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The Prevalence of Mild Cognitive Impairment in Elders in Chongqing, China

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Abstract: Mild cognitive impairment (MCI) is a window to detect dementia, and to screen MCI, Montreal Cognitive Assessment (MoCA) is commonly used. This work investigated the prevalence of MCI in Chongqing elderlies by using MoCA as a tool. One hundred fourteen valid data from older adults (≥ 55 years, 51.75% males) were recruited for this research. Twelve demographic information were collected, and each participant did one of the two versions of MoCA tests (Beijing 7.1, and the optimized version). They were developed based on the Beijing 7.1 version, and four test sections were optimized to adapt to the native speaking and cultural background. Five risky demographic factors were found. The incidence of MCI detected by the optimized MoCA version was lowered to 83.3% compared to 94.4% in the original version, and the naming section was significantly improved. The significant decrease in the overall prevalence indicates that the optimization of the MoCA has, to some extent, made it more suitable for Chongqing elders. Accordingly, we suggest further professional and detailed improvements to MoCA.

Keywords: mild cognitive impairment, Montreal Cognitive Assessment, Chongqing

1. Introduction

China is facing a rapidly increasing aging tendency; along with aging, diseases like dementia place substantial emotional, social, and financial burdens on the public [1], not only to families and caregivers, but the patients with this uncurable disease also suffer mentally and physically [2]. The search for effective treatment has so far been very unsuccessful due in part to the late occurrence of symptoms; early intervention is an efficient way to alleviate the suffering. Mild cognitive impairment (MCI) is an early signal for dementia from normal aging, and MCI detection is critical for patients and their families [3]. MCI patients exhibit continuous cognitive decline symptoms, such as loss of memory, impaired language, decreased learning abilities, executive dysfunction, etc. [4-6]. The prevalence of MCI increases with age; 10-15% of the elders with a higher level of MCI could convert to Alzheimer's disease-one - the most common dementia per year, and up to 46% of the affected population is likely to suffer from various dementia within three years [7, 8]. In China, the overall incidence of MCI fluctuated between 21.8% and 36.2% in the past five years [9, 10]. Additionally, there is no solid evidence supporting the effectiveness of either pharmacologic treatments or cognitive training in improving MCI. Thus, early intervention is likely the most effective way to reduce pathogenetic factors for preventing MCI [5, 11].

To understand the causes and effects of MCI, it is categorized into different domains and subtypes.

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The most common way is to order by the impaired functions: amnestic and non-amnestic MCI [12]. Different subtypes of MCI are likely to transfer into other dementias. For example, amnestic MCI has the most significant incident rate, mostly leading to Alzheimer's disease [12, 13]. However, in this research, MCI will generally be studied.

1.1. Relevant factors to MCI

A systematic meta-analysis on MCI prevalence in the Chinese elderly population revealed that the factors related to MCI in community samples, including demographic characteristics, bodily and mental status, personal experiences (e.g., occupation, education, etc.), and lifestyle [9, 14], which some MCI relation to factors is controversial. For example, Brodaty Heffernan [15] found males are more likely to be affected by MCI, while Deng and coworkers (2021) reported a higher incident rate in females. However, in general, a population of elder who lives in a rural area is less educated, with sedentary lifestyles, unhealthy habits, and bodily or mental illnesses that are frail to MCI [9, 16, 17].

1.2. Diagnosis: MMSE VS. MoCA

Clinical diagnosis for MCI often includes a cognitive screening test using cognitive test and further detection of cerebrospinal fluid (CSF) biomarkers or using technologies such as MRI (Magnetic Resonance Imaging) scan, positron emission tomography (PET), or fluorodeoxyglucose positron emission tomography (FDG-PET) [3]. The Mini-Mental Status Examination (MMSE) and Montreal Cognitive Assessment (MoCA) are the two most widely used tools to assess MCI in the general public [10, 18, 19]. MMSE is a five to 10-minute short test to detect cognitive dysfunctions by evaluating some aspects of cognitive functions, including memory, attention, language, and ignoring emotions [20]. It was created to filter dementia specifically and later used to detect disorders relating to cognitive dysfunction, including depression, stroke, and multiple sclerosis [20]. Although it is widely used in auxiliary diagnosis of various diseases, it cannot discriminate between them. Thus, it has a low sensitivity and accuracy in detecting a specific disorder like MCI [21].

