Cumulative Trauma Disorders in Laundry Service: Prevalence, Related Factors, and Concordance with Lom Plai Pattakad Disorders in Applied Thai Traditional Medicine

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ความชุก ปัจจัยที่สัมพันธ์กับการบาดเจ็บสะสมในงานบริการผ้าและความสอดคล้องกับภาวะลมปลายปัตคาตตามศาสตร์การแพทย์แผนไทยประยุกต์

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ABSTRACT

Objective: To determine the prevalence of cumulative trauma disorders (CTDs) in laundry service, related factors, and concordance with Lom Plai Pattakad Disorders (LPPDs) in applied Thai traditional medicine (ATTM).

Study design: Descriptive study

Setting: Laundry service unit at Siriraj Hospital

Method: Staff of the laundry service unit at Siriraj Hospital volunteered to meet a rehabilitation medicine resident doctor and an applied Thai traditional medical practitioner for diagnosis of CTDs and LPPDs respectively. General Health Questionnaire (Thai GHQ–28) was used to assess mental health and the score equal or more than 5 was considered abnormal. The common CTDs such as low back pain (LBP), neck pain, and upper limb disorders, were studied. Concordance between the CTDs and the LPPDs in the same pain region was assessed.

Results: In total, 132 of 151 workers participated in the study. The participation rate was 87.42%. Mean age was 40 (SD 10.4) years. The prevalence rates of all CTDs, LBP, neck pain, and de Quervain's tenosynovitis were 72.7%, 51.5%, 42.4%, and 11.4% respectively. Factors significantly related to CTDs (p<0.05) were Thai GHQ-28 score ≥5 and lower frequency of exercise. Factors significantly related to LBP (p<0.05) were age, Thai GHQ-28 score ≥5 and lower frequency of exercise. Factors significantly related to neck pain (p<0.05) were female gender, Thai GHQ-28 score ≥5, more working hours per week, low social support, and lower frequency of exercise. The concordance between CTDs and LPPDs was 80.9% (kappa=0.517).

Conclusion: The high prevalence of CTDs, over 70%, was found in laundry service workers. Related factors are abnormal Thai GHQ-28 scores and lower frequency of exercise. High overall concordance between CTDs and LPPDs confirmed that both abnormalities were detected similarly by conventional medicine and ATTM in this population and suggested clinical significance.

Keywords: cumulative trauma disorders, laundry service, prevalence, concordance, Thai traditional medicine

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บทคัดย่อ

วัตถุประสงค์: เพื่อศึกษาหาความชุก ปัจจัยที่เกี่ยวข้องกับการบาดเจ็บสะสม (cumulative trauma disorders, CTDs) ในบุคลากรของหน่วยงานบริการผ้า และหาความสอดคล้องระหว่าง CTDs กับภาวะลมปลายปัตคาต (Lom Plai Pattakad Disorders, LPPDs) ตามศาสตร์การแพทย์แผนไทยประยุกต์

รูปแบบการวิจัย: การวิจัยเชิงพรรณนา

สถานที่ทำการวิจัย: งานบริการผ้า โรงพยาบาลศิริราช

กลุ่มประชากร: บุคลากรงานบริการผ้า โรงพยาบาลศิริราช

วิธีการศึกษา: ผู้เข้าร่วมวิจัยได้รับการประเมินโดยแพทย์ประจำบ้านเวชศาสตร์ฟื้นฟูและแพทย์แผนไทยประยุกต์เพื่อวินิจฉัย CTDs และ LPPDs ประเมินสุขภาพจิตโดยใช้แบบสอบถาม General Health Questionnaire ฉบับภาษาไทย (Thai GHQ-28) โดยระดับคะแนนที่ ≥5 จัดว่าผิดปกติ และหาความสอดคล้องระหว่าง CTDs กับ LPPDs

