

APPENDIX A
A GUIDANCE FOR THE EXERCISE PROGRAM

1. The exercise program takes place 22 minutes at 3 p.m., 3-5 times a week.
2. Exercise session comprises of 25 postures warm up for 7 minutes and 18 movements of TCQ session I for 15 minutes.
3. The TCQ leader will demonstrate 7 minutes warm up and 15 minutes of TCQ exercise using a TCQ video tape and a TCQ cassette tape containing a classic music and guidance practices.
4. All subjects are requested to perform TCQ following a TCQ leader.
5. The TCQ leader adds 6 movements every week for 3 weeks recapping for 22 minutes of the TCQ exercise session. At the end of the third week, the subjects will perform 18 movements session I completely.

APPENDIX A (continued)

A HANDBOOK OF THE EXERCISE PROGRAM

This exercise program composes of a warm up session and the 18 movements of Tai Chi Qigong (TCQ) session I as follow:

Warm up session

The 25 exercises of joint movement are employed to be a warm up before practicing TCQ session I.

Prepare your body by standing erect with legs apart. Bend elbows and put both hands on your waist. Then practice 25 exercises of joint movement as follows:

1. Turn your head to the left side and then turn to the right side. Repeat 16 times.
2. Bend your head down and bend your head backward. Repeat 16 times.
3. Bend your head to the left shoulder and bend your head to the right shoulder. Repeat 16 times.
4. Rotate your head from the left side to the right side then reverse rotation from the right side to the left side. Repeat 16 times.
5. Bend your elbows to a 90° angle then extend both hands forward shaking both wrists downward. Bend your both knees up and down simultaneously during shaking both wrists. Repeat 16 times.
6. Stand in the same posture as the fifth exercise. Turn both wrists with palm facing to self then shake both wrists. Knees and wrists move simultaneously. Repeat 16 times.

7. Stand in the same posture as the fifth exercise. Place both wrists with the palms turned outward from the body then shake both wrists. Knees and wrists move simultaneously. Repeat 16 times.

8. Stand as in the preparing posture and place both hands beside your body then rotate both shoulders clock-wise. Repeat 16 times.

9. Stand as in the preparing posture, place both hands beside your body then rotate both shoulders anti-clockwise. Repeat 16 times.

10. Stand as in the preparing posture, clench your fists, then extend both elbows parallel to chest level. Bend your knees with both clenched fists separately. Repeat 16 times.

11. Do the same posture as the tenth exercise but open both hands and shake both wrists while bending both knees simultaneously. Repeat 16 times

12. Stand as in the preparing posture and extend both arms beside the body parallel at chest level. Shake both wrists and bend both knees up and down simultaneously. Repeat 16 times.

13. Stand as in the preparing posture. Make clinched fists and put both elbows beside your body. Stretch and raise both hands above your head and bend both knees simultaneously. Repeat 16 times

14. Stand as in the preparing posture and stretch both arms to the left side at waist level. Shake both wrists downward moving from the left side to the right side. Bend your knees and shake both wrists simultaneously. Repeat on the left side 8 times and on the right side 8 times.

15. Do the same posture as the fourteenth exercise but bend the elbows with the palms at the abdominal level. Shake both wrists while bending both knees simultaneously. Repeat 16 times.

16. Step your left leg forward, extend your left arm at the chest level and point forward. Point right arm backward shake both wrists with your palm facing to your body. Repeat 8 times

17. Step your right leg forward, extend your right arm at the chest level and point forward. Point left arm backward shake both wrists with your palm facing outward. Repeat 8 times

18. Bend left knee, clench right fist hand with bending right elbow and jump. Reverse to the other side. Repeat 16 times.

19. Step left leg forward, raise your right arm up above the head. Put your left arm along your body then reverse to the other side. Repeat 16 times.

20. Stretch your left leg to the left side during that time put your left arm down to the left leg with right arm raising above the head. Reverse to the other side. Repeat 16 times.

21. Cross your left leg backward and swing the right arm forward and the left arm backward then cross the right leg backward, swing the left arm forward while swinging the right arm backward. Repeat 16 times.

22. Cross left leg backward and clench both hands in fist. Bend your right elbow put on the chest level, swing left hand to the back. Reverse to the other side. Repeat 16 times.

23. Cross left leg backward swing both hands up to clap. Reverse to the other side. Repeat 16 times.

24. Quick step both feet while marching in place. Raise hands up then stretch the arms and rotate. Repeat 8 times.

25. Do the marching, practice 16 times, then draw the together and bow.

Tai Chi Qigong (TCQ) 18 movements session I (Lilarujijarearn, 1995)

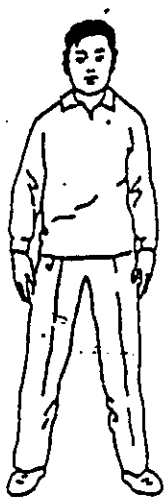


Figure A1



Figure A2

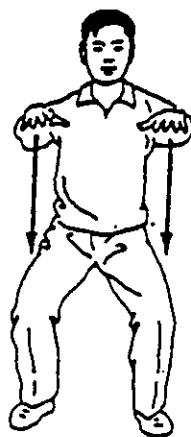


Figure A3

1. Commencing form and regulating breathing

Stand naturally with feet placed apart with about shoulder-width distance. Keep the body straight and look ahead. Arms should hang down naturally and keep both hands relaxed by the sides.

1.1 Raise both arms slowly in front with palms facing downwards to slightly higher than shoulder level and inhale simultaneously.

1.2 Keep the upper half of the body straight bend the knees. (The angle behind the knee joints should be around 150° and the knees should not extend beyond

the toes). Press both hands down gently to waist level with palms facing downwards and exhale simultaneously.

A point to remember: Slacken the shoulders and bend the elbows with fingers slightly curled naturally. The body weight should be equally distributed on both legs and the hip should not protrude when "sitting". The raised arms should move together with the body as it is being lowered. Repeat 6 times (an inhalation and exhalation counted as one). Also, count one-two when you inhale and exhale. On the count of one, raise arms and inhale. On the count of two, lower your arms and exhale. Then place your arms by your side.

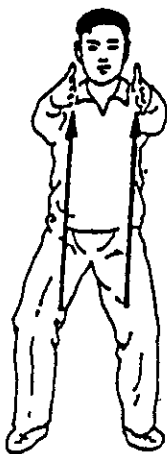


Figure A4

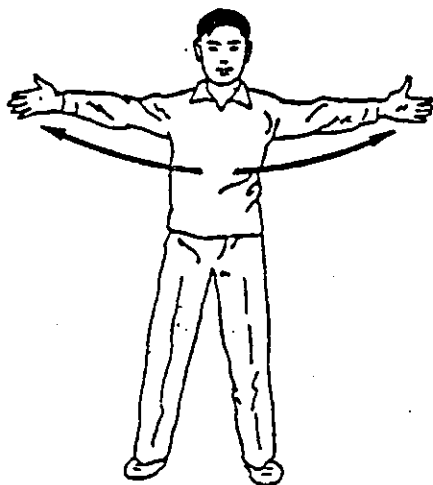


Figure A5

2. Broadening one's chest

2.1 Raise arms to chest level in the front parallel to the ground and straighten the knees gradually. Turn the palms so that they now face each other. Move them apart horizontally to the sides. When at the sides, expand the chest and inhale.

2.2 Move the arms to the front before the chest and turn the palms downwards. Press down, bend the knees and exhale simultaneously.

A point to remember: You should be standing up gradually as the arms are being raised. Bend your knees when pressing down the hands. Synchronize the movements of raising the arms and standing pressing and "sitting", inhaling and exhaling. Repeat 6 times (an inhalation and exhalation counted as one).

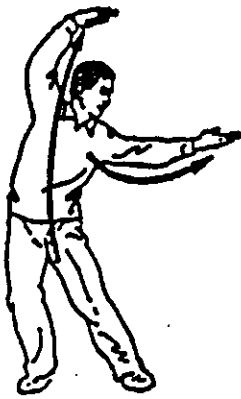


Figure A6



Figure A7

3. Painting a rainbow

3.1 Raise the arms to chest level parallel to the ground and straighten them. Turn palms outwards and inhale.

3.2 Shift weight to the right leg and bend at the knees slightly with the sole flat. Straighten left leg with the toes touching the ground. Move left arm down to the left, straightened and horizontal, with palms upwards. Bend the body slightly to the left. Continue to inhale.

3.3 Shift weight to the leg with the sole flat and the knee bent slightly. Straighten right leg, lifting the heel and touching the ground with the toes. Move right

arm down to the right, straightened and horizontal with palm upwards. The left elbow bends as the left arm is lifted above the head, forming a semi-circle with palm downwards. Bend the body slightly to the right and exhale at the same time. Repeat 6 times.

A point to remember: The breathing should be coordinated with the waving movements, which should be gentle. Practice six times (an inhalation and exhalation count as one).



Figure A8



Figure A9

4. Circling arms separate the clouds

4.1 Shift your weight to the center of the legs and assume the horse-riding posture with both knees bent. Bring the left arm from top down to the front towards the right and the right arm down to the front forwards the left and cross the wrists. The right hand is in front of the left, with both palms inwards before the lower abdomen.

4.2 Raise the crossed wrists upward while straightening the knees. Rotate the wrists so that the palms face outward gradually. Uncross when the arms are slightly above the head. Inhale simultaneously with rising movement.

4.3 Lower the arms with palms facing downwards to the sides of the body and gradually cross the wrists again, palms facing inwards in front of the lower abdomen while bending the knees. Bend the elbows slightly and exhale.

A point to remember: Use the shoulder joints as pivots when circling the arms.