Developed based on MMSE, MoCA has a higher sensitivity and specificity of over 80%, better detecting MCI, yet less commonly used [6, 9, 19, 22]. The general MoCA is a 30-scaled paper testing nine cognitive functions, including Executive, executive function, naming ability, attention, language, abstract thinking, memory, and orientation function. It was officially translated into different languages. It has four Chinese versions, Beijing, Changsha, Cantonese region, and Hongkong, adapted to Mandarin, Changsha dialect, and Cantonese, respectively. Research on the prevalence of MCI among the Chinese elderly mainly uses MMSE and is biased toward first-tier and Mandarin-speaking cities, such as Beijing, Shanghai, and Guangzhou [9]. For example, a Chinese elderly MCI research found that 43 of 53 papers used MMSE, whereas only 24 applied MoCA [9]. Accordingly, the current research used MoCA to assess the participants to seek a higher sensitivity and specificity and supplement margin in MCI detection.

1.3. Current research

To summarize, MCI signals the occurrence of dementia, and early detection of MCI is valuable in preventing further harm. Besides clinical diagnosis using expensive techniques, cognitive test papers, MMSE, and MoCA are widely used in screening MCI from the general public. However, MoCA is comparatively more accurate and sensitive than MMSE less commonly used in previous MCI prevalence studies in China. On the contrary, those studies were primarily conducted in well-developed and Mandarin-speaking cities.

This study focuses on discovering the incidence of MCI in Chongqing elderlies over age 55 using MoCA. The MCI prevalence and demographic results are hypothesized to align with previous studies.

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More specifically, 1) the result is expected to follow similar patterns of previous studies, in which the incidence is within the range of 20% to 40% [9, 10]; 2) the protective factors are related to higher education, healthy body and lifestyle, and frequent mental practice, such as the use of the internet and mental occupation [9, 23].

2. Materials and methods

2.1. Participants

The study recruited 120 older adults (age ≥ 55 years, 51.75% males) from Beibei and Shapingba Districts in Chongqing Province and Lingshui County of Sichuan Province in China. All the participants were randomly selected and tested, among which Shapingba and Lingshui samples were regarded as rural populations; they were either still living in the villages or were living as farmers beforehand and transferred to the cities after retirement, while Beibei samples were primarily urban populations. Six unfinished tests were excluded from the people; 114 were valid and further analyzed. Their demographic information was collected as well, and factors include age (divided into four groups, namely 55-59, 60-69, 70-79, and 80-89), gender (male, female), residential area (urban, rural), occupation types (mental, manual), living status (along, not along) education level (low, medium, high), smoking, drinking, internet use, media use, exercise, and health condition. To be more specific, for the education level, labels "low", "medium," and "high" indicates the highest educational level of participants were primary school, secondary school, and higher education, respectively; for smoking, drinking, and the regular use (defined as over four times per month) of the internet, media, and exercise were determined as “yes”, otherwise “no”. Unhealthy body condition involves the diagnosis of diabetes, cardiac diseases, hypertension, hyperglycemia, hyperlipidemia, and brain diseases.

2.2. Procedure

The trained instructor led the participants to a quiet place without a clock. The participants' demographic information was collected, and the MoCA test was conducted. The collection of demographic information took approximately three minutes, and the MoCA test was strictly eight to 15 minutes. At the end of the trial, the instructor recorded and calculated the scores of each participant, which were then analyzed using SPSS 28.0.

2.3. Materials

Montreal Cognitive Assessment (MoCA) Chinese Beijing 7.1 version (Version 1) downloaded from MoCA cognition official website, was used to screen MCI in participants. According to the instructions of the MoCA official website, participants with scores below 26 out of 30 will be evaluated with MCI.

A pre-run analysis found the prevalence of MCI collected by MoCA version 1 was unusually high, so a MoCA self-adjusted test (Version 2) based on the original version was developed. Considering Chongqing's cultural and linguistic background, minor improvements to four sections were made: the first section of the Executive section, the naming section, the first part of the language section, and the memory section. The maximum score of each section remained, and the critical score of 26 was unchanged.