ผลการศึกษา: มีผู้เข้าร่วมการศึกษาทั้งหมด 132 คน จาก 151 คน

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คิดเป็นร้อยละ 87.42 อายุเฉลี่ย 40 ปี (SD 10.4) ความชุกของ CTDs รวมทั้งหมด อาการปวดหลังส่วนล่าง ปวดคอและ de Quervain's tenosynovitis เป็นร้อยละ 72.7, 51.5, 42.4 และ 11.4 ตามลำดับ ปัจจัยที่สัมพันธ์กับ CTDs อย่างมีนัยสำคัญทางสถิติ (p<0.05) ได้แก่ คะแนน GHQ-28 ≥5 และความถี่การออกกำลังกายน้อย ปัจจัยที่สัมพันธ์กับอาการปวดหลังส่วนล่างอย่างมีนัยสำคัญทางสถิติ (p<0.05) ได้แก่ อายุ คะแนน GHQ-28 มากกว่าหรือเท่ากับ 5 และความถี่การออกกำลังกายน้อย ปัจจัยที่สัมพันธ์กับอาการปวดคออย่างมีนัยสำคัญทางสถิติ (p <0.05) ได้แก่ เพศหญิง คะแนน GHQ-28 มากกว่าหรือเท่ากับ 5 จำนวนชั่วโมงทำงานต่อสัปดาห์มาก การสนับสนุนทางสังคมน้อย และความถี่การออกกำลังกายน้อย ความสอดคล้องระหว่าง CTDs และ LPPDs เท่ากับ ร้อยละ 80.9 (kappa = 0.517)

สรุป: พบความชุกของการบาดเจ็บสะสมในบุคลากรงานบริการผ้าสูงมากกว่าร้อยละ 70 โดยปัจจัยที่สัมพันธ์ คือ ค่าคะแนนจากการประเมินสุขภาพจิตที่ผิดปกติ และความถี่การออกกำลังน้อย พบความสอดคล้องระดับสูงระหว่างการวินิจฉัยการบาดเจ็บสะสมและภาวะลมปลายปัตคาตซึ่งแสดงถึงนัยสำคัญทางคลินิก

คำสำคัญ: บาดเจ็บสะสม, งานบริการผ้า, ความชุก, ความสอดคล้อง ศาสตร์การแพทย์แผนไทย

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Introduction

Cumulative trauma disorders (CTDs), also known as repetitive overuse disorders or repetitive strain disorders, are collective term for syndromes characterized by discomfort, impairment, disability, or persistent pain in joints, muscles, tendons, and other soft tissues, with or without physical manifestations.[1] The most common CTDs are low back pain (LBP), carpal tunnel syndrome (CTS), epicondylitis, neck pain, and de Quervain's tenosynovitis.[2] CTDs are the leading cause of disability of persons during their working years, and the growing cost of managing CTDs in industrial communities places a significant economic burden on the employers.[3]

Risk factors of CTDs include age, sex, anthropometric data, smoking, lack of experience with the job, history of previous injuries, lack of personal protective equipment, psychosocial factors, environmental factors, and work-related factors, such as forceful exertion, repetitive movement, prolonged work activity without adequate rest, awkward positions, localized contact stress, and vibration.[4,5] Furthermore, the high level of psychological distress was associated with an increased likelihood of CTDs.[6,7]

The laundry service unit at Siriraj Hospital provides laundry service, linen repair, and transportation of clean laundry within the hospital. Therefore, the laundry service workers have to sort, lift, and push the clothes into the washing machines, iron the clothes, and transport them to all hospital wards. Several conditions that these workers are exposed to may contribute to CTDs, including working in a repetitive manner and working in improper biomechanical postures. IJzelenberg found that 50% of laundry workers in Scandinavian reported low back pain and 58% of workers reported upper extremity pain.[8] Awkward back postures and high job demands were associated with low back pain. Punnett found that the prevalence of shoulder, wrist, and hand pain in female hospital workers was 32%.[9] The hospital workers who were affected were mainly employed in the nursing field and in manual work, i.e., food preparation, serving, and laundry. Moreover, related factors were older age, longer work duration, repetitive motion, forceful manual exertion, and awkward postures.[9]

