International Journal of Physiotherapy and Research,
Int J Physiother Res 2023, Vol 11(4):4589-97. ISSN 2321-1822
DOI: https://dx.doi.org/10.16965/ijpr.2023.139

Original Research Article

Awareness, Beliefs and Practice of Cognitive Behavioral Therapy (CBT) Strategies for Chronic Pain Management Among Physiotherapists

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ABSTRACT

Purpose: To evaluate the awareness, practice and beliefs about CBT strategies for chronic pain management among Physiotherapists.

Relevance: Chronic pain can be defined as pain that persists for 3 months or longer and, while not necessarily maladaptive, often leads to physical decline, limited functional ability and emotional distress. CBT has been increasingly used as an effective tool by psychologists in the management of chronic pain that is delivered through individual or group counselling sessions. Cognitive restructuring, relaxation techniques, activity pacing and good sleep hygiene are a few strategies of cognitive behavioral pain management therapies. There is also increasing evidence that supports the use of CBT strategies by Physiotherapists during their treatment for obtaining a positive outcome for chronic pain patients.

Method and Analysis: A Google Form was formulated with relevant questions about awareness, practice and beliefs about CBT strategies for chronic pain. The questionnaire was face validated by 3 independent psychologists who practice CBT for chronic pain in their regular practice. This form was then distributed through various Physiotherapy groups in Bangalore via snowball sampling method. The data obtained from the responses were then complied, decoded and quantitatively analysed through content analysis using the SPSS-22.

Result: The result showed strikingly contrasting responses from the Physiotherapists, as even though the majority of them were aware of CBT (34.1%), they applied it relatively less (15.3%). Of 63.5% Physiotherapists believed that pain perception is affected by automatic thoughts, while 52.9% agreed that negative thoughts need to be changed into positive coping thoughts. Around 49.4% of Physiotherapists believe in teaching relaxation techniques to their patients with chronic pain. Activity pacing and good sleep hygiene are important, as believed by 25.9% and 47.1% respectively. Physiotherapists (56.5%) accepted that patient needs to be mindful while exercising.

Conclusion: Majority of Physiotherapists are aware and have positive beliefs about CBT strategies for chronic pain management. However, comparatively, we can see variations in the application of CBT strategies in their treatment plan.

KEY WORDS: Cognitive Behavioral Therapy, chronic pain, Physiotherapy.

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Access this Article online	Journal Information
Quick Response code	**International Journal of Physiotherapy and Research** ISSN (E) 2321-1822 | ISSN (P) 2321-8975 **https://www.ijmhr.org/ijpr.html** **DOI-Prefix:** https://dx.doi.org/10.16965/ijpr
DOI: 10.16965/ijpr.2023.139	**Article Information** Received: 16 May 2023 Accepted: 15 Jun 2023 Peer Review: 17 May 2023 Published (O): 11 Aug 2023 Revised: 29 May 2023 Published (P): 11 Aug 2023

INTRODUCTION

Chronic pain can be defined as pain that persists for three months or longer and, while not necessarily maladaptive, often leads to physical decline, limited functional ability, and emotional distress [1].

Chronic pain is an inherently complex subjective experience influenced by biological, psychological, and social factors [2].

Strong correlations between chronic pain and significant morbidity, such as depression and functional disability [3-7], as well as higher healthcare utilization, have been shown in prior studies [8-10].

Saxena A. et al.'s 2018 study found that the prevalence rate of chronic pain was 19.3% in the Indian population. Of these, 70.6% of respondents suffering from chronic pain were females [11].

Chronic pain is difficult to treat because it often occurs alongside other symptoms such as sleep disturbance, anxiety, and depression [12] that may increase pain severity and lead to further reductions in quality of life and physical function [13].

Analgesics medications (such as acetaminophen, nonsteroidal anti-inflammatory medicines, and opioids) are the most often used treatment for chronic pain [14,15].

CBT is a non-pharmacological treatment for chronic pain that is often given as weekly individual or group counselling sessions [2].

By utilising a variety of psychological strategies, Cognitive Behavioural Therapy aims to improve patients' ability to control their discomfort [16].

