Predictors influencing physical activity among older women with type 2 diabetes

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Background

With the recent increase in the number of people aged 65 years and over in South Korea,

... the prevalence of chronic disease

... related medical costs

Rapidly increased!
Background

For older adult’s in South Korea,

Diabetes is known as

... one of the most common chronic diseases

... one of the major causes of death
Background

In particular...

... approximately \textit{20\% older women} were found to be diagnosed with diabetes in 2013 (Statistics Korea, 2013).

... many older women with diabetes were determined to have \textit{uncontrolled diabetes}. 
Background

Adherence to self-management behaviors such as physical activity is crucial

... to control blood glucose levels
... to prevent diabetes-related complication in older women (Ministry of Health and Welfare, Korean Centers for Disease Control & Prevention, 2013)
Hence,

...health care providers have focused on enhancing self-management behaviors, in particular, physical activity in older women.

...because the levels of physical activity in older Korean women are relatively low (Statistics Korea, 2013).
This study was …

… to identify

… factors influencing levels of physical activity

… in older women aged over 65

… with type 2 diabetes

… in South Korea.
Modified theory of Triadic Influence
Study design

This was…

…a secondary analysis

Original study was…

…A study on structural equation modeling on physical activity in older adults with type 2 diabetes in South Korea (Chang et al., 2015)
Participants

The inclusion criteria were older adults…
… aged 65 years or older
… who had been diagnosed with type 2 diabetes
… who were taking medication (OHA, Insulin injection)
… who visited community welfare centers

In the secondary analysis…
… The data from 118 women were used.
The instruments included

(1) Physical activity

... Korean version of the Physical Activity Scale for the Elderly (Choe et al., 2010)

... 10 items (6 for leisure-time, 3 for household, and 1 for occupational physical activity)
The instruments included

(2) Self-efficacy

... Korean version of the Self-efficacy for Exercise (Resnick & Jenkins, 2000)

... 8 items

... Chronbach’s alphas .95
The instruments included

(3) Social normative beliefs, attitudes, intention

... Korean version of Theory of Planned Behavior Questionnaire (Francis et al., 2004)

... 11 items (4 for social normative belief, 4 for attitudes, and 3 for intention)

... Chronbach’s alphas .62, .75, and .91
The instruments included

(4) Physical activity experience

… Korean version of the Question on Past Behavior (Hagger et al., 2001)

… Single items
The instruments included

(5) Demographic and disease-related characteristics

... age
... educational level
... comorbidity
... perceived health status
... duration of diabetes
... current treatments for diabetes
Data analysis

To analyze the data...

... descriptive analyses
  (mean, standard deviations, percentage)

... inferential statistics
  (Pearson’s correlation analyses, multiple hierarchical regression analyses)
Results

Demographic characteristics (N=118)

... the mean age of the participants was 76.2 (SD 6.1) years.

... the highest level of education in about 60% was middle school or less.

... 45% perceived that they were healthy.
Results

Diseases-related characteristics (N=118)

... the mean duration of diagnosed diabetes was 10.1 (SD 9.8) years

... about 98% took oral hypoglycemic agents for glycemic control

... 64% had one or more comorbidities such as hypertension
Results

Levels of physical activity

... the mean total physical activity score: 86.0
(ranged from zero to 320.0)

... Specifically,
- 18.2 for leisure-time physical activity
- 59.5 for household-related physical activity
- 8.3 for job-related physical activity
## Results

### Factors influencing physical activity

<table>
<thead>
<tr>
<th>Variables</th>
<th>Standardized coefficients (Beta)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-efficacy</strong></td>
<td>.174</td>
<td>&lt;.01**</td>
</tr>
<tr>
<td>Social normative belief</td>
<td>-.016</td>
<td>.869</td>
</tr>
<tr>
<td>Attitudes toward physical activity</td>
<td>-.111</td>
<td>.377</td>
</tr>
<tr>
<td>Intention to participate in physical activity</td>
<td>.103</td>
<td>.452</td>
</tr>
<tr>
<td>Experience</td>
<td>.073</td>
<td>.708</td>
</tr>
</tbody>
</table>
Results

In the regression model,

... five variables explained

... 6% of the total variances

... in physical activity
The study showed that,

... the level of physical activity was relatively low compare with the results for a previous study (Stiggelbout et al., 2006)

... this might be due to the fact that the score of job-related physical activity in this study was lower than the one in the previous study (Stiggelbout et al., 2006)
Discussion

Higher perception of self-efficacy for exercise is an important factor for physical activity.

This agree with previous studies (Park et al., 2009, Stiggelbout et al., 2006).

It might be reflected the nature of self-efficacy, which is defined as one’s judgements of his/her capabilities to organize and execute courses of action required to attain designated types of performance (Bandura, 1986).
Conclusions

(1) the findings of this study need to be tested in older Asian women with type 2 diabetes in other countries through international collaborative studies.

… It is because older Asian women tend to have low levels of physical activity and high levels of vulnerability in health care system not only in South Korea but also in other countries.
Conclusions

(2) the findings of the study revealed the important role of self-efficacy in physical activity in older Korean women with type 2 diabetes

... health care professionals, who are interested in developing diabetes education programs for increasing physical activity levels should consider the important role of self-efficacy

... health care providers should take into account the strategies for enhancing self-efficacy for physical activity
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