At present, complementary and alternative medicine (CAM) is commonly used as a therapy for pain relief. Applied Thai traditional medicine (ATTM) is a kind of CAM that is well recognized among Thai people. It is believed that diseases or health problems are caused by imbalance of basic elements (earth, water, wind and fire) and/or obstruction of their pathways. Lom Plai Pattakad Disorders (LPPDs), the common ATTM diagnoses, are caused by obstruction of the flow of wind and water elements. The symptoms of LPPDs are pain and tightness in the affected area; thus, the LPPDs are usually labeled by locations, such as LPPD-finger and LPPD-wrist. Both the LPPDs and the CTDs share similar regional pain symptoms, such as neck pain and back pain. The diagnoses obtained by both disciplines, the conventional medicine and the ATTM, have never been correlated. The diagnoses of CTDs and the LPPDs of the same pain regions might be compared because of their similarity of localized pain as a primary complaint. The correlation would help how to relate these two discipline disorders for comparative study in future because many patients with pain problem visit both the conventional medicine and the ATTM clinics. Therefore the purpose of this study was to determine the prevalence and related factors of CTDs among workers of the laundry service unit at Siriraj Hospital and to evaluate the correlation between the diagnoses of CTDs in conventional medicine and of LPPDs in the ATTM as nowadays people are interested in integrative medicine, combining conventional medicine with alternative medicine in treatment of pain.

Methods

All workers in the laundry service unit at Siriraj Hospital were encouraged to volunteer for the study even if they had comorbidities, but only those who agreed to participate were included. This study was approved by the ethical committee of the Faculty of Medicine Siriraj Hospital (537/2552(EC1)), and all participants provided informed consent before commencing study procedures.

The study interventions included patient interview and physical examination. The interview included demographic data, medical history, risk factors, and psychosocial factors. Psychosocial assessment was performed using the questionnaire from the study of Kamtanode K[10] and the Thai General Health Questionnaire (Thai GHQ–28).[11] The Thai GHQ-28 was used to screen mental health disorders. It was composed of 28 questions, covering 4 subscales: somatic symptoms, anxiety and insomnia, social dysfunction and severe depression. The score ranges from 0 to 28. Higher score means poor mental status, score greater or equal to 5 is considered abnormal and suggests mental disorder. History and physical examination was conducted by 2 investigators, one second year rehabilitation medicine resident and one ATTM practitioner with 10 years experience. The CTDs and the LPPDs were diagnosed and then comparison between CTDs with LPPD of each affected region were evaluated: 1) trigger finger with LPPD-finger, 2) de Quervain's tenosynovitis and carpal tunnel syndrome (CTS)

with LPPD-wrist, 3) lateral and medial epicondylitis with LPPD-elbow, 4) neck pain with LPPD-curve of the neck, back at the 4th and 5th signal points, 5) low back pain with LPPD-back at the 1st and 3rd signal points (Figure 1).

Predictive analytics software (PASW) Statistics version 18.0 (SPSS Inc., Chicago, IL, USA) was used for statistical analysis. Descriptive statistics were used for subject characteristics. Kappa statistics were used to evaluate the concordance between both researchers of different disciplines. Statistical significance was set at ≤0.05.

Results

Table 1 shows participants' characteristic. In total, 132 of 151 workers of the laundry service unit agreed to participate in the study, which accounted for 87.42% of all workers. Participants had a mean age of 40 (SD 10.4) years. There were 70 males (53%) and 62 females (47%). The overall prevalence of CTDs was 72.7% and the detailed diagnoses are shown in Table 2. The three most common diagnoses were low back pain (51.5%), neck pain (42.4%), and de Quervain's tenosynovitis (11.4%). About 48% of the participants had 2 or more diagnoses. The highest number of diagnoses in one person was 5. Abnormal Thai GHQ-28 scores were found in 17.42% of 132 participants. The Thai GHQ-28 sub-scale scores were higher in the somatic symptoms, anxiety and insomnia sub-scales compared with the social dysfunction and severe depression sub-scales.