CBT is based on the Gate Control theory [17]. The Gate Control Theory asserts that descending modulation from the brain regions in charge of thought (frontal cortex), emotion (limbic system), and regulatory processes (i.e., hypothalamus) affect the dorsal horn of the spinal cord's dorsal horn by way of neurotransmitters, endogenous opiates, and hormones like cortisol. In addition, the Neuromatrix Theory [18], an update to the Gate Control Theory, proposes that a variety of sensory, cognitive, visual, and emotional inputs may interfere with the neuronal homeostasis-regulation patterns of the brain's built-in neuronal matrix (NeuroMatrix), resulting in a protracted stress response (i.e., cortisol release). This protracted stress reaction may result in more muscle, bone, and neural tissue loss, which helps set the stage for various chronic pain problems.

As a result, pain perception is reduced as a result of CBT-mediated descending inhibitory mechanisms [19].

Psychologists have increasingly used CBT as an effective tool in managing chronic pain delivered through individual or group counseling sessions. CBT for chronic pain lowers psychological distress and pain perception by enhancing a person's capacity to cope with suffering [20]. Cognitive restructuring, relaxation techniques, activity pacing, and good sleep hygiene are a few cognitive behavioral pain management therapy strategies.

To build more adaptive coping ideas and behavior, cognitive restructuring entails detecting and reframing automatic negative beliefs and the behaviors that come from them [21].

Deep breathing, progressive muscle relaxation, and visualization are techniques used in relaxation training to reduce muscle tension and change how physical pain is perceived [21].

Activity pacing is a behavioral technique that enables people to plan their activities around time or quotas (rather than around pain) to maximize their functionality despite chronic pain [21].

In addition, sleep hygiene refers to various sleep scheduling, dietary, environmental, and activity strategies to improve sleep onset, maintenance, and quality [22].

According to preliminary findings from functional magnetic resonance imaging studies, CBT-induced structural changes in the prefrontal cortex may cause the release of pain-inhibiting neurotransmitters that "gate" or prevent pain impulse passage from the spinal cord to the brain [23]. Thus, CBT-mediated descending inhibitory mechanisms result in decreased pain perception, thereby helping Physiotherapists to proceed with paced activities, progressive strengthening, and return to work so that it aids in the overall recovery of the patient with chronic pain [24]. There is also increasing evidence that supports the use of CBT strategies by Physiotherapists during their treatment to obtain a positive outcome for chronic pain patients.

OBJECTIVES:

To explore the extent of awareness, practice, and beliefs about CBT strategies for chronic pain management among Physiotherapists.

To signify the importance of CBT training among Physiotherapists for effective chronic pain management.

METHODOLOGY

A Google form was formulated with relevant questions about awareness, practice, and beliefs about CBT strategies for chronic pain. The questionnaire was face validated by 3 Independent Psychologists who practice CBT for chronic pain in their regular practice. This form was then distributed through various Physiotherapy groups and forums in and around Bangalore via the snowball sampling.

Inclusion criteria:

1. Minimum qualification: Bachelor degree in Physiotherapy
2. Physiotherapists

Exclusion criteria:

1. Age below 20 years
2. Undergraduates

RESULTS

The data collected through the form was compiled, and the results were statistically analysed using SPSS 22. A total of 93 Physiotherapists filled out the form. Among which 8 of them had to be excluded since they didn't come under inclusion criteria

Table 1: Summary of Demographic Data.

Variable	Frequency	%
Sex		
Male	31	36.47
Female	53	62.35
Other	1	1.17
Age		
20-25	49	57.64
25-30	24	28.23
30-35	7	8.23
≥ 35	5	5.88
Place of Work		
Hospital	27	31.76
Rehabilitation Centre	16	18.82
Clinic	15	17.64
Academics	22	25.88
Others (homecare, free lancing, masters, special school)	5	5.88
Qualification		
Bachelor of Physiotherapy	56	65.88
Master of Physiotherapy	29	34.11
Specialization		
Neurophysiotherapy	13	15.29
Musculoskeletal and Sports	9	10.58
Orthopedic	9	10.58
Pediatrics	5	5.88
CardioPulmonary	1	1.17
Community Physiotherapy	1	1.17
Oncology	1	1.17
Nil	46	54.11
Years of practice		
Less than 1 year	36	42.35
1-5 years	35	41.17
5-10 years	7	8.23
>10 years	7	8.23

Awareness

1. I am aware that chronic pain has psychological impact on an individual.

Among 85 physiotherapist 57.6% strongly believed that chronic pain has psychological impact on an individual.