Draw two circles beginning from the abdomen upwards. When the arms are above the head, you may raise your head and thrust out the chest to aid inhalation. When inhaling, straighten the knees. When exhaling, bend the knees. Repeat 6 times.



Figure A10



Figure A11

5. Swinging arms at stationary position

5.1 Assume the horse-riding position and rotate the wrists of the crossed hands so that the palms face upwards. The left arm stretches straight out, parallel to the ground. The right arm passes the abdomen downwards, then to the rear and up, forming an arc. Rotate the waist to the right and look at the right hand, inhaling simultaneously. Then bend the right elbow and turn the palm outwards. Push out the right arm from behind the ear and exhale. Then bring the outstretched left arm to the chest, brushing against the bottom part of the right thumb.

5.2 The left arm moves down the rear, drawing an arc until parallel to the ground. Rotate the waist to the left and look at the left hand. Then lift the left arm and bend the elbow, rotating the wrist so that the palm faces outwards. Push out from behind the ear and exhale. Bring the outstretched right arm to the chest so that it brushes against the bottom part of the left thumb. The two arms thus alternate the movement.

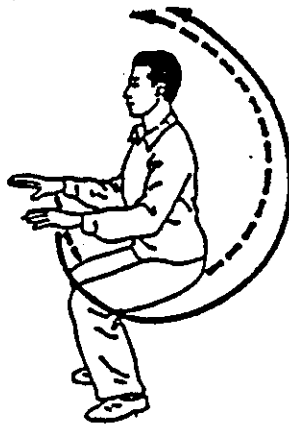


Figure A12

6. Rowing the boat in the middle of a lake

6.1 As the left palm is being pushed out and brushes against the right hand before the chest, turn both palms upwards. Push them down and then up at the sides, forming two arcs. When the arms are raised vertically above the head, turn the palms outwards, straighten the legs and inhale.

6.2 Bend the body forward at the waists, swinging the arms to the rear simultaneously thus forming two arcs while exhaling.

6.3 When the arms are pushed back to their limits, straighten up and bring the arms to the sides. Then raise them above the head from the sides forming semi-circles. Inhale as the palms are turned outwards.

A point to remember: The arms should be straight. Exhale when bending forward and inhale when straightening up. Repeat 6 times.

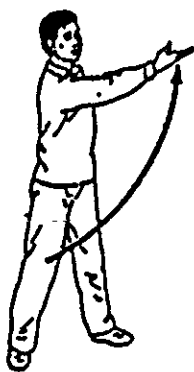


Figure A13



Figure A14

7. Holding a ball in front of the shoulders

7.1 Bend forward at the waist with the arms pushed back to the rear to their limits. Straighten up your body with the arms by the sides. Turn the right palm upwards and lift it toward the left. When leveling it with the left shoulder, execute the movement of holding a ball, inhale and shift the weight to the left leg. Lift the right heel, leaving only the toes touching the ground. Then return right arm to its original position and exhale.

7.2 Shift the weight to the right leg and use the left toes to lift the left heel up. At the same time left hand move up towards the right. At shoulder level,

execute the movement of holding a ball and inhale. Return the left arm to the side and exhale at the same time.

A point to remember: Look at the hand when it is "holding" the ball. You can stamp your toes at the same time. The movements of "holding" the ball, stamping and inhaling should be synchronized. Repeat 6 times.



Figure A15

8. Turning to look at moon

8.1 Stand naturally with feet apart and hands by the side. Swing both arms to the top left rear and rotate the body to the left simultaneously. Move the head to the rear as if gazing at the moon and inhale. Turn return to original position and exhale.

8.2 Swing both arms to the top right rear and rotate the body to the right simultaneously. Turn the head to rear as if gazing at the moon and inhale. Return to original position and exhale.

A point to remember: The swinging of arms, turning of waist and the head must be done simultaneously. When "gazing" at the moon, move the hands, waist and head as far back as possible. Do not lift the heel. Repeat 6 times.



Figure A16

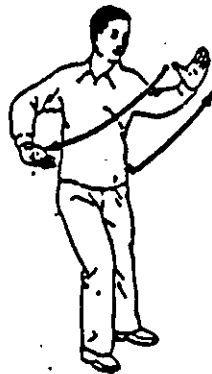


Figure A17

9. Twisting waist and pushing palms

9.1 Stand in the "horse-riding" posture with fists facing upward by the waist. Pull back the left elbow and turn the body to the left. Unclench the right fist and push out with inner force and inhale simultaneously. Return to original position and exhale.

9.2 Turning the body to the right, unclench the left fist and push out, inhaling simultaneously. Return to the original position and exhale.

A point to remember: Pushing out the palm involves stretching out the wrist with the finger pointing upwards and the thumb in front. One arm pushes out while the other pulls back, with the two moving in opposite directions. Repeat 6 times.



Figure A18



Figure A19

10. "Horse riding" and swaying arms posture

10.1 After pushing out the left palm, turn the palm inwards raised to eye level. Bring out the right hand with palm facing the left at waist level. Turn the waist to the left and move both arms with it. Inhale.

10.2 When the limits are reached, raise the right hand turning the palm inwards to eye level. Lower the left hand with the palm facing the right to waist level. Turn the waist to the right as much as possible, moving both arms with it and exhale.

A point to remember: The movements of the hands should be gentle and eyes should focus on the hand on top. Repeat 6 times.

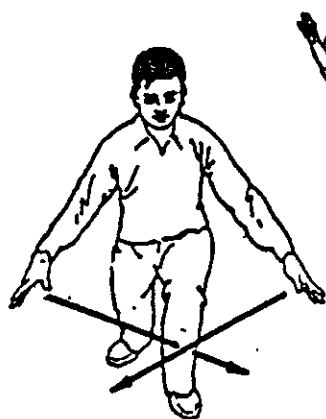


Figure A20 -



Figure A21

11. Scooping from the sea and looking at the sky

11.1 Move the left foot half a step forward to form a "bow" step. Cross the hands at the knee and inhale.

11.2 Raise the crossed hands to the top of the head as the body tilts backwards. Stretch out both arms sideways to execute the movement of "looking at the sky" with the palms facing each other and inhale. Tilt the body forward and lower both arms by the sides to cross again at the knee while exhaling.

A point to remember: Exhale when the body tilts forward and the hands swing down to cross. Inhale when the hands are lifted above the head. When "looking at the sky", stretch both arms to their fullest. Repeat 6 times.

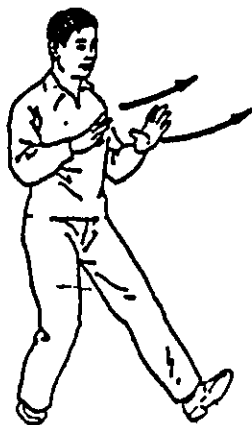


Figure A22



Figure A23

12. Undulating waves

12.1 Hurl the raised hands down to the front, then bend the elbows and withdraw the arms until the palms are in front of the chest facing out. Shift the weight to the right leg while resting the left foot on the heel. Inhale.

12.2 Shift the weight to the left leg with the sole flat on the ground. The body leans forward with the right foot resting on the toes. Push up both palms to eye level and exhale.

A point to remember: When the hands are being drawn back, shift the weight to the back and inhale simultaneously. When pushing out, the weight shifts forward and exhales simultaneously. The movement is like undulating waves. Repeat 6 times.

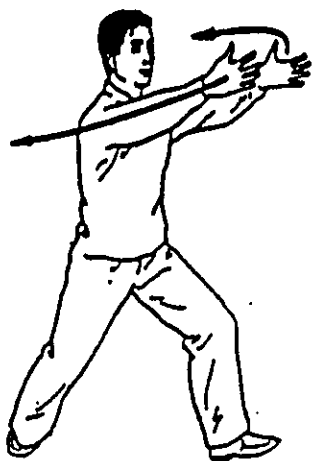


Figure A24

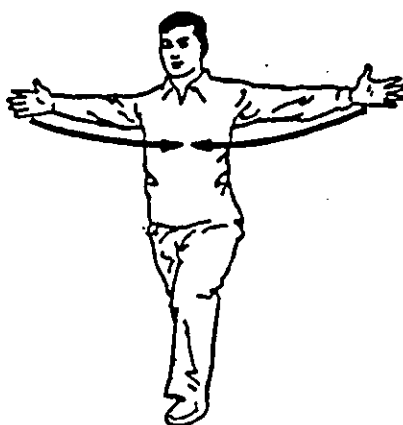


Figure A25

13. The flying dove spreads its wings

13.1 Instead of pushing the arms upwards, stretch them out parallel to the ground with palms facing each other. The weight shifts to the right leg while the left leg rests on the heel. Spread the arms out to the sides to their limits and inhale.

13.2 Then shift the weight to the left leg and rest the right leg on the toes. Pull the two arms back to the chest and exhale.

A point to remember: "Spread the wings" when the body leans backwards and inhale. Exhale when the "wings" converge. Repeat 6 times.



Figure A26



Figure A27

14. Punching with outstretched arms

Change both legs position from "bow" to "horse-riding", clench fists and places them beside the waist.

14.1 Punch out the right fist while inhaling. Return to original position and exhale at the same time.

14.2 Punch out the left fist while inhaling and return to original position while exhaling.

A point to remember: Exhale a little longer while changing leg position. Eyes should focus on the fist. Repeat 6 times.



Figure A28

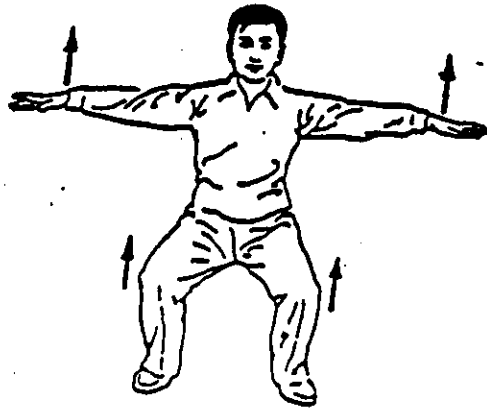


Figure A29

15. Wild goose flying

Stand with arms parallel to the ground at the sides.