2.4. Statistical analysis

All statistical analyses were conducted using SPSS (version: 28.0.1.1). All parametric assumptions were met unless stated otherwise. Independent t-test and One-way ANOVA were used to analyze the

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impact of demographic factors on the performance of MoCA (Beijing 7.1) (Levene's test > .05). Kruskal-Wallis test (Monte Carlo) was used to identify the MoCA score differences between different education levels (low, medium, and high), and Mann-Whitney U posthoc tests (alpha level = .02) were used to discover MoCA score differences between age groups. Later, a Mann-Whitney U test was done to explore whether the optimized MoCA version differed from the original MoCA (Beijing 7.1) on each adjusted section.

3. Result

3.1. Demographic factors

Five demographic factors (age, education level, occupation, internet use, and health condition) were found to have significant impacts on the participants' performance during the MoCA test (Table 1). Age did affect the average MoCA score of the participants ($F(3, 110) = 2.89$, $p = .04$) and an overall descending trend of score was found with age increasing, in which the subjects of age Group 1 (55-59 years) scored significantly higher (Group 1 = 19.50 ± 1.59) than Group 3 (70-79 years) and Group 4 (80-89 years) (Group 3 = 15.51 ± .79, $p = .041$; Group 4 = 14.96, $p = .030$). Subjects in age Group 2 (60-69 years) reached a significantly higher score than Group 4 (Group 2 = 18.08 ± 1.04, $p = .047$) Education level also influenced the subjects' performance in the MoCA test ($H2 = 29.49$, $p < .001$). Participants with low education levels did significantly worse (Low = 14.27 ± .58) than those with high (High = 23 ± 2.04, $p = .002$) and medium level of education (Medium = 20.35 ± .84, $p < .001$). Furthermore, mental laborers were tested with higher scores in the MoCA test than manual laborers ($U = 216.50$, $p < .001$); subjects who use the internet frequently scored higher than ones who do not ($t(106) = 5.30$, $p < .001$); and healthy samples performed better in the MoCA than unhealthy samples ($t(106) = 2.124$, $p = .018$).

Table 1: A summary of participants' MoCA mean score (with standard deviation) according to demographic factors. * Equal significance, e.g., factors marked with * show significant differences ($p < .005$) in between group comparison within the factors.

Demographic factors	Mean (±SD)
Age Group*	
55-59	19.50±5.02
60-69	18.08±5.07
70-79	15.51±5.53
80-89	14.96±6.22
Gender	
Male	16.81±5.10
Female	15.87±6.21
Residential Area	
Urban	17.84±7.22
Rural	15.89±5.09
Living Status	
Along	14.78±6.18
Not Along	16.48±5.64
Education Level*	
Low	14.27±4.92
Medium	20.35±4.69
High	23.00±4.08
Occupation*	
Mental	21.91±4.83
Manual	15.71±5.43
Drinking	
Yes	14.97±5.21
No	16.90±5.79
Smoking	
Yes	16.94±5.24
No	16.22±5.78
Exercising	
Yes	16.34±5.72
No	16.50±2.12
Internet Use*	
Yes	18.93±5.14
No	13.76±4.99
Media Use	
Yes	16.64±5.63
No	15.26±5.83
Health Condition*	
Healthy	17.34±5.92
Unhealthy	15.04±5.11

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3.2. Version Comparisons

The total mean score of the MoCA Version 2 was significantly improved compared to Version 1 ($t(112) = -2.274$, $p = .012$), and the detected MCI incidence decreased from 94.4% in the original MoCA to 83.3% in the optimized MoCA.
Four sections were adjusted to adapt to the language and cultural background of Chongqing's older people, and the score of the naming section was significantly improved compared to the old version ($U = 111$, $p = .003$; Table 2).

Table 2: A summary of mean scores of the MoCA V1 (original Mandarin Beijing 7.1) and V2 (self-adjusted version) in the four adjusted sections. * Equal significance, e.g., factors marked with * show significant differences ($p < .005$) in between group comparison within the factors.