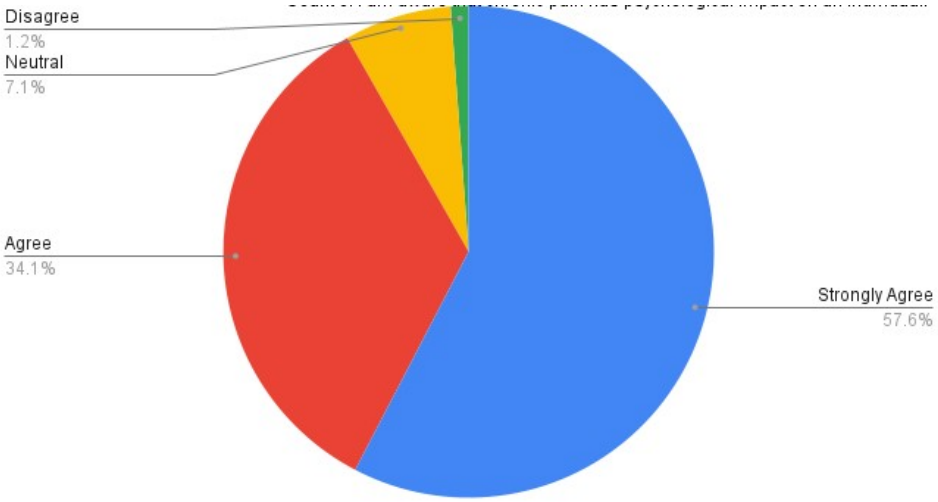

Fig. 1: Pie chart showing percentage of physiotherapists awareness about chronic pain having psychological impact on individual.

2. I am aware about Cognitive Behavioural Therapy (CBT).
   Among 85 Physiotherapists only 34.1% were aware about CBT.

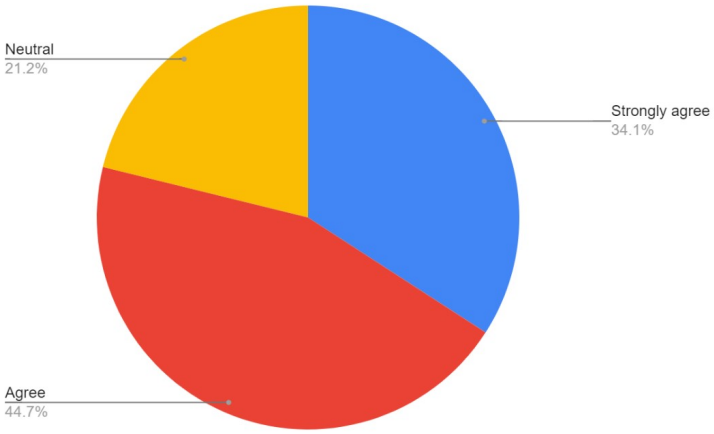

Figure 2: Pie chart showing percentage of physiotherapists aware of CBT.

3. I apply CBT knowledge during my therapy session for people with chronic pain.
   Only 15.3% strongly agreed to be using CBT knowledge while dealing with patients with chronic pain.

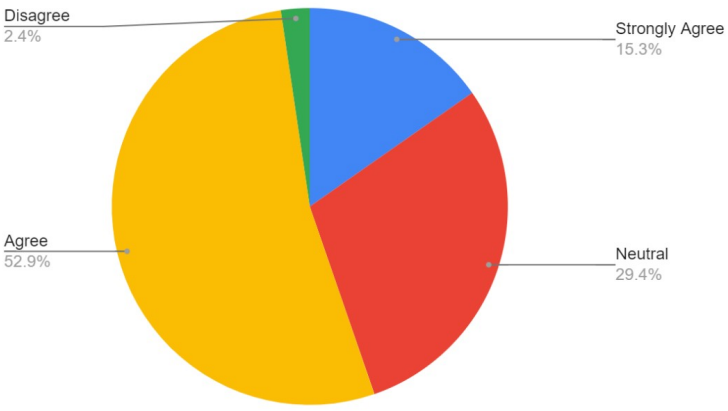

Fig. 3: Pie chart showing percentage of physiotherapists applying CBT into their practice for people with chronic pain

4. I believe pain perception can be affected by automatic thoughts.
   63.5% agree to believed that pain perception can be affected by automatic thoughts.