15.1 Squat as low as possible and press both arms down like the goose's flying movement, heel up in upright position and inhale.

15.2 Squat as low as possible and press both arms down with heel down and exhale.

Return to the original position and inhale. Repeat 6 times. (Breath in and out is counted as one time).

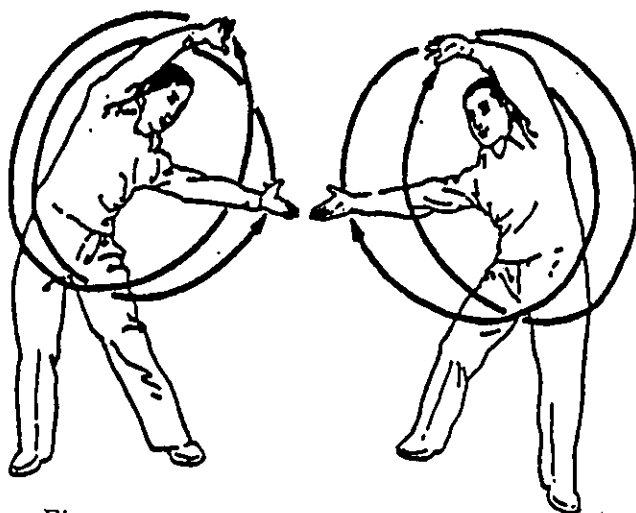


Figure A30

Figure A31

16. Spinning wheels

Stand with hands in front of the lower abdomen.

16.1 Straighten the arms and make a spinning movement from the left upwards as the waist turns with the arms. When the arms are above the head, exhale. Inhale when the arms come down to the right. Repeat three times.

16.2 Change directions and repeat three times.

A point to remember: When the arms are spinning, the waist should turn with them. The movements of the arms, waist and the breathing should be synchronized. Repeat 6 times. (Breath in and out is counted as one time).



Figure A32

17. Bouncing a ball with steps

17.1 Lift up the left leg, lift the right hand to the shoulder and beat down as if bouncing a ball, inhaling simultaneously.

17.2 Suspending the right leg, lift the left hand to the shoulder and beat down as if bouncing a ball, exhaling simultaneously.

Point to remember: The movements of lifting the hand, bouncing a ball, stepping down and the breathing should be synchronized. The movements should be done in a lively and relaxed manner. Practice six times with a left and right bounce counted as once.

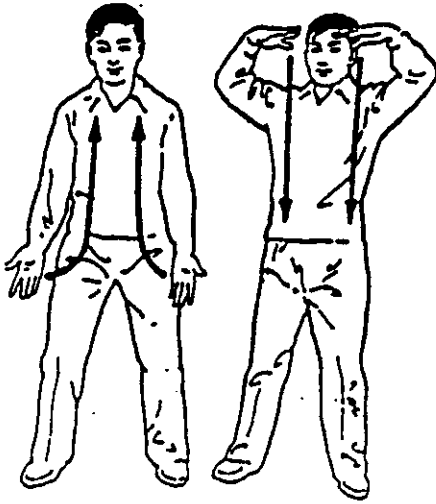


Figure A33

Figure A34

18. Pressing the palms in calmness

18.1 Stand with hands in front of the lower abdomen. Raise arms with palms upward to the eyes level, inhaling simultaneously.

18.2 Press palms down to the lower abdomen, exhaling simultaneously.

Point to remember: Do as the same principle as the first movement. Repeat 6 times. (Breath in and out is counted as one time). Finish section I with the rubbing of hands.

APPENDIX B
DEMOGRAPHIC DATA RECORD FORM

Code

Date

1. Age..... years
2. Sex:.....1. Male.....2. Female.....
3. Marital status
 -1. Single
 -2. Married
 -3. Widowed/Divorced/seperated
4. Number of visitors in each month.....
- 5 Religion
 -1. Buddhist
 -2. Muslim
 -3. Christian
6. Education level
 -1. Informal education
 -2. Elementary school
 -3. Secondary school
 -4. Diploma
 -5. Bachelor degree
 -6. Above Bachelor degree

DEMOGRAPHIC DATA RECORD FORM (continued)

7. Income (can choose more than one choice)

-1. No income
-2. Family support
-3. Saved money
-4. Part time job

8. Do you have any health problems?

-1. No
-2. Yes (specify).....

9. Do you take any medicines?

-1. Narcotic (specify).....
-2. Beta-blocker (specify).....
-3. Antidepressant (specify).....
-4. Sedative drugs / Hypnotic drugs (specify).....
-5. Antipsychotic drugs/ Major tranquilizers (specify).....
-6. Stimulant drugs (specify).....
-7. Diuretic (specify).....
-8. Antihistamine (specify).....
-9. Steroid (specify).....
-10. Hypoglycemic (specify).....
-12. Anticholinergic (specify).....
-13. Others (specify).....

DEMOGRAPHIC DATA RECORD FORM (continued)

10. Do you drink coffee/ non-herbal tea?

.....1. No

.....2. Yes (How many cups/day?).....

11. Do you take any kinds of soft drink?

.....1. No

.....2. Yes (How many glasses/day?).....

12. Have you smoked in the past year?

.....1. No

.....2. Yes (How many cigarettes/day?)

.....3. Used to but have stopped.

13. Have you drunk alcohol?

.....1. No

.....2. Yes (How many drinks/day?).....

.....3. Yes (How many drinks/week?).....

.....4. Yes, whenever I am invited to the party

(How many drinks/week?).....

.....5. Used to but have stopped.

14. Do you do any exercises?

.....1. No

.....2. Yes.

2.1. Type.....

2.2. Frequency.....times/week

2.3. Duration.....minutes

DEMOGRAPHIC DATA RECORD FORM (continued)

15. Do you have any hobby?

.....1. No.

.....2. Yes (specify).....

16. Do you have any sleep problems?

.....1. No

.....2. Yes (specify)

.....2.1 Difficult to fall asleep

.....2.2 Wake up frequently during sleep

.....2.3 Difficult to get back to sleep

.....2.4 Wake up too early

.....2.5 Feel having inadequate sleep

.....2.6 Encounter light sleep

.....2.7 Not feel refreshed at awakening

.....2.8 Feel unsatisfy of sleep

.....2.9 Feel sleepy during the day/nap time.....minutes

.....2.10 Others

DEMOGRAPHIC DATA RECORD FORM (continued)

แบบสัมภาษณ์เกี่ยวกับข้อมูลทั่วไป

รหัส

วันที่

1. อายุ.....ปี
2. เพศ.....1.ชาย.....2.หญิง
3. สถานภาพสมรส
 1. โสด
 2. สมรส
 3. หม้าย/หย่าร้าง/แยกกันอยู่
4. จำนวนผู้มาเยี่ยม/เดือน.....คน
5. ศาสนา
 1. พุทธ
 2. อิสลาม
 3. คริสต์
6. ระดับการศึกษา
 1. ไม่รู้หนังสือแต่อ่านออกเขียนได้/อ่านไม่ออกเขียนไม่ได้
 2. ประถมศึกษา
 3. มัธยมศึกษา
 4. อนุปริญญา
 - 5.ปริญญาตรี
 6. สูงกว่าปริญญาตรี
7. รายได้ (ตอบได้มากกว่า 1 ข้อ)
 1. ไม่มีรายได้
 2. รับเงินค้ำจุนจากครอบครัว
 3. ใช้เงินเก็บของตนเอง
 4. ทำงานพิเศษ

DEMOGRAPHIC DATA RECORD FORM (continued)

12. ในช่วง 1 ปี ที่ผ่านมามีท่านสูบบุหรี่หรือไม่

1. ไม่สูบ
2. สูบ (จำนวนมวน/วัน).....
3. เคยสูบแต่ตอนนี้เลิกแล้ว

13. ในช่วง 1 ปี ที่ผ่านมามีท่านดื่มเหล้าหรือไม่

1. ไม่ดื่ม
2. ดื่มประมาณ.....แก้ว/วัน
3. ดื่มประมาณ.....แก้ว/สัปดาห์
4. ดื่มเฉพาะเวลาเข้าสังคมประมาณ.....แก้ว/สัปดาห์
5. เคยดื่มแต่ตอนนี้เลิกแล้ว

14. ท่านออกกำลังกายบ้างหรือไม่

1. ไม่ออกกำลังกาย
2. ออกกำลังกาย
 - 2.1 ชนิดของการออกกำลังกาย.....
 - 2.2 ความถี่ของการออกกำลังกาย.....ครั้ง/สัปดาห์
 - 2.3 ระยะเวลาของการออกกำลังกายในแต่ละครั้ง.....นาที

15. ท่านมีงานอดิเรกหรือกิจกรรมนันทนาการอื่นๆบ้างหรือไม่

1. ไม่มี
2. มี (ระบุ).....

DEMOGRAPHIC DATA RECORD FORM (continued)

16. ท่านมีปัญหาการนอนหลับบ้างหรือไม่

1. ไม่มี
2. มี (ระบุอาการนอนไม่หลับของท่าน)
 - 2.1 นอนหลับยาก
 - 2.2 ตื่นบ่อยในตอนกลางคืน
 - 2.3 ตื่นนอนในตอนกลางคืนแล้วกลับไปหลับอีกครั้งได้ยาก
 - 2.4 ตื่นนอนเข้ามา
 - 2.5 รู้สึกว่านอนไม่พอ
 - 2.6 นอนหลับไม่สนิท
 - 2.7 รู้สึกไม่สดชื่นหรือรู้สึกเหนื่อยหลังจากตื่นนอนในตอนเช้า
 - 2.8 รู้สึกไม่พอใจเกี่ยวกับการนอนหลับตลอดคืนที่ผ่านมา
 - 2.9 รู้สึกง่วงนอนทั้งวัน/หลับกลางวัน.....นาที
 - 2.10 อาการอื่นๆ.....

