

Telemedicine therapy among chronic pain patients during the COVID-19 pandemic

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ABSTRACT

Introduction: Patients with chronic pain have been one of the most difficult patients to manage during the COVID-19 pandemic. As pain physicians navigate through this pandemic in order to maintain contact with their patients, telemedicine emerged as a very useful tool. It helped patients to access care despite being in distant areas, or during the lockdown period. The objective of this research is to assess the perception of chronic pain patients who received telemedicine therapy. Self-efficacy and coping level of pain among these chronic pain patients were also assessed.

Materials and Methods: This is a cross-sectional study involving patients who are under follow-up at the Chronic Pain Clinic, Hospital Pulau Pinang for more than a year and received telemedicine during this pandemic. Participants had to fill out a self-administered questionnaire. Once respondents completed the questionnaires, the answered questionnaires were collected for analysis.

Results: A total of 154 patients between 22 and 88 years old were included in this study. Most of the participants had a history of pain for more than 3 years (44.2%). The majority of our patients are still working (55.8%). From the patients who were working, 7.8% of them lost their jobs during the pandemic. 31.2% of patients reported that the pain condition had worsened while the rest did not experience any difference in their pain condition. More than half (59%) of the patients' reported telemedicine was beneficial for their pain management, while only 41% felt that their telemedicine was helpless for their pain management during the pandemic.

Conclusion: Telemedicine is beneficial for patients with chronic pain. Telemedicine can be used post-pandemic and may produce a good outcome with patients.

KEYWORDS:

Telemedicine, COVID-19, chronic pain, pandemic

INTRODUCTION

Patients with chronic pain have been one of the most difficult patients to manage during the COVID-19 pandemic. The pandemic left many patients burdened with their chronic pain due to delayed treatment. The pandemic had caused face-to-face access of patients to pain physicians limited.¹

As pain physicians navigate through this pandemic in order to maintain contact with their patients, telemedicine emerged as a very useful tool. It helped patients get care despite being in distant areas, or during the lockdown period.

Due to the current pandemic period, other sources of stressors were amplified, which caused worsening chronic pain. Physical therapy (PT) programs, which is an integral part of multimodal chronic pain management, were stopped during the COVID-19 pandemic. This also affected other multimodal pain treatment strategies, including visits to the psychiatrist, psychologist and pain counsellors. This caused the active guidance of cognitive behaviour therapy (CBT), coping skills and stress management to be affected. Due to social distancing policies, all new appointments were deferred, and ongoing treatments for existing pain patients were further postponed.²

Psychosocial issues may also lead to heightened pain perception. Therefore, it is not surprising that this pandemic has caused chronic pain symptoms to worsen as a result of stress. These stressors include financial loss, personal loss and anxiety.³ During this period, pain practitioners had very few treatment options. These included prescribing more opioids to ensure patients stay away from the already overburdened emergency departments.⁴

The Chronic Pain Clinic in Hospital Pulau Pinang (HPP) started in 2010. Currently, the clinic serves patients from all over Pulau Pinang. Usually, patients will be reviewed regularly face-to-face at 3 to 6 month intervals, depending on their pain condition and medication. During the COVID-19 pandemic and the Movement Control Order (MCO), patients found it difficult and frightening to visit the clinic. Telemedicine was used to overcome this problem. Telemedicine or phone consultation is very new to our pain clinic services. Self-efficacy beliefs in chronic pain patients have been assessed either by reference to confidence in their ability to perform specific tasks or their confidence in performing more generalised constructs like coping with pain.⁵ This research will help us understand how far telemedicine had been helpful in supporting patients to develop coping skills. There are few studies published regarding self-efficacy and coping skills among chronic pain patients, especially during the pandemic period.

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The objective of this research is to assess if telemedicine is beneficial for chronic pain patients. Self-efficacy and catastrophising of pain among these chronic pain patients were also assessed.