Factors that were significantly related to CTDs (p<0.05) were abnormal Thai GHQ-28 scores (p=0.028) and lower frequency of exercise (p=0.019) (Table 3). Only 3 of the most common CTDs were considered in details for related factors. Factors that were significantly related to low back pain (p<0.05) were older age (p=0.025), abnormal Thai GHQ-28 scores (p=0.01), and lower frequency of exercise (p=0.016). Factors significantly related to neck pain (p<0.05) were female (p=0.01), abnormal Thai GHQ-28 scores (p=0.015), greater number of work hours per week (p=0.015), lower social support (p=0.036), and lower frequency of exercise (p=0.01). Higher body mass index (BMI) (p=0.045) was the only factor significantly associated with de Quervain's tenosynovitis (p<0.05).

Of the 151 workers screened, 131 participated in the ATTM assessment. Thus, the participation rate for ATTM diagnosis was 86.8%. ATTM participants had a mean age of 40 (SD 10.4) years. The prevalence rate of all LPPDs was 73.3% (Table 2). Female sex was the only factor significantly related to higher prevalence of LPPDs (p=0.036). The concordance between CTDs and LPPDs was 80.92% (kappa=0.517) as shown in Table 4. The concordance of the 5 pairs of diagnoses mentioned in the method were 90.8, 75.6, 91.6, 75.6, and 74.9% (kappa=0.353, 0.016, 0.546, 0.504 and 0.498), respectively. The p-value for each pair was statistically significant (<0.001), except for the pair of LPPD-wrist and CTS and de Quervain's tenosynovitis.

Discussion

To the best of our knowledge, this is the first study to determine the prevalence and related factors of CTDs among laundry service workers at Siriraj Hospital. We achieved a participation of 87.42% of workers; thus, we consider that these results could represent the whole population. The prevalence rate for all CTDs was 72.7%, which was high compared with the prevalence of previous foreign studies in populations of working age.[8,9,12] These differences in the prevalence of CTDs may be attributed to any of the following reasons: different affected body parts or regions, definition and diagnostic procedures used, time from onset of the symptom to diagnosis, and characteristics of the study population.

It is also possible that the high prevalence rates of CTDs in this study may be attributed to the multiple body parts involved (upper extremities, neck, and back) and to the fact that we included disorders affecting both the musculoskeletal and

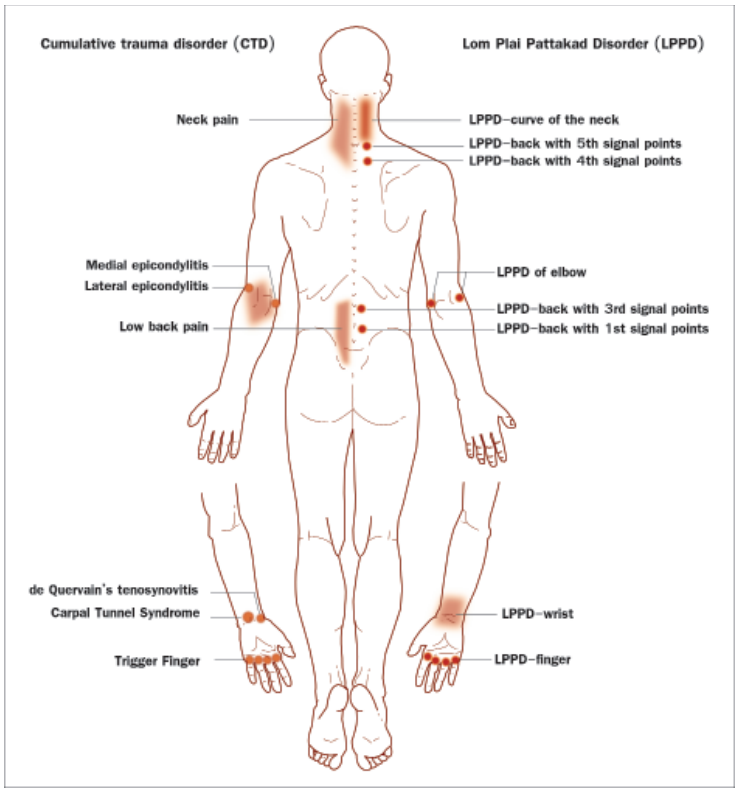

Figure 1. Cumulative trauma disorders and Lom Plai Pattakad disorders (LPPD)

