed from five statements regarding UCS. Most physiotherapists reported having a positive attitude regarding their role in managing UCS, i.e. 96% showed a positive attitude. In comparison, 4% responded neutrally, whereas there was no finding of a bad attitude.

Table-3 Items related to Attitude regarding UCS	
Items	**No. (%) of 101 Respondents**
Management of UCS is in the scope of physiotherapy	
Disagree	3(3%)
Neutral	7(6.9%)
Agree	91(90.1%)
Physiotherapists can play a role in preventing UCS	
Disagree	1(1%)
Neutral	7(6.9%)
Agree	93(92.1%)
Physiotherapists can prescribe exercise at UCS	
Disagree	1(1%)
Neutral	3(3%)
Agree	97(96%)
Physiotherapists can play a role in managing secondary complications in UCS	
Disagree	2(2%)
Neutral	13(12.9%)
Agree	86(85.1%)

When asked about the domain of practice of UCS, it showed that 61.4% of physiotherapists are good in practice, 21.8% are doing average treatment, and 16.8% are effectively giving interventions to the patients of UCS.

Table-4 Items related to Practice regarding UCS	
Items	**No. (%) of 101 Respondents**
Do you treat patients with UCS along with other problems?	
Yes	79(78.2%)
No	22(21.8%)
Do you treat patients specifically with UCS-related complications?	

Yes	55(54.5%)
No	46(45.5%)
Do you use electro-physical agents in pain due to UCS?	
Yes	70(69.3%)
No	31(30.7%)
Physiotherapists educate patients about preventing and managing UCS	
Yes	98(97%)
No	3(3%)
Do you screen for UCS in all patients with complaints of upper quadrant pain?	
Yes	67(66.3%)
No	34(33.7%)

The chi-square test was employed to determine the association between the level of KAP and qualification. The results showed no statistically significant relation between knowledge and qualification and between practice and qualification of respondents ($p>0.05$). When it is seen for Attitude, the results showed strong evidence of a significant correlation between respondents' attitude and qualification ($p<0.01$). The details are depicted in Table-5.

Table-5 Association of Qualification and KAP Level of Physiotherapists regarding UCS

Qualification	Knowledge			Attitude			Practice		
	Good	Fair	Poor	Positive	Neutral	Negative	Good	Fair	Poor
Graduate	46	18	7	68	3	0	43	14	14
Masters	19	6	4	28	1	0	19	8	2
PhD	1	0	0	0	0	1	0	0	1
ASYMP.SIG (p-value)	0.9			0.00			0.1		

Discussion

UCS, a prevalent postural syndrome, often occurs in individuals with prolonged working hours due to adopting the same posture for extended periods[7-10]. Physiotherapy has been considered one of the most beneficial interventions6. This study assessed physiotherapists' knowledge,

attitudes, and practice patterns regarding UCS in Karachi. The findings showed a positive attitude of professionals towards the management of UCS.

The respondents showed a high level of knowledge i.e. 48.5% to 96% across different items. However, a gap area has been observed regarding knowledge of some associated factors among professionals, such as identifying weak and tight muscles associated with the syndrome. These findings align with a study conducted by Llanos et al.[7], which similarly reported a need for more awareness and adoption of incorrect postures among participants despite their perception that they were corrective. Sharmila et al.[2] published the results of a systematic review discussing the evaluation and management of UCS, which aligns with the aim of our paper on physiotherapy interventions. Furthermore, Karimian et al.[11] also discussed the effectiveness of targeted exercises, emphasizing the importance of different strengthening and stretching exercises. Piri et al.[12] reported the benefits of implementing a corrective exercise program on female beauticians with UCS for 12 weeks to reduce the kyphosis and alignment of shoulder and cervical curves.

Moreover, confidence levels and knowledge were linked with the practice patterns of physiotherapists. However, it is essential to highlight the importance of evidence-based knowledge for professionals to implement effective rehabilitation protocols. Regardless of the association, the respondents agreed on the capability of physiotherapists to play a role in educating patients regarding UCS and its management through exercise protocol. Many respondents also showed confidence in evaluating and diagnosing USC through postural assessment, which aligns with other studies using the same method[13-14]. Holger et al. published comprehensive evidence in addition to the preference for physiotherapy interventions in diagnosing and managing UCS, which most general physicians neglect. This report emphasizes the necessary role of physiotherapists in addressing UCS-related diagnosis[15]. Additionally, other studies have been conducted that focus on the evidence regarding the effectiveness of physiotherapy[16-25].

Despite the studies conducted on the prevalence and corrective measures for UCS, Our study identifies the gap area of KAP, revealing no significant associations between qualification and attitude or practice (p=0.9 and p=0.1, respectively), which needs to be addressed.

It is the first study to explore the knowledge, attitude and practice of UCS among physiotherapists as per the author's knowledge. Due to its descriptive nature, this study could recognize physiotherapists' attitudes. This study helps physiotherapists determine how to evaluate their knowledge and the domain of their practice in this disease and establish a baseline for future research in this domain. Despite this, the study may have response bias, or participants may possibly misinterpret some of our survey questions. Further, most respondents work in outpatient settings, and some participants did not see UCS patients regularly.

Conclusion

The findings concluded that over half of the physiotherapists were well aware of UCS, which supported our hypothesis to a limited extent. However, the attitudes and practices of most

physiotherapists were positive and sound, respectively. This study will raise awareness among physiotherapists regarding their role in screening their patients for upper quadrant pain.

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Conflict of Interest
None.

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None.

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AUTHORS' CONTRIBUTION

The following authors have made substantial contributions to the manuscript as under:

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Acquisition, Analysis or Interpretation of Data: Naseem G, Bano S, Sultan F, Baig AAM, Mehwish B

Manuscript Writing & Approval: Naseem G, Sultan F, Baig AAM, Mehwish B

All the authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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