Sections	V1	V2	Maximum Score
Executive	.10	.33	1
Naming*	1.65	2.83	3
Language 1	.58	1.17	2
Memory	.63	.50	5
MoCA Score*	16.34	21.67	30

4. Discussion

This research investigated the prevalence of MCI among older adults in Chongqing using MoCA. 12 demographic factors were collected, and each participant did one of the two versions of the MoCA test. There were two main hypotheses of our study: (1) the prevalence of MCI among older adults in Chongqing (investigated by using MoCA) should be similar to that gained by previous meta-analysis (20%-40%), and (2) factors associated with frequent mental practice (such as the use of the internet and mental occupation) and healthier body condition should show a positive and prevention role in the content of MCI that demonstrated by the previous study, which reflects by participants meet the above criteria would have a significantly higher MoCA score in our study.

By analyzing the MoCA scores, we found that the overall incidence of MCI in Chongqing elderlies was 93.8%. In, the incident rate evaluated by the MoCA version 1 (the original translated version) was 94.4%, and version 2 (the optimized version) was 83.3%. Is the prevalence much higher than the incident rate of 21.9% reported in the meta-analysis (Deng et al., 2021), and reject our first hypothesis? This depicts that the official version of MoCA may not be compatible with Chongqing elders. However, the decline of the MoCA mean score as age rises and education level lowers, as well as the bias of higher scores towards the mental occupation, healthier, and population using the internet, were in line with previous findings [14, 23], which confirms our second hypothesis, and indicates that the present research is not entirely off the track. Moreover, compared to 94.4% in MoCA version 1 (the original translated version), the incidence of 83.3% detected by version 2 (the optimized version) is closer to the incident rate of 21.9% reported in other research. The more approached incidence indicates that the adjustments improved the accuracy of the test, and the result of the second version is more reliable.

Cultural and linguistic inadaptations of the MoCA test to Chongqing native older adults can cause a significantly higher incidence. China is a multicultural country containing 56 ethnicities 34 provinces (including provinces, municipalities, and economic zones), and over seven major dialect systems, and people of different areas or even villages may speak different dialects. Although the prevalence of Mandarin is up to 80.72% in 2021 [24], people still use idioms, and many elder Chinese

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cannot speak Mandarin well because they were not educated using Mandarin. Mandarin is rarely involved in their daily life. In this case, investigating the MCI prevalence of native elders using the Mandarin version of MoCA would lead to inaccuracy and reduce the reliability of the results.

When collecting the demographic information, we found that the educational level of most of the subjects was constrained. Besides language variations, Chongqing's older generations were also grown under special cultural backgrounds. The elder Chinese were born during the late "Cultural Revolution" period throughout Chinese history, resulting in relatively limited levels of education for the children at that time. Thereby, they are less sensitive to texts; for instance, they cannot recognize Chinese characters in the Executive section, where they must match numbers to symbols. In addition to that, due to the limitation of education level and knowledge, animals in the naming section, such as rhinoceros and camel that are rarely seen in China, are not likely to be recognized by older people.

Accordingly, optimization of the MoCA tests was made to better adapt to the unique background of the Chongqing elderlies. By comparing the optimized section of the two versions, only the naming section was significantly improved by changing rare animals in China to more familiar ones. Other areas, including the first part of the Executive section, language, and memory section, were unsuccessfully improved, suggesting that the original results of these questions were not biased due to cultural and educational differences. To be more specific, the subjects in this study performed worst in the memory section of MoCA, where 76.3% of them gained zero points, and only one issue gained all five points. This is in line with the previous studies that memory-related MCI is twice as much as non-memory-related MCI [8, 25], and memory impairment often occurs the earliest. Besides mild memory impairment, the subjects also displayed difficulties in comprehension, as demonstrated by their bad performance in the first section of Executive tasks. This section requires the issues to match and line up boxes by a specific sequence, and only 11.4% of the participants completed the task successfully. Additionally, instructors' observations during the research show that many older adults have difficulties understanding the instructions. For example, one attention task asked the participants to clap their hands each time they heard the number "one" from a sequence of numbers, but some elderly only clapped when they listened to the first "one" or clapped no matter which number the instructor said.

The study's limitations may lead to a high and inaccurate incidence rate. First, as a confounding variable, physical limitations were not being controlled. Physical impairments such as visual, hearing loss, and motor decline negatively affected MoCA scores [26-28]. Self-report feedback during the MoCA tests in this research showed that at least seven, five, and two subjects had reported severe impairment in visual, motor, and hearing abilities, respectively, and instructors observed a few more issues that might be mildly affected by those impairments.