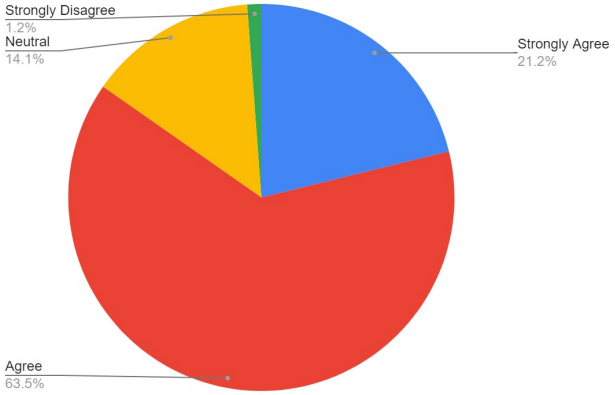

Fig. 4: Pie chart showing percentage of physiotherapists believing that pain perception can be affected by automatic.

5. I believe it is important to change negative thoughts related to pain into positive coping thoughts.
   52.9% strongly agreed to believe that it was important to change negative thoughts related to pain into positive coping thoughts.

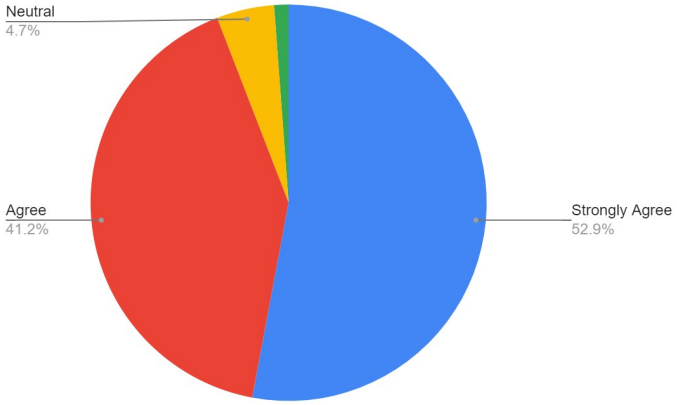

Fig. 5: Pie chart showing percentage of physiotherapists believing that it is important to change negative thoughts into positive coping thoughts.

6. I believe that teaching relaxation techniques (such as deep breathing, progressive muscle relaxation or visualization) reduce muscle tension that helps patient with chronic pain.
   49.4% Physiotherapists strongly believed that teaching relaxation techniques was important to reduce muscle tension.

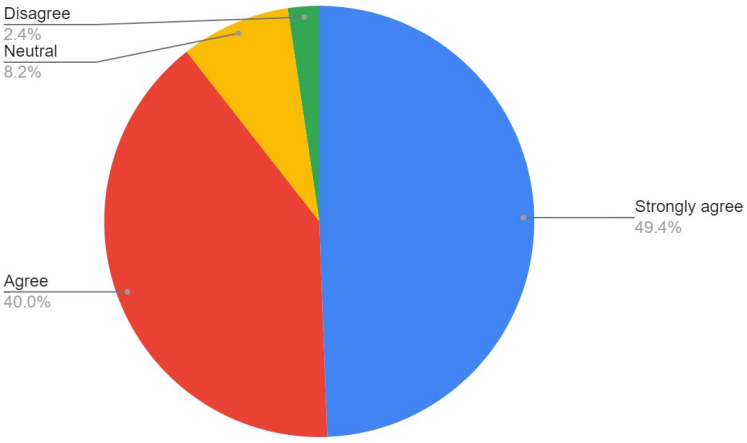

Fig. 6: Pie chart showing physiotherapists who believes in teaching relaxation techniques.

7. I believe activity pacing (scheduling activities based on time or quotas to maximize their functionality despite persistent pain) is important for patient with chronic pain.
Only 25.9% strongly believed that activity pacing is important for patients with chronic pain.