APPENDIX C

THE SLEEP QUESTIONNAIRES

The sleep questionnaires interview your sleep in the past 2 weeks.

1. What was your bedtime?

.....p.m.

2. How long did it take you to fall asleep?

.....minutes.

3. How many times did you wake up during the night?

.....times.

4. How long did it take you to get back to sleep?

.....minutes.

5. How many times did it take you more than 30 minutes to get back to sleep?

.....times

6. What was your wake up time?

.....a.m.

7. How many hours did you sleep a night?

.....hours.

8. Would you rate your sleep?

.....1. Insufficient sleep

.....2. Rather insufficient sleep

.....3. Moderate

.....4. More than adequate

.....5. Very good

THE SLEEP QUESTIONNAIRES (continued)

9. How was your slept?

-1. Very light sleep
-2. Light sleep
-3. Light average sleep
-4. Deep average sleep
-5. Deep sleep

10. How did you feel after waking in the morning?

-1. Still very drowsy
-2. Still moderately drowsy
-3. Still slightly drowsy
-4. Refreshed
-5. Very refreshed

11. How satisfied were you with your sleep?

-1. Very unsatisfied
-2. Moderately unsatisfied
-3. Unsatisfied
-4. Satisfied
-5. Very satisfied

THE SLEEP QUESTIONNAIRES (continued)

แบบสัมภาษณ์การนอนหลับในช่วง 2 สัปดาห์ที่ผ่านมา

1. เมื่อตั้งใจจะหลับท่านใช้เวลาอนอยู่นานเท่าไรจึงหลับได้
.....นาที
2. ในระหว่างการนอนหลับท่านรู้สึกว่ตื่นขึ้นกี่ครั้ง
.....ครั้ง
3. การตื่นขึ้นกลางดึกทำให้ท่านต้องนอนอยู่นานเท่าไรจึงหลับได้
.....นาที
4. ท่านเข้านอนเวลาประมาณ.....นาฬิกา
5. ท่านตื่นนอนเวลาประมาณ.....นาฬิกา
6. ท่านตื่นนอนตอนกลางดึกที่ใช้เวลามากกว่า 30 นาที จำนวน.....ครั้ง
7. ท่านมีเวลาในการนอนหลับจริงต่อคืนนาน.....ชั่วโมง
8. ท่านคิดว่าท่านนอนหลับได้เพียงพอหรือไม่
 1. ไม่เพียงพอเลย
 2. ไม่เพียงพอพอสมควร
 3. ไม่เพียงพอเล็กน้อย
 4. เพียงพอ
 5. เพียงพอมาก
9. การนอนหลับเป็นอย่างไรบ้าง
 1. หลับได้น้อยมาก
 2. หลับไม่สนิท
 3. เฉลี่ยแล้วนอนหลับไม่สนิท
 4. เฉลี่ยแล้วนอนหลับสนิท
 5. นอนหลับสนิท

THE SLEEP QUESTIONNAIRES (continued)

10. ท่านรู้สึกอย่างไรเมื่อตื่นนอนในตอนเช้า

1. ไม่สดชื่นเลยยังง่วงนอนอยู่
2. ยังง่วงนอนพอสมควร
3. ยังง่วงนอนเล็กน้อย
4. สดชื่น
5. สดชื่นมาก

11. ท่านมีความรู้สึกพอใจการนอนหลับในช่วง 2 สัปดาห์ที่ผ่านมาอย่างไร

1. ไม่พอใจเลย
2. ไม่พอใจพอสมควร
3. ไม่พอใจ
4. พอใจ
5. พอใจมาก

APPENDIX D
THE HOSPITAL ANXIETY AND DEPRESSION SCALES
(Zigmoid & Snaith, 1983)

This questionnaire interviews your emotion and feeling over part week.

1. I feel tense or "wound up":

-3. Most of the time
-2. A lot of the time
-1. From time to time, occasionally
-0. Not at all

2. I still enjoy the things I used to enjoy:

-0. Definitely as much
-1. Not quite so much
-2. Only a little
-3. Hardly at all

3. I get a sort of frightened feeling as if something awful is about to happen:

-3. Very definitely and quite badly
-2. Yes, but not too badly
-1. A little, but it doesn't worry me
-0. Not at all

THE HOSPITAL ANXIETY AND DEPRESSION SCALES (continued)

4. I can laugh and see the funny side of things:

.....0. As much as I always could

.....1. Not quite so much now

.....2. Definitely not so much now

.....3. Not at all

5. Worrying thoughts go through my mind:

.....3. A great deal of the time

.....2. A lot of the time

.....1. From time to time but not too often

.....0. Only occasionally

6. I feel cheerful:

.....3. Not at all

.....2. Not often

.....1. Sometimes

.....0. Most of the time

7. I can sit at ease and feel relaxed:

.....0. Definitely

.....1. Usually

.....2. Not often

.....3. Not at all

THE HOSPITAL ANXIETY AND DEPRESSION SCALES (continued)

8. I feel as if I slowed down:

.....3. Nearly all the time.

.....2. Very often.

.....1. Sometimes

.....0. Not at all

9. I get a sort of frightened feeling like " butterflies" in the stomach:

.....0. Not at all

.....1. Occasionally

.....2. Quite often

.....3. Very often.

10. I have lost interest in my appearance:

.....3. Definitely

.....2. I don't take so much care as I should

.....1. I may not take quite as much care

.....0. I take just as much care as ever

11. I feel restless as if I have to be on the move:

.....3. Very much indeed

.....2. Quite a lot

.....1. Not very much

.....0. Not at all

THE HOSPITAL ANXIETY AND DEPRESSION SCALES (continued)

12. I look forward with enjoyment to things:

.....0. As much as ever I did.

.....1. Rather less than I used to

.....2. Definitely less than I used to

.....3. Hardly at all

13. I get sudden feelings of panic

.....3. Very often indeed

.....2. Quite often

.....1. Not very often

.....0. Not at all

14. I feel enjoy a good book or radio or TV program or other activities ever enjoyed

.....0. Often

.....1. Sometimes

.....2. Not often

.....3. Very seldom

THE THAI HOSPITAL ANXIETY AND DEPRESSION SCALES

(Nilchaikovit, Lortrakul, & Phisansuthideth, 1996)

แบบสัมภาษณ์นี้เป็นกาประเมินอารมณ์และความรู้สึกของท่านในช่วง 1 สัปดาห์ที่ผ่านมา

1. ท่านรู้สึกตึงเครียด
 3. เป็นส่วนใหญ่
 2. บ่อยครั้ง
 1. เป็นบางครั้ง
 0. ไม่เป็นเลย
2. ท่านรู้สึกเพลิดเพลินใจกับสิ่งต่างๆที่เคยชอบได้
 0. เหมือนเดิม
 1. ไม่มากเท่าแต่ก่อน
 2. มีเพียงเล็กน้อย
 3. เกือบไม่มีเลย
3. ท่านมีความรู้สึกกลัว คล้ายกับว่ากำลังจะมีเรื่องไม่ดีเกิดขึ้น
 3. มีแต่ค่อนข้างรุนแรง
 2. มี แต่ไม่มากนัก
 1. มีเพียงเล็กน้อย และไม่ทำให้กังวลใจ
 0. ไม่มีเลย
4. ท่านสามารถหัวเราะและมีอารมณ์ขันในเรื่องต่างๆได้
 0. เหมือนเดิม
 1. ไม่มากนัก
 2. มีน้อย
 3. ไม่ได้เลย

THE THAI HOSPITAL ANXIETY AND DEPRESSION SCALES (continued)

5. ท่านมีความคิดวิตกกังวล
3. เป็นส่วนใหญ่
 2. บ่อยครั้ง
 1. เป็นบางครั้งแต่ไม่บ่อย
 0. นานาๆ ครั้ง
6. ท่านมีความรู้สึกแจ่มใสเบิกบาน
3. ไม่มีเลย
 2. ไม่บ่อยนัก
 1. เป็นบางครั้ง
 0. เป็นส่วนใหญ่
7. ท่านสามารถทำตัวตามสบายและรู้สึกผ่อนคลาย
0. เหมือนเดิม
 1. ได้โดยทั่วไป
 2. ไม่บ่อยนัก
 3. ไม่มีเลย
8. ท่านรู้สึกว่าตัวเองคิดอะไร ทำอะไร เชื่องช้าลงกว่าเดิม
3. เกือบตลอดเวลา
 2. บ่อยครั้ง
 1. เป็นบางครั้ง
 0. ไม่เคยเป็น
9. ท่านรู้สึกไม่สบายใจจนทำให้รู้สึกปั่นป่วนในท้อง
0. ไม่เป็นเลย
 1. เป็นบางครั้ง
 2. ค่อนข้างบ่อย
 3. บ่อยมาก

THE THAI HOSPITAL ANXIETY AND DEPRESSION SCALES (continued)