MATERIALS AND METHODS

This was a prospective cross-sectional study, done in the Chronic Pain Clinic, HPP. These patients were recruited using convenience sampling and needed to answer the survey only once. The samples recruited for the study were patients who had visited the pain clinic of HPP more than 1 year prior to the MCO. Due to COVID-19, patients were not able to visit our pain clinic. As an alternative, patients were managed or consulted via phone conversation. The estimated duration of this study was 6 months. The Medical Research and Ethics Committee (MREC) approval was obtained prior to the research (NMRR-21-241-58474 S1R2).

Our criteria for inclusion applied to patients over 18, and with a history of chronic pain. Only patients who have attended a minimum of three sessions of telemedicine were recruited. Chronic pain was defined as persistent or recurrent pain which lasts longer than 3 months.⁶ Our exclusion criteria were those that did not meet the criteria for chronic pain. Details of the research were explained clearly to the participants. They were given sufficient time to read through the information sheet for their participation in the study. Any queries were answered by the investigator before the consent-taking process. Clinic nurses assisted in delivering and collecting back the survey. The rights and treatment of the patients will not be affected if they refuse to participate in the study. They can withdraw consent at any time without providing a reason. The study results will not be revealed to them.

A consecutive sampling method was used, whereby all the potential participants who fulfilled all the criteria were approached for participation in the study. A special phone number will be assigned to the participant and documented on the screening log to maintain confidentiality.

Participants had to fill out a self-administered questionnaire, which was provided to them when they return to the clinic for face-to-face consultation. Once respondents complete the questionnaires, the answered questionnaires were collected for analysis.

Based on a sample size calculation for a study of a finite population (Creative Research Systems, 2012), with approximately 220 patients at the chronic pain clinic of HPP, a minimum sample size of 140 patients were calculated to represent a cross-section of the population.⁷ This will allow the study to determine self-efficacy and coping skills with a margin of error of +/- 5%. An additional 10% was included in the calculated sample size to compensate for dropouts, for a final sample size of 154 patients.

The questionnaire consists of three parts:

Part A: Demographic data: Age of respondent, gender, education status, diagnosis, pain score and effects of the pandemic.

Part B: Pain self-efficacy questionnaire (PSEQ)

This is a 10-item scale, where patients were asked to rate how confident they were to do a range of activities or functions at present, despite their pain, by selecting a number on a 7-point scale, where 0="not at all confident" and 6="completely confident". Examples of items include the following: 'I can do most of the household chores (e. g., tidying-up, washing dishes, etc.), despite the pain'. Scores on the PSEQ range from 0 to 60, with higher scores indicating stronger self-efficacy beliefs. The test-retest reliability and internal consistency of the PSEQ in different studies with chronic pain patients were reported as 0.79 and 0.92, respectively.⁵ A Malay-validated PSEQ was used (Cronbach alpha was 0.95).⁸

Part C: Pain-related self-statements (PRSS)

This 18-item measure has two sub-scales (active coping and catastrophising). Items include statements such as "I cannot stand this pain any longer". When using a 0–5 scale, where 0=almost never and 5=almost always, patients rate how often they have the specified thoughts when their pain is more severe. The subscale score is the mean of the items scored, yielding a possible score out of 5. This instrument is valid and reliable in assessing cognitive patterns relevant to persons suffering from chronic pain.³ We used a Malay version questionnaire which was validated (Cronbach alpha was 0.88).⁸ For this study purpose only sub-scale catastrophising was analysed, a mean score > 3.2 is considered significant.

The collected data were analysed with the SPSS version 23.

RESULTS

In total, 154 patients aged 22 to 88 were included in the study. Most of the participants had a history of pain for over 3 years (44.2%). Most of our patients are still working (55.8%). From the patients who were working, 7.8% of them lost their job during the pandemic. 31.2% of patients reported worsening pain conditions while the rest did not experience any difference in their pain condition. (Table I).

In total, 154 patients aged 22 to 88 were included in the study. Most of the participants had a history of pain for over 3 years (44.2%). Most of our patients are still working (55.8%). From the patients who were working, 7.8% of them lost their job during the pandemic. 31.2% of patients reported worsening pain conditions while the rest did not experience any difference in their pain condition. (Table I).