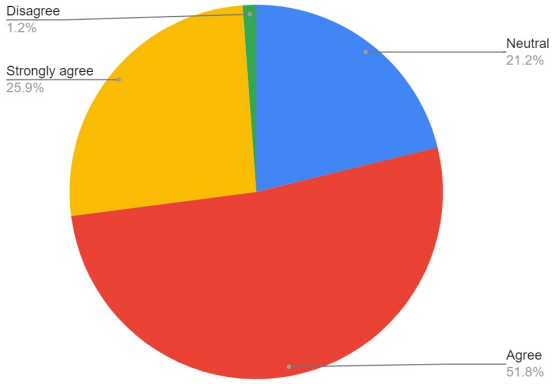

Fig. 7: Pie chart showing physiotherapists who believe activity pacing is important for patients with chronic pain.

8. I believe that having a good sleep hygiene (sleep schedule, dietary, environment and activity strategies) can help reduce chronic pain.
However, 47.1% strongly agreed that good sleep hygiene can reduce chronic pain.

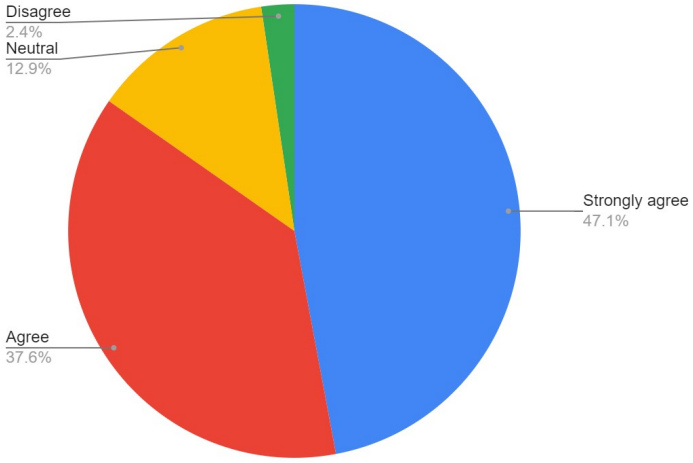

Fig. 8: Pie chart showing physiotherapists who believe in having good sleep hygiene for chronic pain reduction.

9. I believe that patients need to be mindful while practicing the exercises.
56.5% strongly agreed that it is important for patient to be mindful while practicing the exercises.

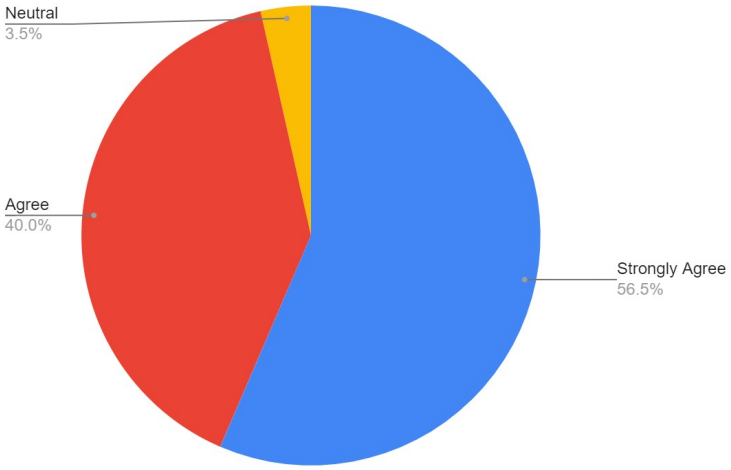

Fig. 9: Pie chart showing physiotherapists who believes in patients having mindfulness during exercise

10. I believe that it is important to design exercise programs for decreasing avoidance of activity and reintroduce a healthier and more active lifestyle.
56.5% strongly agreed that is important to design such exercise programs for more active lifestyle.

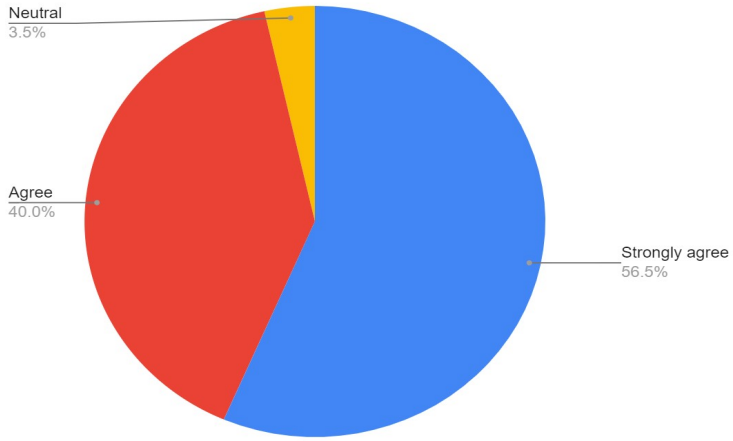

Fig. 10: Pie chart showing physiotherapists who believe in active lifestyle

DISCUSSION

Many studies have demonstrated even when the complaint is of a physical nature (such as pain), patients' well-being is psychosocial [24]. Similarly in the study 57.6% Physiotherapists believed that chronic pain does have psychological impact.

