Abstract #95468

Sigma's 30th International Nursing Research Congress

Physical Performance in Older and Late Middle-Aged Persons With Mental Illness

Mei-Yeh Wang, PhD, RN
Department of Nursing, Cardinal Tien Junior College of Healthcare and Management, New Taipei City, Taiwan

Purpose:
It has been well recognized that mental illness is associated with marked deterioration of physical functioning. In patients with mental illness, decreased muscular fitness and impaired walking capacity have been observe compared to age-, gender- and BMI-matched healthy controls (Vancampfort et al., 2013). Physical performance is defined as the ability to perform muscular work satisfactorily (Strassnig et al., 2014). Physical performance indicators such as walking speed, sit-to-stand motion, and standing balance are able to measure an individual’s lower limb strength and endurance, as well as agility, balance and speed while moving. The value of physical performance indicators to identify adverse health outcomes such as frail, fall, or poor ability of activities of daily life (ADLs) in general population has been proved previously (den Ouden et al., 2011; Santos et al., 2016; Soundy et al., 2014). Furthermore, individuals with mental illness have accelerated physical aging compared with the overall population. Thus, the question of whether reduced physical performance would emerge during the late middle-aged period among patients with mental illness is deserved to be investigated.

Methods:
Physical performance components were assessed as following:

1. Balance: balance was measured by the standing balance in different foot positions including semi-tandem stand (i.e., heel of one foot against side of big toe of the other), feet together side-by-side, and tandem stand (i.e., feet aligned heel to toe). Balance test begin with a semi-tandem stand. The test requires participants to maintain each position for 10 seconds. Participants who were not able to complete all of the three position tests were identified as impaired balance.

2. Gait speed: gait speed was measured via the four-meter walking time. Participants were asked to walk with their usual pace. Moreover, participants were allowed to use usual walking aid for this test. Participants who were not able to complete the task of four-meter walking within 4.8 seconds were identified as low gait speed.

3. Sit-to-stand motion: sit-to-stand motion was measured via the chair stand test. Participants were required to perform five rises from a chair to an upright position without stopping in between as fast as possible. Participants who were not able to stand up from a chair without the use of the arms or unable to finish the test within 15 seconds were identified as failed in the chair stand test.
**Results:**
Data of 264 patients with mental illness were analyzed. 41.3% of the participants were male. Participants with a mean age of 61.39 years (SD: 4.42, range: 55-75) and 23.9% of the participants were older than 65 years. 66 patients reported low gait speed (25.0%), 61 patients reported unbalanced (23.1%), and 36 patients reported failed in chair stand test (13.6%). There were no significant differences in the percentage of number of each component between patients with 55-64 years old and those older than 65 years. Furthermore, after adjustment for age, sex, BMI, nutrition status, fall history, depression and fatigue level, cognitive function significantly associated with the ability to perform sit-to-stand motion and gait speed.

**Conclusion:**
Our results found that there were no significant differences between the older and late middle-aged patients with mental illness for physical performance. Our results indicate that the reduced ability to perform physical performance may be emerged in the late middle-aged period in this population.

---

**Title:**
Physical Performance in Older and Late Middle-Aged Persons With Mental Illness

**Abstract Describes:**
Ongoing Work/Project

**Applicable category:**
Clinical, Academic

**Keywords:**
mental illness, older and physical performance

**References:**
Abstract Summary:
We found that there were no significant differences in physical performance between the older and late middle-aged patients with mental illness. The results indicate that the reduced ability to perform physical performance may be emerged in the late middle-aged period in this population.

Content Outline:
Purpose
1. It has been well recognized that mental illness is associated with marked deterioration of physical functioning. In patients with mental illness, decreased muscular fitness and impaired walking capacity have been observe compared to age-, gender- and BMI-matched healthy controls.
2. Physical performance is defined as the ability to perform muscular work satisfactorily. Physical performance indicators such as walking speed, sit-to-stand motion, and standing balance are able to measure an individual's lower limb strength and endurance, as well as agility, balance and speed while moving.
3. The value of physical performance indicators to identify adverse health outcomes such as frail, fall, or poor ability of activities of daily life (ADLs) in general population has been proved previously.
4. Given that individuals with mental illness have accelerated physical aging compared with the overall population. Thus, the question of whether reduced physical performance would emerge during the late middle-aged period among patients with mental illness is deserved to be investigated.

Methods
Physical performance components were assessed as following:
1. Balance: balance was measured by the standing balance in different foot positions including semi-tandem stand (i.e., heel of one foot against side of big toe of the other), feet together side-by-side, and tandem stand (i.e., feet aligned heel to toe). Balance test begin with a semi-tandem stand. The test requires participants to maintain each position for 10 seconds. Participants who were not able to complete all of the three position tests were identified as impaired balance.
2. Gait speed: gait speed was measured via the four-meter walking time. Participants were asked to walk with their usual pace. Moreover, participants were allowed to use usual walking aid for this test. Participants who were not able to complete the task of four-meter walking within 4.8 seconds were identified as low gait speed.
3. Sit-to-stand motion: sit-to-stand motion was measured via the chair stand test. Participants were required to perform five rises from a chair to an upright position without stopping in between as fast as possible. Participants who were not able to stand up from a chair without the use of the arms or unable to finish the test within 15 seconds were identified as failed in the chair stand test.

Results
1. Data of 264 patients with mental illness were analyzed. 41.3 % of the participants were male. Participants with a mean age of 61.39 years (SD: 4.42, range: 55-75) and 23.9 % of the participants were older than 65 years. 66 patients reported low gait speed
(25.0%), 61 patients reported unbalanced (23.1%), and 36 patients reported failed in chair stand test (13.6%).

2. There were no significant differences in the percentage of number of each component between patients with 55-64 years old and those older than 65 years.

3. After adjustment for age, sex, BMI, nutrition status, fall history, depression and fatigue level, cognitive function significantly associated with the ability to perform sit-to-stand motion and gait speed.

**Conclusion**

Our results found that there were no significant differences between the older and late middle-aged patients with mental illness for physical performance. Our results indicate that the reduced ability to perform physical performance may be emerged in the late middle-aged period in this population.