10. ท่านปล่อยเนื้อปล่อยตัวไม่สนใจตัวเอง
3. ใช่
 2. ไม่สนใจเท่าที่ควร
 1. ใสใจน้อยกว่าแต่ก่อน
 0. ยังใสใจตัวเองเหมือนเดิม
11. ท่านรู้สึกกระสับกระส่ายเหมือนอยู่นิ่งๆไม่ได้
3. เป็นมากทีเดียว
 2. ค่อนข้างมาก
 1. ไม่มากนัก
 0. ไม่เป็นเลย
12. ท่านมองสิ่งต่างๆในอนาคตด้วยความเบิกบานใจ
0. มากเท่าที่เคยเป็น
 1. ค่อนข้างน้อยกว่าที่เคยเป็น
 2. น้อยกว่าที่เคยเป็น
 4. เกือบจะไม่มีเลย
13. ท่านรู้สึกผวาหรือตกใจขึ้นมาอย่างกะทันหัน
3. บ่อยมาก
 2. ค่อนข้างบ่อย
 1. ไม่บ่อยนัก
 0. ไม่มีเลย
14. ท่านรู้สึกเพลิดเพลินไปกับการอ่านหนังสือ ฟังวิทยุ หรือดูโทรทัศน์ หรือกิจกรรมอื่นๆ ที่เคยเพลิดเพลินได้
0. เป็นส่วนใหญ่
 1. เป็นบางครั้ง
 2. ไม่บ่อยนัก
 3. น้อยมาก

APPENDIX E

INFORMED CONSENT FORM

My name is Benjamard Thinhuatoey. I am a registered nurse. At present doing my Master's degree in Adult Nursing at Prince of Songkla University (PSU), and studying effects of Tai Chi Qigong. The expected outcome from the study will help with a nursing intervention for promoting sleep in the elderly who have sleep problems. In this study, no physical risks will be involved. No names will be mentioned. This program will be undertaken for 6 weeks. During the study, you can refuse any time (to take part at). However if you are interested in participating in this study, I will use a questionnaire to find out about your demographic data and sleep patterns. There will be 4 interviews regarding sleep patterns and anxiety and depression symptoms. The first interview will be held before any Tai Chi Qigong practices then the same questions will be asked during Tai Chi Qigong practice every 2 weeks. The exercise program starts with a 25 postures of joint movement for warm up, takes 7 minutes and is followed by the 18 movements practices of Tai Chi Qigong. The time for practicing this program will be 22 minutes in total. It is designed to be practiced at 3 p.m. frequency of practicing will be 3-5 times a week. You should practice the exercise program at least 3 times a week. If you practice less than 3 times a week, you will be excluded from this study.

If you feel uncomfortable about participating in this study, please do not hesitate to tell me. There is no cost to participate in this study and there are no financial rewards.

INFORMED CONSENT FORM (continued)

For participant

This program has been explained to me and I voluntarily agree to give my consent to participate in this study.

.....

(Name of participant)

INFORMED CONSENT FORM (continued)

แบบฟอร์มพิทักษ์สิทธิผู้เข้าร่วมการวิจัย

สวัสดิ์ค๊ะ ดิฉันชื่อ นางสาว เบญจมาศ ถิ่นหัวเตย ดิฉันเป็นพยาบาลวิชาชีพ ซึ่งขณะนี้กำลังศึกษา ในหลักสูตรพยาบาลศาสตรมหาบัณฑิต สาขาการพยาบาลผู้ใหญ่ (นานาชาติ) มหาวิทยาลัยสงขลานครินทร์ ดิฉันมีความสนใจที่จะศึกษาในหัวข้อ "ผลของการออกกำลังกายโดยการรำไท้เก๊กต่อการนอนหลับในกลุ่มผู้สูงอายุในสถานสงเคราะห์คนชรา" ผู้วิจัยทำการคัดเลือกกลุ่มตัวอย่างจากผู้สูงอายุที่มีปัญหาการนอนหลับและเข้าเกณฑ์ในการศึกษา เวลาที่ใช้ในการศึกษาทั้งหมดคือ 6 สัปดาห์ การศึกษาคั้งนี้ไม่ก่อให้เกิดอันตรายแต่อย่างใด ชื่อของกลุ่มตัวอย่างที่เข้าร่วมการวิจัยจะถูกเก็บเป็นความลับ ในระหว่างการศึกษากลุ่มตัวอย่างสามารถปฏิเสธการเข้าร่วมโปรแกรมการออกกำลังกายได้เมื่อต้องการ รายละเอียดในการศึกษามีดังนี้คือ ผู้วิจัยจะใช้แบบสัมภาษณ์ข้อมูลเกี่ยวกับข้อมูลทั่วไป แบบสัมภาษณ์การนอนหลับ และ แบบประเมินความวิตกกังวลและซึมเศร้าของ ธนา นิลไชยโกวิทย์และคณะ (2539)เมื่อเริ่มโปรแกรมการออกกำลังกาย และจะนำแบบสัมภาษณ์การนอนหลับ และแบบประเมินความวิตกกังวลและซึมเศร้ามามากำทุก 2 สัปดาห์ จำนวน 3 ครั้ง โปรแกรมการออกกำลังกาย ประกอบด้วย การอบอุ่นร่างกายโดยการบริหารไซ้ข้อ 25 ท่า ใช้เวลา 7 นาที และการรำไท้เก๊ก 18 ท่า ชุดที่ 1 รวมเวลาทั้งหมด 22 นาที โดยโปรแกรมการออกกำลังกายจะเริ่ม เวลา 15 นาฬิกา สัปดาห์ละ 3-5 ครั้ง กลุ่มตัวอย่างที่เข้าร่วมการออกกำลังกายน้อยกว่า 3 ครั้ง/สัปดาห์จะถูกคัดออกจากการศึกษา

ถ้ากลุ่มตัวอย่างท่านใดรู้สึกไม่สบายใจกรุณาบอกให้ผู้วิจัยทราบ การศึกษาคั้งนี้กลุ่มตัวอย่างไม่ต้องเสียค่าใช้จ่ายแต่อย่างใด และการศึกษาคั้งนี้ไม่มีค่าตอบแทนให้แก่กลุ่มตัวอย่าง

สำหรับกลุ่มตัวอย่างที่เข้าร่วมการวิจัย

มีการอธิบายข้อมูลในการศึกษาอย่างละเอียดแล้ว และข้าพเจ้าสมัครใจเข้าร่วมการศึกษาคั้งนี้

.....
ลงชื่อ(.....)

APPENDIX F

TABLES

Table F1 Comparison Demographic Data and Health between the Subjects in Group I (N = 30) and the Subjects in Group II (N= 33)

Variables	Group I n = 30		Group II n = 33		Chi-square
	Number of subjects	(Percentage)	Number of subjects	(Percentage)	
Age	\bar{X} 74.6, SD 6.5)		\bar{X} 71.3, SD 6.0)		6.007*
	60-69	6 (20.00)	13	(39.39)	
	70-79	16 (53.33)	18	(54.55)	
	80-87	8 (26.67)	2	(6.06)	
Sex					
	Male	18 (60.00)	17	(51.52)	.179
	Female	12 (40.00)	16	(48.48)	
Marital status					
	Single	3 (10.00)	6	(18.18)	4.200
	Married	7 (23.33)	2	(6.06)	
	Widow/divorced/separated				
		20 (66.67)	25	(75.76)	

Table F1 (continued)

Variables	Group I		Group II		Chi-square
	n = 30		n = 33		
	Number	(Percentage)	Number	(Percentage)	
	of subjects		of subjects		
Education levels					
No formal education	10	(30.33)	6	(18.18)	12.083*
Elementary school	14	(46.67)	24	(72.73)	
Higher than elementary school	6	(20.00)	3	(9.09)	
Income					
No income	20	(66.67)	26	(78.79)	3.648
Family support	5	(16.67)	1	(3.03)	
Saved money	1	(3.33)	2	(6.06)	
Part time job	4	(13.33)	4	(12.12)	
Health problems					
No	11	(36.67)	13	(39.39)	.00
Yes	19	(63.33)	20	(60.61)	
Medication taking					
No	11	(36.67)	15	(45.45)	.204
Yes	19	(63.33)	18	(54.55)	

Table F1 (continued)

Variables	Group I		Group II		Chi-square
	n = 30		n = 33		
	Number	(Percentage)	Number	(Percentage)	
	of subjects		of subjects		
Coffee/non-herbal tea					
No	24	(80.00)	24	(72.73)	.458
Yes	6	(20.00)	9	(27.27)	
Cigarette					
No	19	(63.33)	28	(84.85)	2.788
Yes	11	(36.67)	5	(15.15)	
Alcohol					
No	30	(100)	32	(96.97)	.000
Yes	-		1	(3.03)	
Exercise					
No	3	(10.00)	-		1.611
Yes	27	(90.00)	33	(100)	
Hobby					
No	20	(66.67)	27	(81.82)	1.904
Yes	10	(30.33)	6	(18.18)	

Note. *p<.05

Table F2 Baseline of Sleep Problems of The Subjects (N=63)

Sleep problems	Number of subjects	Percentage
1 problem	29	46.03
prolonged sleep latency	(17)	(26.98)
frequent awoke at night	(14)	(22.22)
slept less than 5 hours a night	(1)	(1.60)
difficult to get back to sleep	(1)	(1.60)
2 problems	17	26.98
3 problems	13	20.63
4 problems	3	4.76
5 problems	1	1.60

Table F3 Range, Arithmetic Means (\bar{X} s), Standard Deviation (SD), Coefficient of Variation (CV), Skewness, and Distributions of Sleep Parameters and Anxiety and Depression Scores before Starting the Exercise Program (N=63)

Parameters	Range	\bar{X} (SD)	CV	Skewness
Sleep latency (minutes)				
	10-240	58.73 (47.08)	0.80	2.56
Number of wakings after sleep onset (times)				
	0-20	3.06 (2.78)	0.91	3.88
Periods of waking after sleep onset (minutes)				
	0-90	26.26 (20.50)	0.78	.86
Total sleep time (hours)				
	1-10 hr 30 min	6.02 (2.05)	0.34	-.36
Sleep quality scores				
	5-18	13.59 (3.05)	0.22	-1.17
Anxiety scores				
	0-11	2.24 (3.12)	1.39	1.49
Depression scores				
	0-14	1.81 (2.88)	1.59	2.27