Table 1. Characteristics of participants

Characteristics	
Age (years)[1]	40.4 (10.4)
Gender[2]	
Male	70 (53)
Body weight (kgs)[1]	62.0 (11.1)
Height (cm)[1]	161.3 (8.6)
Body Mass Index (kg/m^2)[1]	23.8 (4.0)
Level of education[2]	
Primary school	42 (32.1)
Lower secondary school	45 (34.4)
Higher secondary school	37 (28.2)
Diploma	3 (2.3)
Bachelor's degree	4 (3.1)
Dominant hand[2]	
Right-handed	109 (83.2)
Left-handed	17 (13.0)
Both	5 (3.8)
Underlying disease[2]	
No	64 (50.8)
Diabetes mellitus	4 (3.2)
Hypertension	22 (17.5)
Hypercholesterolemia	29 (23.0)
Rheumatoid arthritis	1 (0.8)
Skeletal deformity	9 (7.1)
Other	18 (14.3)
Duration of work (years)[1]	11.3 (10.0)
Work hours per week (hrs)[1]	48.0 (11.0)
Social support[2]	
Low	9 (6.9)
Moderate	71 (54.2)
High	51 (38.9)

[1]Mean (SD), [2]Number (%)

nervous systems. However, in this study, the CTDs were diagnosed by the physician who interviewed the patients to obtain the medical history and performed the physical examination, while most of the previous studies were based on self-reported questionnaires. Therefore, we consider that the method of diagnosis used in this study should have yielded more accurate prevalence rates.

Low back pain was the most common diagnosis, accounting for 51.5% followed by neck pain and de Quervain's tenosynovitis. The prevalence rate of low back pain in this study was similar to 50% reported by IJzelenberg.[8] The prevalence rates of CTDs of the upper extremities and neck were 59.8%, which were also similar to those found in the study by IJzelenberg.[8]

Abnormal Thai GHQ-28 scores were found in 17.42% of 132 participants. We consider that the participants with abnormal Thai GHQ-28 scores should be examined further to determine the presence of psychiatric conditions.

Factors that were significantly related to all CTDs were abnormal Thai GHQ-28 scores (p=0.028) and lower frequency of exercise (p=0.019), which were also significantly related to low back and neck pain. Older age was also significantly related to low back pain (p=0.025). Other factors significantly related to neck pain were greater number of work hours per week (p=0.015) and lower social support (p=0.036). De Quervain's tenosynovitis was significantly related to higher BMI (p=0.045). Abnormal Thai GHQ-28 scores and lower frequency of exercise were significantly related to all CTDs, particularly to the two most common: low back pain and neck pain. These results were consistent with other studies in which workers, who were actively involved in sports, had a significantly reduced risk of developing musculoskeletal symptoms in the upper extremities.[8] Furthermore, the high levels of psychological distress were associated with an increased likelihood of suffering from work-related musculoskeletal disorders.[6,7] Regular exercise which helps increase muscle strength, endurance, and flexibility can be considered as work conditioning and/or work hardening program. Improving one's flexibility, strength, and aerobic fitness, reduces pain, improves sleep, and improves workplace functioning.[13] An important implication of these findings, abnormal Thai GHQ-28 scores and lower frequency of exercise, is that the laundry service workers at Siriraj Hospital should be advised to exercise regularly and be encouraged to participate in relaxation activities, such as meditation or music therapy, to improve both physical and mental conditions. Moreover, higher BMI, a modifiable risk factor, was related to de Quervain's tenosynovitis. Previous report that related higher BMI to de Quervain's tenosynovitis cannot be found, however obesity was found to significantly increase postural stress across working postures.[14] Therefore, workers who are overweight should be advised to lose weight as well to improve their physical fitness.