The results of the study showed that majority of the Physiotherapists 34.1% were aware about different aspects of pain and pain management, including Cognitive Behavioral Therapy (CBT). Driver C, et.al, (2019) study showed that maximum number of Physiotherapists (95.8%; n = 241) considered that it was moderately to extremely important to have knowledge about psychosocial strategies for practice and over 81.6% (n = 200) reported it was equally as important to be able to offer such strategies [25].

However, there was contrasting responses when it comes to applying these techniques. Although Physiotherapists may not have specific training in CBT, through experience of treating patients with chronic pain, they frequently incorporate concepts of these strategies into their management [26].

Beissner K, et, al. (2009) study titled "Physical therapists' use of cognitive behavioral therapy for older adults with chronic pain: A nationwide survey" consists of 51% were male and 49% were female. Whereas this study consists of 36.47% were male, 62.35% were female and 1.17% were from another category [27].

Participants with less than one year of experience were 42.35% whereas participants with minimum years of experience (0-5 years) were 12% in the study. Participants in that study with Bachelor degree were 41% and master's degree were 47% compared to this study where bachelor degree holders were 65.88% and master's degree holders were 34.11%.

In reference to Katherine's research 81% of the sample reported that they either frequently or always used activity pacing when treating older patients with chronic pain, 25.9% strongly agreed 51.8% agreed to believe that teaching activity pacing to patients with chronic pain is important [27].

Only 49.4% strongly agreed to believe that teaching relaxation techniques to patient with chronic pain is important. However, Katherine's research showed that 84% therapists give relaxation training [27].

Many cross-sectional studies in adolescents and adults with a variety of chronic pain conditions demonstrate that sleep disorders are linked to increased sensitivity to pain, increased disability, decreased life quality, and increased healthcare use and expenses. In reference to that 47.1% Physiotherapists in this study believed that it is important to have a good sleep hygiene to reduce chronic pain [28].

According to research on the relationship between lifestyle and chronic pain conducted by J. Nijs et al. (2020), multimodal interventions that are individually customised to the patient's needs should simultaneously address all relevant lifestyle components. Along with that this study also showed that 56.5% of Physiotherapists strongly agreed that healthy lifestyle is important to reduce chronic pain [29].

CONCLUSION

This study provided an opportunity to highlight the application of Cognitive Behavioral Therapy (CBT) in treatment of chronic pain by the Physiotherapists in India. Although Physiotherapists are aware CBT, application is comparatively lesser. The research shows that Physiotherapists do apply CBT strategies such as general relaxation, mindfulness and adapting a healthier life style majorly in their practice. Some strategies such as good sleep hygiene and activity pacing, however wasn't used often by the Physiotherapists. This study wants to highlight that even though Physiotherapists apply CBT strategies, knowledge about its correct application is yet to be taught to them, thereby will help them to provide better treatment plan.

RECOMMENDATION

Further research can be done on Physiotherapists with minimum 2 years of clinical experience. Further research can be done to compare the result among male and female therapist. Further research can be done to compare the use of CBT in different types of chronic pain.

IMPLICATION

Addition of CBT strategies in Physiotherapy program by Physiotherapists can enhance the present Physiotherapy management of Chronic Pain.

ACKNOWLEDGEMENTS

The authors of the paper want to express their appreciation to everyone who volunteered for this study and helped with participant recruiting.

Conflicts of interest: None

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How to cite this article: Neha Biyala, Joshua Samuel Rajkumar, Mahita Thangadurai Rajendran. Awareness, Beliefs and Practice of Cognitive Behavioral Therapy (CBT) Strategies for Chronic Pain Management Among Physiotherapists. Int J Physiother Res 2023;11(4):4589-4597. **DOI:** 10.16965/ijpr.2023.139