Table F4 Comparing Means (\bar{X} s), Standard Deviation (SD), and F-value on Sleep of the Subjects as Classified as TCQ Effective Practitioners at Four Different Periods (N=20)

Parameters	Before	During exercise program			F
	Exercise	Exercise			
	program	wk 1-2	wk 3-4	wk 5-6	
	n = 20	n = 20	n = 20	n = 20	
	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	\bar{X} (SD)	
Sleep latency (minutes)	48.30 (29.58)	40.30 (26.51)	36.30 (27.00)	30.00 (15.13)	1.381
Number of wakings after sleep onset (times)	3.15 (4.25)	3.25 (4.47)	2.95 (4.17)	2.90 (4.18)	.591
Periods of waking after sleep onset (minutes)	26.00 (18.23)	27.00 (19.42)	20.00 (15.47)	23.00 (17.26)	1.541
Total sleep time (hours)	5.59 (2.06)	5.51 (2.11)	6.30 (1.58)	6.38 (2.04)	1.536
Sleep quality scores	13.60 (3.28)	14.60 (2.37)	14.90 (2.20)	15.35 (2.41)	2.012

Note. *p<.05

APPENDIX G

FIGURES

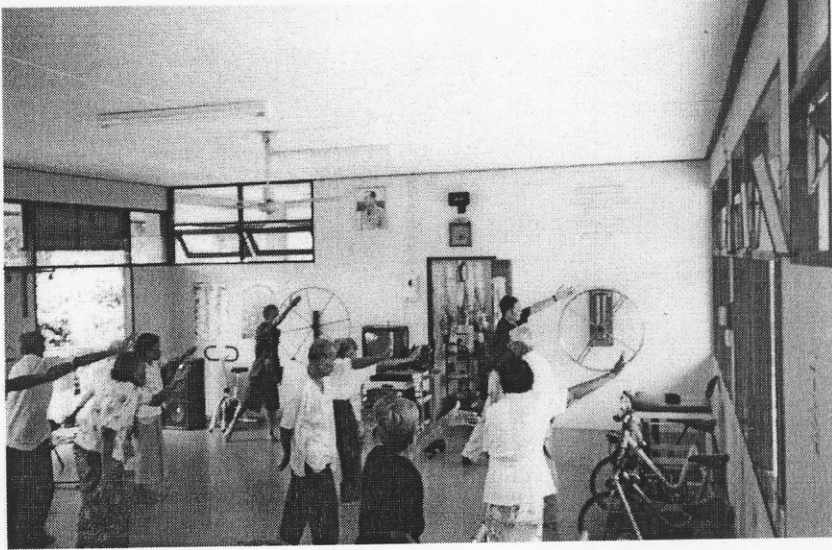


Figure G1. The participants in the exercise program at Uthong Panangtuk Home for the Elderly in Chumphon province.



Figure G2. The participants in the exercise program at Phuket Home for the elderly in Phuket Province.

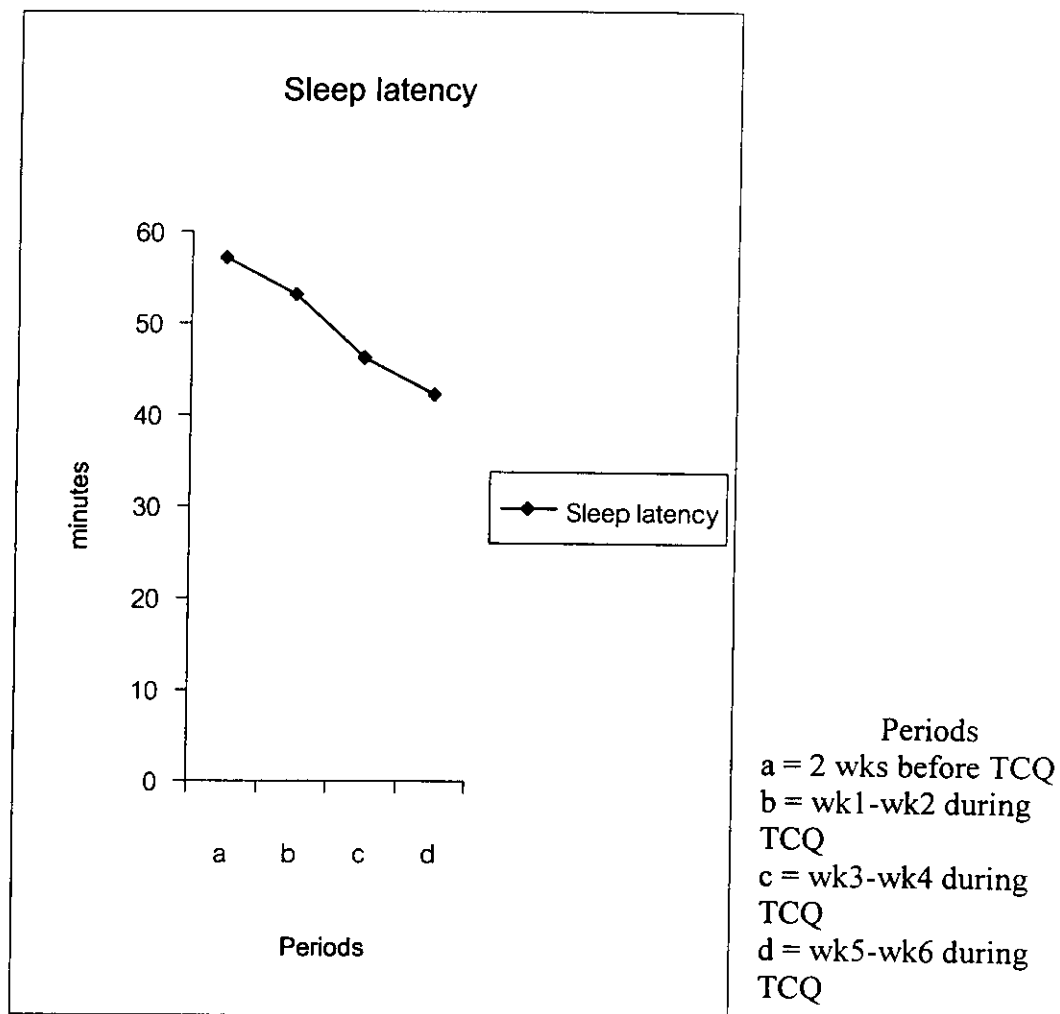


Figure G3. Sleep Latency means of the 2 weeks prior to end time point.

Figure G3 shows the decrease of sleep latency means during the exercise program and significance.

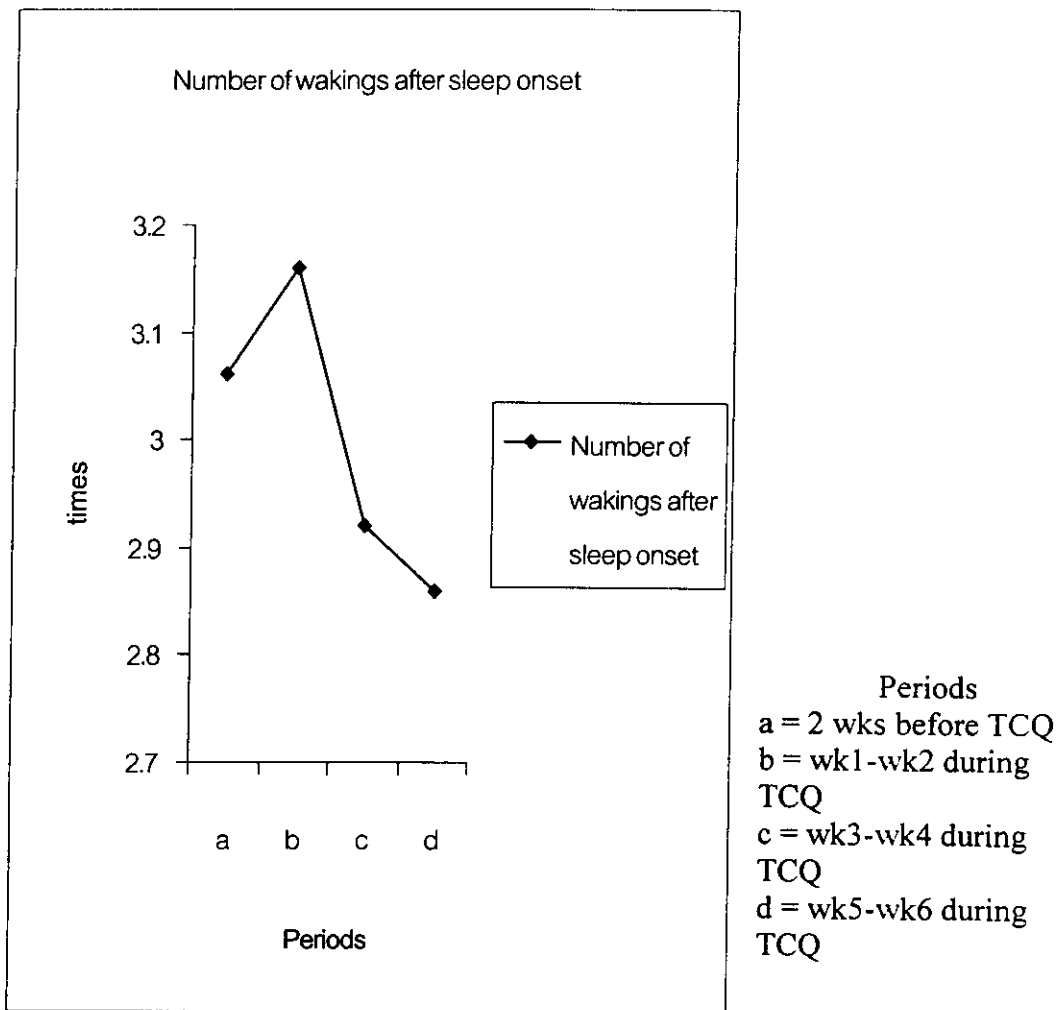


Figure G4. Means of the number of wakings after sleep onset in the 2 weeks prior to end time point.