Table 2. Prevalence of cumulative trauma disorders (CTDs) and Lom Plai Pattakad Disorders (LPPDs)

Conventional Diagnoses	Number (%) N=132	Applied Thai Traditional Medicine diagnoses	Number (%) N=131
Neck pain	56 (42.4)	LPPD- curve of the neck, back at the 4th and 5th signal points	89 (68)
Medial epicondylitis	10 (7.6)	LPPD-elbow	12 (9.2)
Lateral epicondylitis	9 (6.8)		
De Quervain's tenosynovitis	15 (11.4)	LPPD-wrist	18 (13.7)
Carpal tunnel syndrome	6 (4.5)		
Trigger finger	9 (6.8)	LPPD-finger	12 (9.2)
Low back pain	68 (51.5)	LPPD-back at the 1st and 3rd signal points	75 (57.3)
Shoulder impingement syndrome	9 (6.8)	-	-
Ganglion cyst	8 (6.1)	-	-
Cubital tunnel syndrome	1 (0.8)	-	-
Pronator syndrome	0 (0)	-	-
Guyon's canal syndrome	0 (0)	-	-
Thoracic outlet syndrome	0 (0)	-	-
CTDs	96 (72.7)	LPPDs	96 (73.3)

Table 3. Factors related to cumulative trauma disorders (CTDs)

	CTDs (n=96)	No CTDs (n=36)	*p*-value
Age (years)[1]	40.73 (11.1)	39.58 (8.4)	0.527[#]
Gender[2]			0.550[†]
Male	46 (65.7)	24 (34.3)	
Female	50 (80.6)	12 (19.4)	
BMI (kg/m^2)[1]	24.10 (3.97)	23.00 (3.89)	0.173[#]
Dominant hand[2]			0.915[†]
Right-handed	78 (71.6)	31 (28.4)	
Left-handed	13 (76.5)	4 (23.5)	
Both	4 (80.0)	1 (20.0)	
Underlying disease[2]			0.143[#]
No	48 (77.4)	14 (22.6)	
Yes	42 (65.6)	22 (34.4)	
Frequency of exercise[2]			0.019[*,†]
Never	25 (92.6)	2 (7.4)	
Rarely	52 (71.2)	21 (28.8)	
1–2 times a week	10 (66.7)	5 (33.3)	
More than 2 times a week	9 (52.9)	8 (47.1)	
Smoking[2]			0.565[†]
No	67 (74.4)	23 (25.6)	
Yes	20 (60.7)	10 (33.3)	
Former smoker	9 (81.8)	2 (18.2)	
Part time job[2]			0.703[†]
No	21 (70.0)	9 (30.0)	
Yes	75 (73.5)	27 (26.5)	
Thai GHQ-28 scores[2]			0.028[*,†]
Lesser than or equal to 4 scores	75 (68.81)	34 (31.19)	
Greater than or equal to 5 scores	21 (91.30)	2 (8.70)	
Duration of work[1]	12.06 (10.51)	9.37 (7.11)	0.099[#]
Work hours per week (year)[1]	48.74 (11.07)	45.88 (10.32)	0.154[#]
Work in a repetitive manner[2]			0.895[†]
Yes	41 (71.9)	16 (28.1)	
No	54 (73.0)	20 (27.0)	
Overhead activities[2]			0.627[†]
Yes	25 (69.4)	11 (30.6)	
No	70 (73.7)	25 (26.3)	
Work in a limited space[2]			0.553[†]
Yes	37 (75.5)	12 (24.5)	
No	58 (70.7)	24 (29.3)	
Bend the trunk forward[2]			0.573[†]
Yes	34 (75.6)	11 (24.4)	
No	61 (70.9)	25 (29.1)	
Twist the neck frequently[2]			0.908[†]
Yes	38 (73.1)	14 (26.9)	
No	57 (72.2)	22 (27.8)	
Workload[2]			0.249[†]
Low	17 (60.7)	11 (39.3)	
Moderate	65 (74.7)	22 (25.3)	
High	13 (81.3)	3 (18.8)	
Decision authority[2]			0.560[†]
Low	8 (61.5)	5 (38.5)	
Moderate	63 (72.4)	24 (27.6)	
High	24 (77.4)	7 (22.6)	
Social support[2]			0.278[†]
Low	5 (55.6)	4 (44.4)	
Moderate	55 (77.5)	16 (22.5)	
High	35 (68.6)	39 (27.5)	