Furthermore, the way for recruiting the participants could also be influential. Unlike older adults drafted online or by posters, the participants in this research were randomly selected by experimenters visiting parks, streets, and neighborhoods, and most of them participated in the study. Therefore, some of them may not be mentally well-prepared for the tests. Also, pressures may occur because of the unfamiliarity with the MoCA test and misunderstanding of psychological research, which also impacts the MoCA score.

In the future, further adjustments are needed to localize. Since many of the older adults in the research have never encountered some questions, such as the matching and lineup of boxes, they might have performed worse than they could. Thereby, instead of merely changing the language in the test paper and following global diagnostic standards, alternating question types and redefining cutoff scores are suggested [29, 30]. For example, Ciesielska, Sokołowski [30] tested the specificity and sensitivity of the global MoCA test with a series of cutoff points and proposed that 24 or 25 are the most balanced and suitable scores to estimate MCI. They are considering that future studies can focus on finding a cutoff point and work on the development of a systematic MoCA test specialized

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to Chinese.

5. Conclusions

In conclusion, MCI is the window to detecting the occurrence of dementia, and diagnosis of MCI allows patients and families to apply early interventions to cope with possible diseases. To screen MCI, cognitive tests MMSE and MoCA were used. By weighing the accuracy and sensitivity of the tests, the present research applied MoCA to detect the prevalence of MCI in older adults over 55 years in Chongqing, China. The result showed that the incidence of MCI in Chongqing elderlies is unusually higher than the prevalence reported in previous studies. Considering the local linguistic and social background, an optimized MoCA version was made and applied. The incident rate detected by the improved version of MoCA was lowered from 94.4% to 83%, and subjects performed significantly better in the animal naming section of the adjusted test.

The results indicate that the prevalence of MCI in Chongqing older adults might be higher than the average MCI in other regions of China, and the original Mandarin version of MoCA needs to be changed to adapt to the Chongqing natives. Thus, future work can focus on making more professional and detailed improvements to the current version of MoCA and produce a systematic MoCA test, including customized questions and criteria, that is specialized to natives.

References

[1] *Brayne, C. and D. Davis, Making Alzheimer's and dementia research fit for populations. Lancet, 2012. 380(9851): p. 1441-3.*
[2] *Aarsland, D., Epidemiology and Pathophysiology of Dementia-Related Psychosis. J Clin Psychiatry, 2020. 81(5).*
[3] *Petersen, R.C., Mild Cognitive Impairment. Continuum (Minneap Minn), 2016. 22(2 Dementia): p. 404-18.*
[4] *Anderson, N.D., State of the science on mild cognitive impairment (MCI). CNS Spectrums, 2019. 24(1): p. 78-87.*
[5] *Langa, K.M. and D.A. Levine, The diagnosis and management of mild cognitive impairment: a clinical review. Jama, 2014. 312(23): p. 2551-61.*
[6] *Pinto, T.C.C., et al., Is the Montreal Cognitive Assessment (MoCA) screening superior to the Mini-Mental State Examination (MMSE) in the detection of mild cognitive impairment (MCI) and Alzheimer's Disease (AD) in the elderly? Int Psychogeriatr, 2019. 31(4): p. 491-504.*
[7] *Tschanz, J.T., et al., Conversion to dementia from mild cognitive disorder: the Cache County Study. Neurology, 2006. 67(2): p. 229-34.*
[8] *Petersen, R.C., et al., Mild cognitive impairment: clinical characterization and outcome. Arch Neurol, 1999. 56(3): p. 303-8.*
[9] *Deng, Y., et al., The Prevalence of Mild Cognitive Impairment among Chinese People: A Meta-Analysis. Neuroepidemiology, 2021. 55(2): p. 79-91.*
[10] *Jia, X., et al., A comparison of the Mini-Mental State Examination (MMSE) with the Montreal Cognitive Assessment (MoCA) for mild cognitive impairment screening in Chinese middle-aged and older population: a cross-sectional study. BMC Psychiatry, 2021. 21(1): p. 485.*
[11] *Petersen, R.C., et al., Practice guideline update summary: Mild cognitive impairment: Report of the Guideline Development, Dissemination, and Implementation Subcommittee of the American Academy of Neurology. Neurology, 2018. 90(3): p. 126-135.*
[12] *Petersen, R.C., et al., Mild cognitive impairment: ten years later. Arch Neurol, 2009. 66(12): p. 1447-55.*
[13] *Aerts, L., et al., Effects of MCI subtype and reversion on progression to dementia in a community sample. 2017. 88(23): p. 2225-2232.*
[14] *Jia, L., et al., Prevalence, risk factors, and management of dementia and mild cognitive impairment in adults aged 60 years or older in China: a cross-sectional study. Lancet Public Health, 2020. 5(12): p. e661-e671.*
[15] *Brodaty, H., et al., Mild cognitive impairment in a community sample: The Sydney Memory and Ageing Study. 2013. 9(3): p. 310-317.e1.*
[16] *Bai, W., et al., Worldwide prevalence of mild cognitive impairment among community dwellers aged 50 years and older: a meta-analysis and systematic review of epidemiology studies. Age and Ageing, 2022. 51(8): p. afac173.*
[17] *Eshkoor, S.A., et al., Mild cognitive impairment and its management in older people. Clin Interv Aging, 2015. 10:*

