Relationship Between Non-Specific Muscle Pain and Sleep Practices.

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Introduction

Sleep problems and pain are widely experienced in the general population (Gallup, 1995: Melzack, 1973). Massage therapy is a health practice that is chosen for the management of back, neck/shoulder pain often with a non-specfic origin.

There are two principle reasons for research into the relationship between sleep and mild pain:

- Firstly, there is growing interest in the role of sleep on pain processing. Individuals with sleep disturbances have demonstrated enhanced pain sensitivity, depression and increased risk of chronic disease (Lautenbacher, 2006 ; Taylor, et al.,). The studies have show that sleep deprivation can cause increased pain response to normal painful stimuli (hyperalgesia) and pain responses to non-painful stimuli (allodynia) because of reduced suppression of pain by the brain.
- Secondly, studies to date have investigated sleep and pain relationships using individuals with chronic, debilitating pain and individuals without pain at all. Epidemiological studies have found a strong correlation between insomnia and chronic pain (Ohayon, 2005 ; Taylor, et al., 2007). Results from clinical studies examining increasing next day pain and chronic pain also suggest a bi-directional relationship between sleep and pain (Edwards, et al., 2008; Smith & Haythornthwaite, 2004). No single study has asked people with mild pain about their sleep.

Objectives

The objectives of this study is to illuminate sleep practices in people seeking treatment for non specific muscle pain. The researcher hypothesises that sleep distrubances have a negative/indirect relationship with mild pain. The research will produce intofmation to inform clinical practice and highlight a confounder of massage practice research.

Materials & Methods

A small- scale quantitive survey design was chosen to provide a snapshot of descriptive statistics as an initial examination of participants with mild muscle pain and their sleep practices. Sixty seven people completed questionaires. The majority (79%) of the respondents were female. The questionaire was a combination of three aspects:

- general demographics and alcohol consumption.
- an edited version of the Brief Pain Index
- the 12 question MOS Sleep Scale (revised).

The sleep results were produced from the MOS software that compared the participants to the large population (mainly USA) recorded to date. Pain was reported as a 0-10 score (10 being the most painful). Those individuals scoring over seven were excluded from the survey. The age range was 20-85 years. Correlational analysis were then made using Microsoft Excel, ANOVA. The study was approved by the Southern Cross University Human Research Ethics Committee, Lismore, NSW.

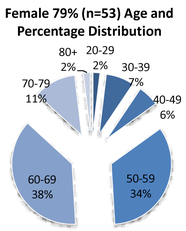

Figure.1. Age and percentage distribution of the respondent female participants (n=53).

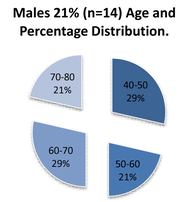

Figure.2. Age and percentage distribution of the 14 male respondent participants.

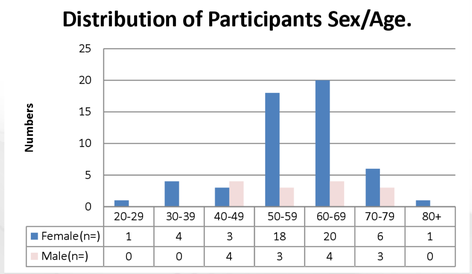

Figure.3. Male/ Female participants (N=67) distribution across ages, dominance of the female respondents (n= 53) and the central distribution in the female participants between the age 49-69 years (n=38).

Results

The overall results showed a small, but insignificant relationship. However, isolating the female results produced a significant relationship, with a negative/indirect correlation of pain experience and sleep problems. This outcome is in line with previous studies on chronic pain and serious sleep problems. In the female group (n = 53), 59%(30) fell below the average of 50 set by the MOS Sleep Problem Index (below a score 50 indicating sleep problems). 42% showed mild pain experience. Correlational analysis showed that increases in pain coincided with decreases in sleep quality. Correlation was r = 0.41 with a p value < 0.05 indicating a statistical significant result.

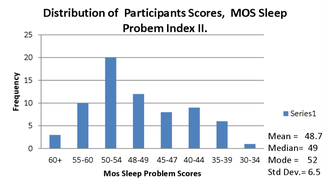

Figure.4.

Distribution of all participants MOS Sleep Problem Index II scores, 50 < = 'normal' sleep and above average sleep (US population Study, 2009).

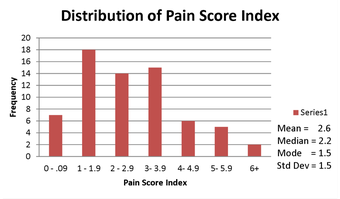

Figure.5.

Percentage distribution of participants Pain Score Index, demonstrating the largest percentage below a score of pain score = 3.9 consistant with mild muscle pain.

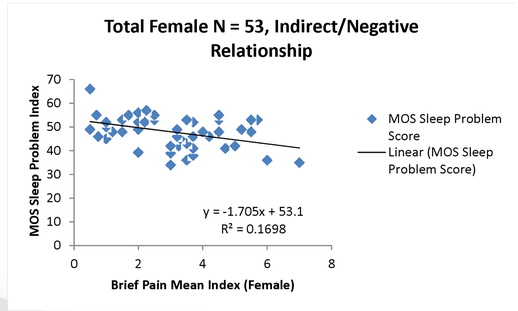

Figure. 6. Female Participants (N=53) Indirect/Negative Relationship: as the x MOS Sleep Score decreases, y pain increases. 42% (22) reported the combination of pain and poor sleep. 15%(8) reported poor sleep only. 43%(23) reported no sleep problems.

Conclusions

This research evaluated self-reported sleep behaviours and its relationship to mild pain in male and female clients who attended a remedial massage therapy clinic. Only the female group demonstrated a statistically interesting (p=.002) relationship between sleep disturbance and mild pain. The largest group of females were aged between 49-69 years and therefore menopause related sleep problems may influence their reported pain. In recent studies anxiety and other affect disorders are found to contribute to sleep disturbance, this was not assessed in this research. Although only a small study with limited detail in the questionnaires, it is concluded that the results encourage the need for further research. This research shows that there may be a progressive line of pain before the development of chronic problems that could be detected through the inclusion of sleep assessment in mild pain patients and vice versa. This has important implications for the ongoing treatment of mild pain and the methods of practice for professions that deal with mild pain such as massage therapists.

References

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