[1]Mean (SD); [2]number (%); *statistical significance $p<0.005$; [#]independent t-test, [†]Pearson Chi-square

In contrast to earlier findings, work tasks and work environment were not significantly related to CTDs. Although this finding seems rather contradictory, it is possible that in previous studies, the data obtained from self-reported questionnaires might be inaccurate because respondents might misinterpret or misread the questions.

This study has a number of important limitations. First, the diagnoses were based on clinical symptom and sign such as

Table 4. Concordance between cumulative trauma disorders (CTDs) and Lom Plai Pattakad Disorders (LPPDs)

CTDs	LPPDs	Concordance with CTDs		
		% concordance	Kappa	*p*-value
Trigger finger	LPPD-finger	90.8	0.353	<0.001
CTS, DQ	LPPD-wrist	75.6	0.016	0.859
Medial and lateral epicondylitis	LPPD-elbow	91.6	0.546	<0.001
Neck pain	LPPD- curve of the neck, back at the 4th and 5th signal points	75.6	0.504	<0.001
LBP	LPPD-back at the 1st and 3rd signal points	74.9	0.498	<0.001
CTDs	LPPDs	80.9	0.517	<0.001

CTS, carpal tunnel syndrome; DQ, de Quervain's tenosynovitis; LBP, low back pain

low back pain. Second, there was no further investigation to check for specific diagnoses. Some such as carpal and cubital tunnel syndromes need further investigations for diagnosis confirmation. For these reasons, the true prevalence of CTDs may be lower than we report here.

The concordance between the diagnoses of CTDs in conventional medicine and of LPPDs in ATTM was rather high, at over 74%. Kappa values of almost all pairs showed moderate degree of agreement which might be attributed to the low number of cases and details of physical examination data. However, based on the high overall concordance, we infer that the two researchers from different disciplines agreed that the subject had a disorder or abnormal condition. Moreover, this confirms that both the ATTM and the conventional medicine similarly detected the abnormalities in this population. The diagnoses obtained by both disciplines, the conventional medicine and the ATTM, have never been correlated and this study is original regarding the comparison. As good as it gets, it is believed that the comparison in depth from both disciplines is difficult due to lack of details in physical examinations. The design is considered appropriate with available data. These findings might help two disciplines relate their diagnoses and may integrate their treatments for better outcome. It is recommended that future studies are prospective and that investigations should be performed to confirm the diagnoses and assess the severity of the disorders. It would also be interesting to assess their impact on work absenteeism, productivity, and medical expense. Additionally, an interventional study could provide an approach applicable to the prevention of CTDs.

In conclusion, the prevalence of CTDs in laundry service workers was high, over 70%. Significant related factors were abnormal Thai GHQ-28 scores and lower frequency of exercise. This should be considered an important health problem among the laundry service workers at Siriraj Hospital. Prevention programs, at least focusing on exercise promotion, should be implemented. We also found a high overall concordance between CTDs and ATTM diagnoses. This finding confirmed that both ATTM and conventional medicine were similar for the detection of abnormalities in this population. Clinical significance of the correlation between the two disciplines will shed light for the reader in terms of ATTM and to be useful in generalizing clinical symptoms and signs via ATTM concepts for the conventional medicine.

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Conflict of interest declaration

The authors report no disclosures or conflicts of interest.

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