Figure G4 shows means of number of wakings after sleep onset decreased after the first two weeks of the exercise program but were not significant.

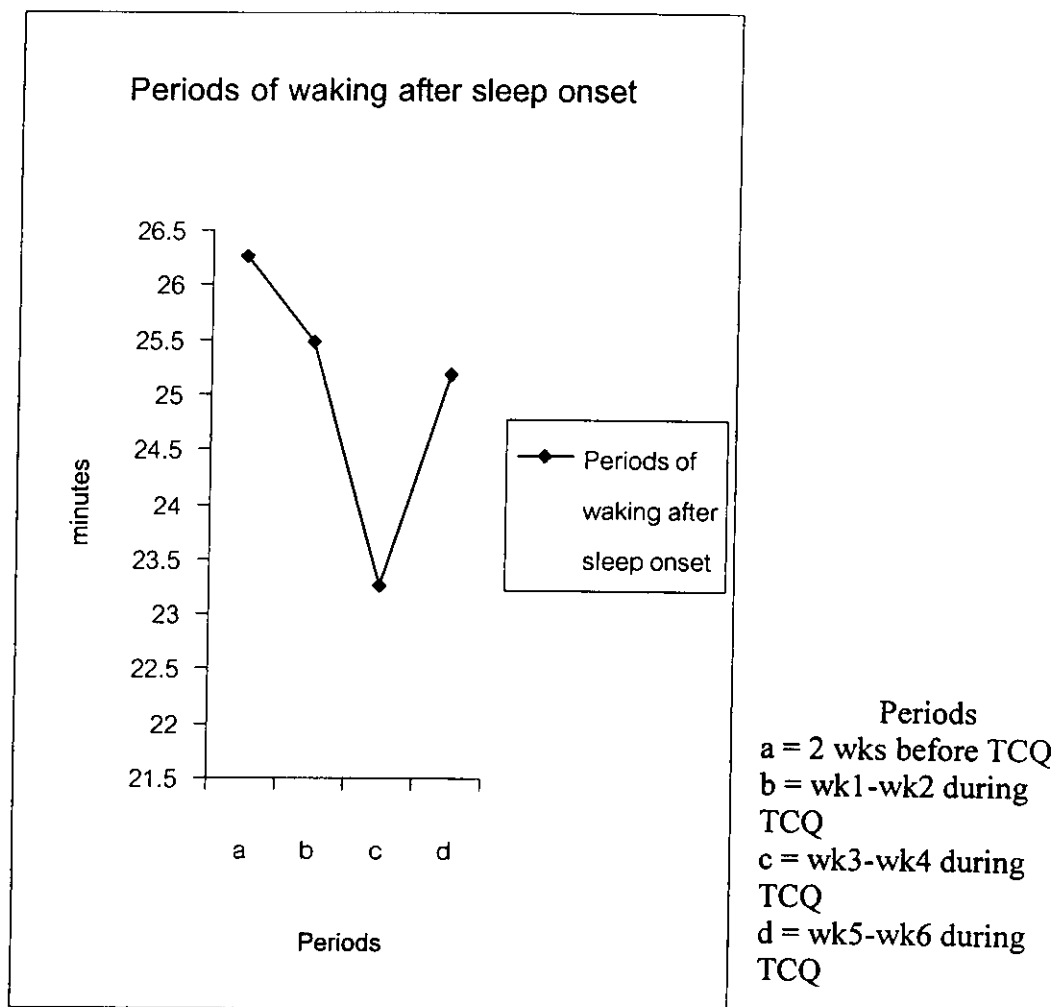


Figure G5. Means of periods of waking after sleep onset in the 2 weeks prior to end time point.

Figure G5 shows that the trend of the means on period of waking after sleep onset mean during the exercise program is unclear.

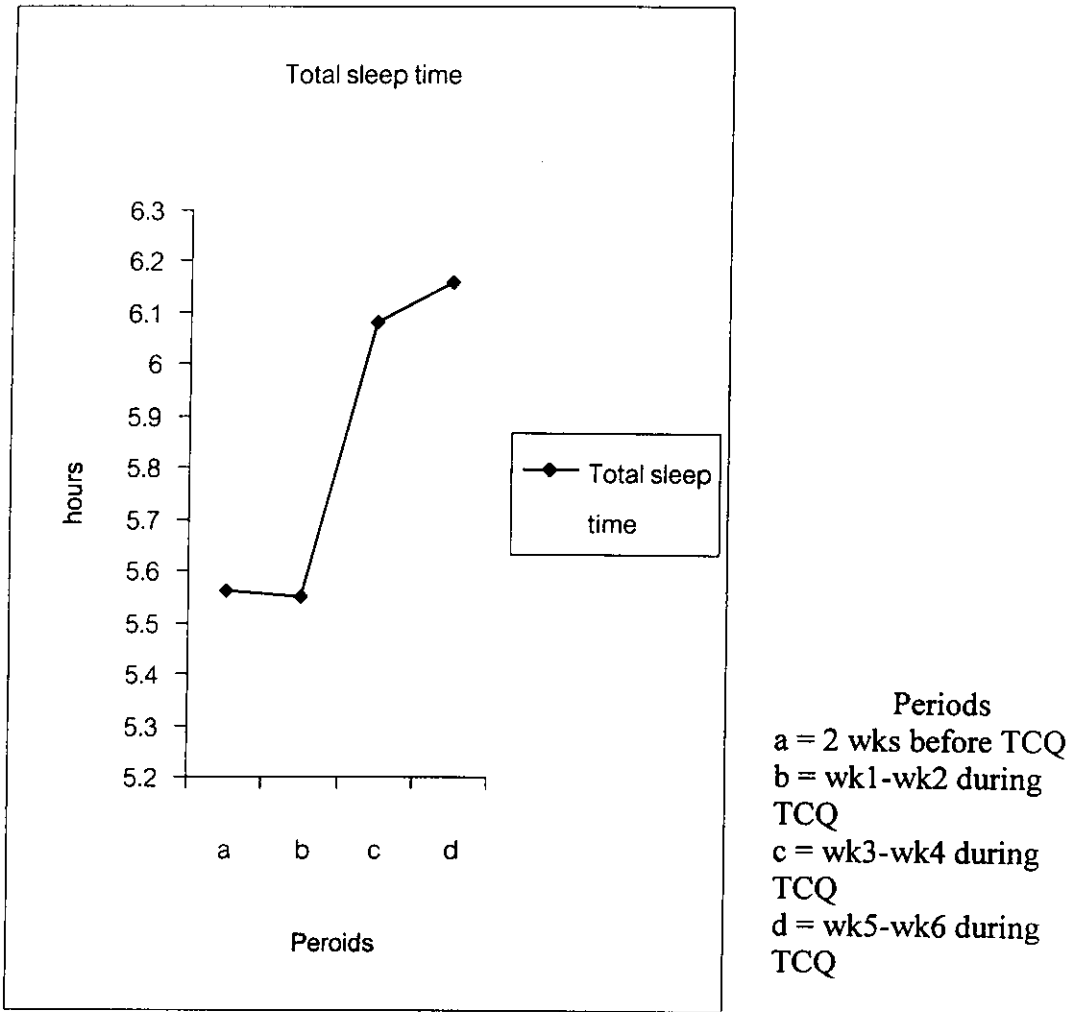


Figure G6. Means of total sleep time in the 2 weeks prior to end time point.

Figure G6 shows that after the first two weeks of the exercise program the means of total sleep time increased slightly but were not significant.