DOI: 10.54254/2753-7048/45/20230228

p. 687-93.

[18] *Jongsiriyanyong, S. and P. Limpawattana, Mild Cognitive Impairment in Clinical Practice: A Review Article. 2018. 33(8): p. 500-507.*

[19] *Lim, M.Y.L. and J.H.Y. Loo, Screening an elderly hearing impaired population for mild cognitive impairment using Mini-Mental State Examination (MMSE) and Montreal Cognitive Assessment (MoCA). 2018. 33(7): p. 972-979.*

[20] *Nieuwenhuis-Mark, R.E., The death knoll for the MMSE: has it outlived its purpose? J Geriatr Psychiatry Neurol, 2010. 23(3): p. 151-7.*

[21] *Mitchell, A.J., A meta-analysis of the accuracy of the mini-mental state examination in the detection of dementia and mild cognitive impairment. J Psychiatr Res, 2009. 43(4): p. 411-31.*

[22] *Breton, A., D. Casey, and N.A. Arnaoutoglou, Cognitive tests for the detection of mild cognitive impairment (MCI), the prodromal stage of dementia: Meta-analysis of diagnostic accuracy studies. Int J Geriatr Psychiatry, 2019. 34(2): p. 233-242.*

[23] *Li, W., L. Yue, and S. Xiao, Association Between Internet Use, Cognitive Function, and Globus Pallidus Volumes: A Study Among the Elderly in Chinese Communities. 2022. 10.*

[24] *Gao, S., Ministry of Education: The national prevalence of mandarin reached 80.72%, in China Media Group CCTV News. 2021, CCTV.*

[25] *Petersen, R.C., Clinical practice. Mild cognitive impairment. N Engl J Med, 2011. 364(23): p. 2227-34.*

[26] *Lim, M.Y.L. and J.H.Y. Loo, Screening an elderly hearing impaired population for mild cognitive impairment using Mini-Mental State Examination (MMSE) and Montreal Cognitive Assessment (MoCA). Int J Geriatr Psychiatry, 2018. 33(7): p. 972-979.*

[27] *Mohammed, Z., et al., Association between vision and cognitive function among community-dwelling older adults in Selangor, Malaysia. Int J Ophthalmol, 2023. 16(1): p. 115-120.*

[28] *Einstad, M.S., et al., Associations between post-stroke motor and cognitive function: a cross-sectional study. BMC Geriatr, 2021. 21(1): p. 103.*

[29] *O'Driscoll, C. and M. Shaikh, Cross-Cultural Applicability of the Montreal Cognitive Assessment (MoCA): A Systematic Review. J Alzheimers Dis, 2017. 58(3): p. 789-801.*

[30] *Ciesielska, N., et al., Is the Montreal Cognitive Assessment (MoCA) test better suited than the Mini-Mental State Examination (MMSE) in mild cognitive impairment (MCI) detection among people aged over 60? Meta-analysis. 2016. 50(5): p. 1039-1052.*