PSEQ score showed that almost 67% of patients had scored less than 40, which indicates that the patients tend to have poor coping skills (Table III). Another 33% of patients showed to have good coping skills and had gained more benefit from the telemedicine compared to the poor coping skills group, $X^2(2)=4.17$; $p=0.04$. Pearson correlation was performed to look for a relationship between the PSEQ score and the average pain score. It showed patients with good coping reported having lower pain scores ($r=-0.48$, $p=0.01$).

Based on the pain-related self-statements (PRSS) psychometric tool, 48.7% of our patients showed catastrophising pain behaviour.

Table I: Demographic data of patients

Variables	N (%)
Gender	
Male	73 (47)
Female	81 (53)
Education level	
Primary	41 (26.6)
Secondary	64 (41.6)
Higher secondary	30 (19.5)
University	19 (12.3)
Employment status	
Working	86 (55.8)
Not working	68 (44.2)
Pain duration	
1 year	16 (10.4)
1-2 years	34 (22.1)
2-3 years	36 (23.4)
> 3 years	68 (44.2)
During pandemic	
Worsening pain condition	48 (31.2)
Lost job	12 (7.8)

Table II: Perception of patient towards telemedicine

Question	N (%)
Telemedicine was beneficial in pain management	
Yes	91 (59)
No	63 (41)
Satisfaction towards telemedicine experience	
Satisfied	72 (46.7)
Neutral	48 (31.2)
Not satisfied	34 (22.1)
Will choose telemedicine in the future	
Agree	64 (41.5)
Neutral	48 (31.2)
Don't Agree	42 (27.3)

Table III: Psychometric properties of patients

Psychometric tool	N (%)
Patient self-efficacy questionnaire (PSEQ)	
≥ 40	51 (33.0)
<40	103 (67.0)
Pain related self-statement (PRSS)	
Pain catastrophising behaviour (> 3.2)	75 (48.7)

DISCUSSION

Our study showed that almost half of the participants were satisfied with the use of telemedicine in managing chronic pain. These results echoed several research done recently.⁹⁻¹¹ Most of them are also keen to continue the use of telemedicine for their future management. The study also showed that patients with good self-efficacy skills tend to benefit more from telemedicine, with a lower pain score. This study has shown that telemedicine is a good method of treatment for our patients.

Telemedicine has a huge potential in revolutionising the health industry.¹² Telemedicine is the practice of medicine using audio, video and data communications.¹³ Malaysia had started the initiative to implement e-health since the establishment of Malaysia's Telemedicine Blueprint in July 1997.¹⁴ The objectives of telehealth was to strengthen

healthcare delivery via the use of telecommunications, information and multimedia technologies. Soon after that, more hospitals have been installed with applications of telehealth components.¹⁵

Telemedicine has several advantages.^{16,17} These include easy access to remote areas, reducing the time and cost of patient transfer, home care monitoring, second opinion for complex interpretations, disease surveillance, and standardisation in provision of healthcare.

However, there are some barriers to telemedicine.^{18,19} These barriers include lack of telecommunication technology, uncommitted management, lack of budget, unavailability of efficient staff and resistance to practice telemedicine among doctors.

Telemedicine in Malaysia has led to cost savings, efficient allocation of resources, enhanced diagnostic options and better health outcomes.²⁰ With these benefits, the use of telemedicine for chronic pain patients should be further explored.

The main limitation in this study is that convenience sampling was used for sample collection. The response rate was likely higher in individuals who are more comfortable with technology. Thus, the results may not be generalised to individuals who are less comfortable with or do not have access to this technology. A possible solution to overcome this limitation is to provide a telemedicine station at a nearby health centre, which could be shared among the patients within the vicinity.

CONCLUSION

This study found that telemedicine is beneficial to patients suffering from chronic pain during the COVID-19 pandemic. Telemedicine also has a positive impact on the self-efficacy and catastrophising of pain among these patients. However, more studies need to be done to justify the importance of the need for telemedicine among chronic pain patients.

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CONFLICT OF INTEREST

None declared.

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