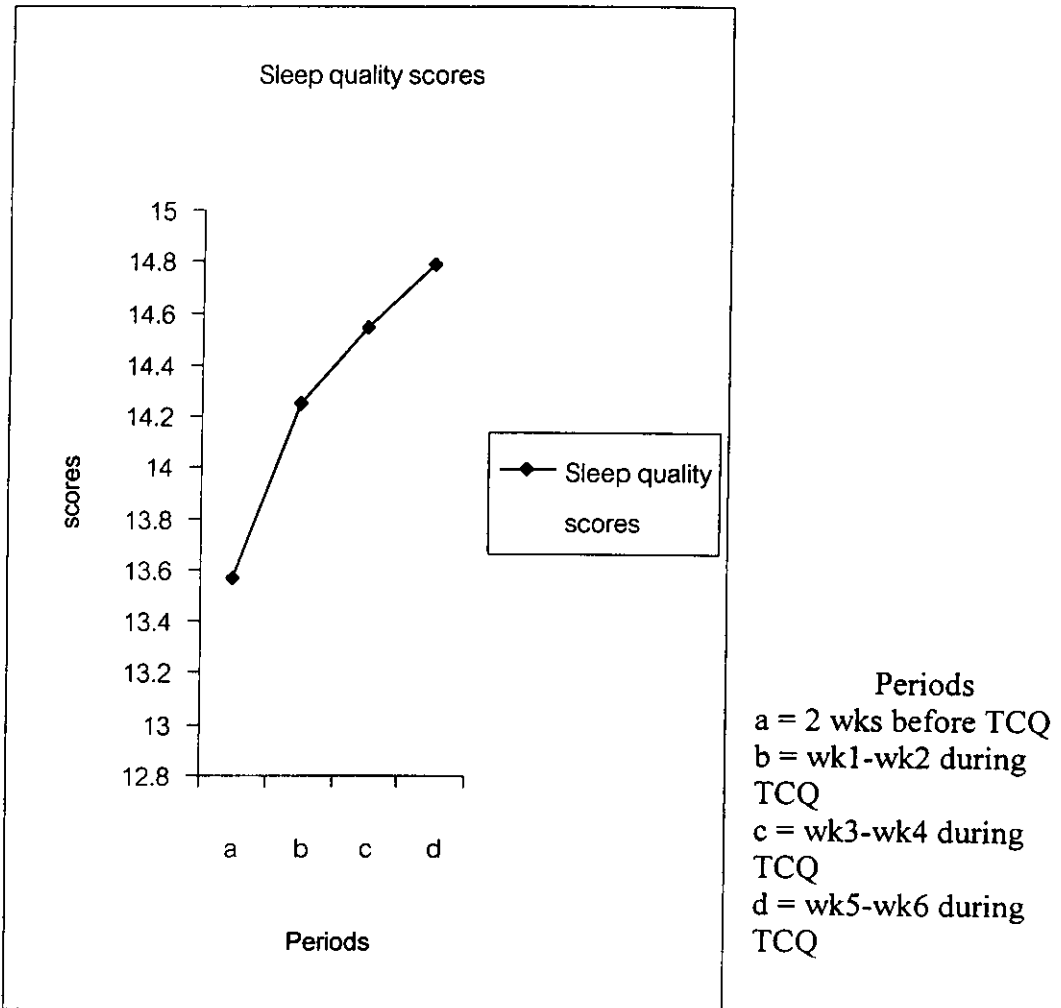


Figure G7. Means of sleep quality scores in the 2 weeks prior to end time point.

Figure G7 shows that the means of sleep quality scores increased during the exercise program and significance.

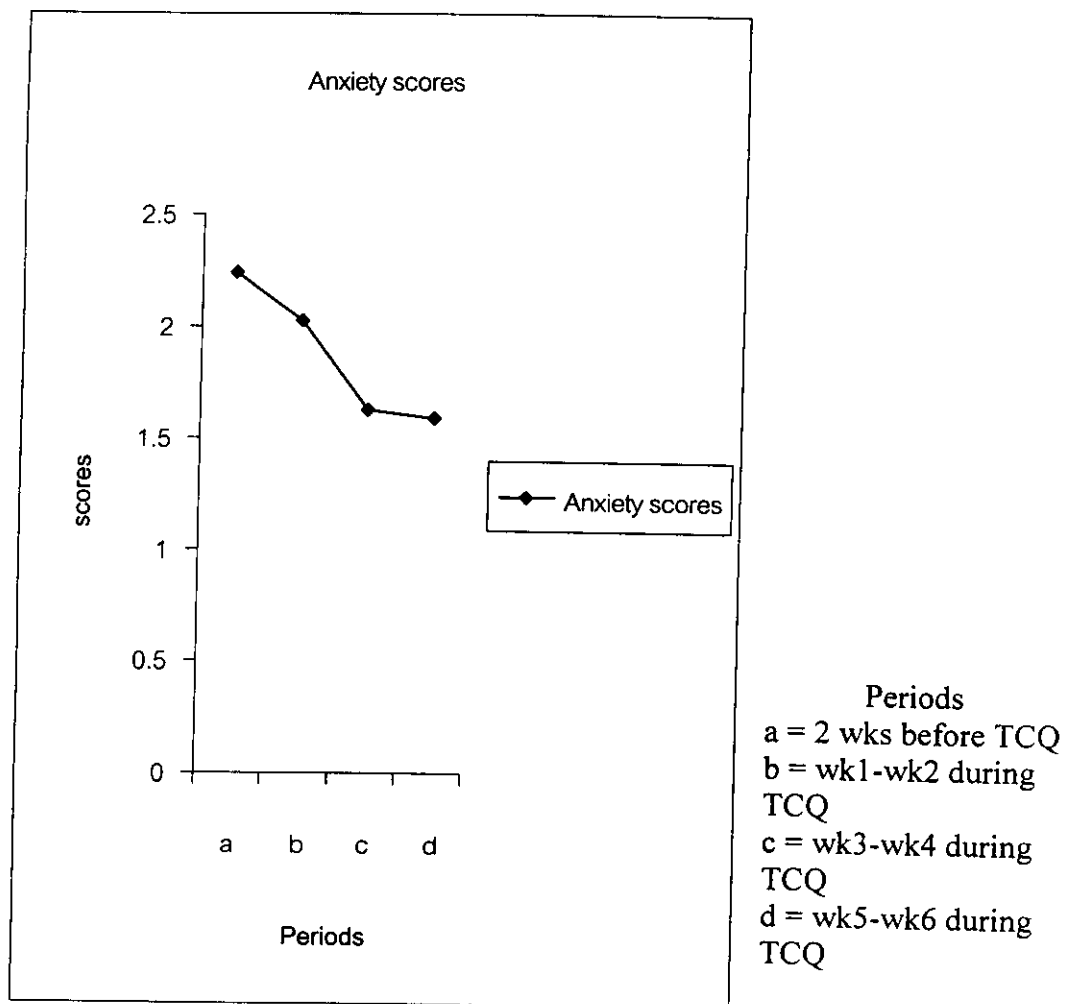


Figure G8. Means of anxiety scores means in the 2 weeks prior to end time point.

Figure G8 shows that the means of anxiety scores decreased during the exercise program but did not reach significance.

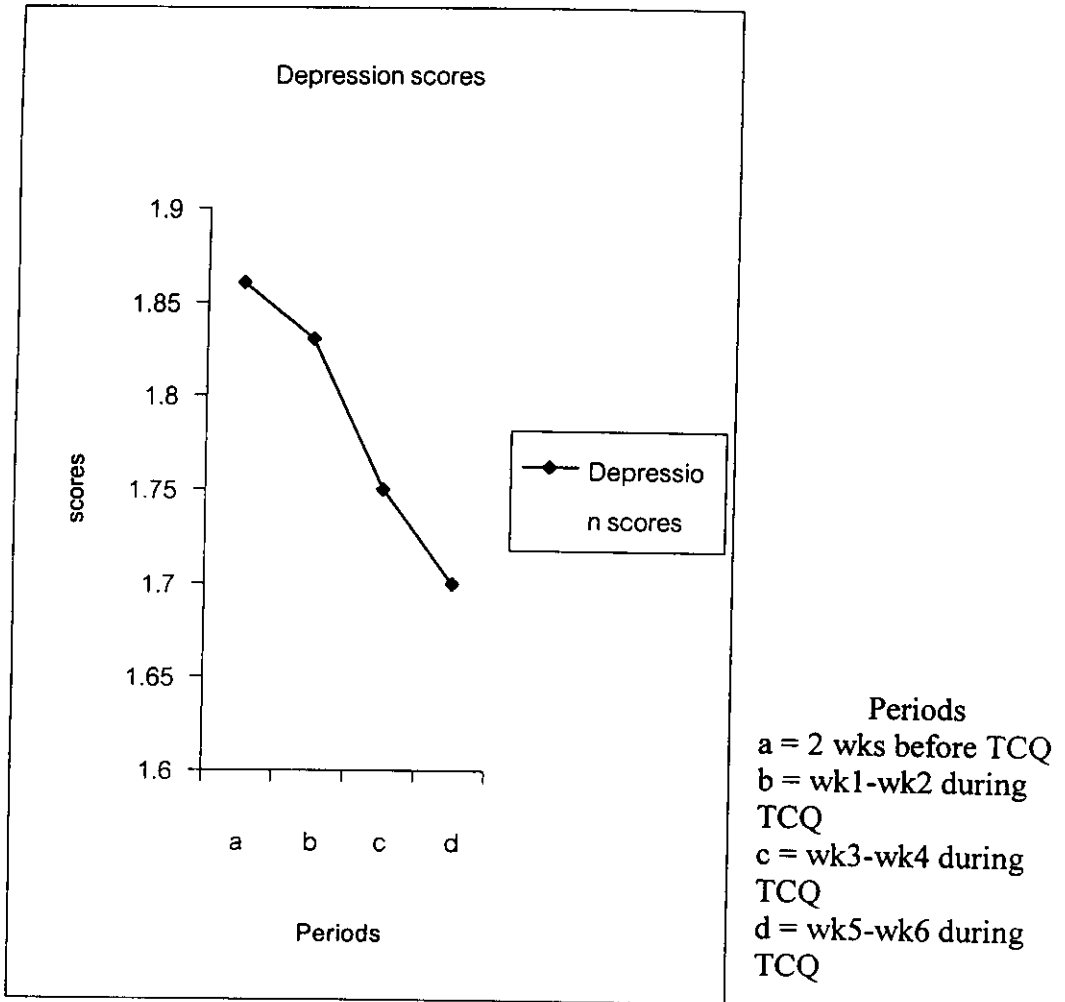


Figure G9. Means of depression scores in the 2 weeks prior to end time point.

Figure G9 shows that the means of depression scores decreased slightly during the exercise program but were not significant.

APPENDIX H
LIST OF EXPERTS

Three experts were consulted regarding the content validity of demographic data record form and the sleep questionnaires. They were:

1. Associate Professor Patsamon Khumtaveeporn
Faculty of Nursing, Mahidol University
2. Associate Professor Liwan Ounnapirok
Faculty of Nursing, Mahidol University
3. Assistant Professor Dr. Wandee Suttharangsee
Faculty of Nursing, Prince of Songkla University