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ASSESSMENT TOOLS FOR PAIN SEVERITY IN THE ELDERLY: A REVIEW

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ABSTRACT:

Pain is a common complaint among older people, which may be associated with poor outcomes. This review covers the four main types of tools available to assess pain severity, namely the Numeric Rating Scale (NRS), Visual Analogue Scale (VAS), Pictorial Pain Scale (PPS), and Verbal Descriptor Scale (VDS). These tools have been shown to be valid and acceptable for use in older people. While these tools have good validity, studies suggest that older people prefer VDS and NRS. The NRS has good psychometric properties and has the ability to illustrate different levels of scale, so would probably be the first choice for use in suitable patients. For those with mild-moderate cognitive impairment, VDS and PPS may be preferable. Patients with severe cognitive deficits will require other approaches to assessment, particularly observational methods.

Keywords: Aged, Pain Measurement, Symptom Assessment, Visual Analog Scale

INTRODUCTION:

Pain is a common presenting complaint, causing people to seek medical attention [1]. After the age of 60 years, the incidence of pain increases more than two-fold, with the pain frequency increasing every ten years [2, 3]. Pain in older people is often underestimated or unrecognised, resulting in inadequate treatment. Although factors such as communication difficulty or cognitive impairment may limit self-reporting, older people are less able to express their pain experiences verbally or in sufficient detail [2, 4,

5]. When older people are asked directly about pain symptoms, they are also less likely to report pain [6]. Pain is associated with suffering and deterioration in function, depression, increased risk of hospital admission and poor quality of life [7, 8]. Thus, it is important for clinicians to develop practical skills and have suitable and appropriate tools to assess pain in older people as the initial step towards effective pain management [9, 10].

A clinician must first determine the person's ability to read, hear and understand instructions for completing the tool before selecting the

appropriate pain measurement scale. It is also important to correct sensory losses, for example, with hearing aids or corrective lenses prior to administering the tools. Adaptation of tools may be required for those with more advanced cognitive impairment. For individuals with special needs, clinicians may need to match or combine several tools to adapt and meet the older person's capabilities [11].

This review covers pain severity assessment tools, focusing on preferred tools for use in older people. The specialised aspect of pain assessment in advanced dementia is outside the scope of this review.

Self-reporting is generally accepted as the most accurate and reliable approach for pain intensity assessment. The Numeric Rating Scale (NRS), Visual Analogue Scale (VAS), Pictorial Pain Scale (PPS), and Verbal Descriptor Scale (VDS) have been shown to be valid and acceptable for use in older people, including those with mild to moderate cognitive impairment [2-3, 11].

Numeric Rating Scale (NRS):

The NRS involves asking a patient to rate their pain from 0 to 10, with 0 indicating no pain and 10 being extreme pain. This can be administered in a verbal or written form. The verbal approach requires speech and abstract thought, while the written version requires vision and use of hands to categorise pain severity. The NRS has been shown to be a reliable and valid tool among older people [12-

15]. Among 267 acute inpatients aged between 16 and 91 years, NRS was the preferred tool by about 35% of the elderly [16]. A study of 175 older and younger people comparing five NRS pain scales for sensitivity found that a 21-point scale was the most sensitive to measuring changes in pain severity and preferred by many older people [12]. However, a significant portion of older people, including those without cognitive impairment, have some difficulty responding to this scale [14, 17]. Thus, for practical reasons, the 10-point scale is recommended. In addition, although the NRS can be oriented either vertically or horizontally, a vertical presentation is often preferred by older people [18].

Visual Analogue Scale (VAS):

The VAS consists of a 10-cm line, labelled on the left side as 'No pain' and 'Most intense pain' on the right side [18, 19]. The VAS has relevant psychomotor properties for older people. It is relatively easy to use, but requires abstract thought, sensory, motor and perceptual abilities. The VAS has been shown to have a higher failure rate than the other tools when used among older people [12, 13].

A study using experimental pain stimuli in 89 older and 86 young people showed that failure to use VAS correctly was related to educational level, cognitive impairment and motor abilities [20]. It was also shown that the VAS was the least preferred tool for quantifying pain severity in older people [16]. Similar to the NRS, a

vertical presentation of the 10-cm line was preferred to the horizontal presentation [11].

Pictorial Pain Scales (PPS):

Pictorial pain scales were initially developed for use in children to assess pain severity. The two main types are FACES Pain Scale (FPS) [21] and Wong-Baker Pain Scale [22], which consists of a series of progressively distressed facial expressions. The patient chooses the face that represents or closely represents the severity and intensity of their current pain. Psychometric evaluations of the FPS suggest that it is a valid and reliable tool to assess pain intensity in cognitively intact and mild to moderate cognitively impaired older people [23]. Preliminary evaluations of FPS comparing cognitively intact and impaired older people suggest that it measures a broader pain construct, including affective and sensory components [24, 25].

Although there is limited evaluation among a larger sample of cognitively impaired older people, it remains the preferred tool for use in older people with limited education, low literacy levels and dyslexia. In addition, it was the most preferred tool for pain assessment by up to 53% of older people surveyed, compared to the other tools [16].

Verbal Descriptor Scale (VDS):

The VDS consists of a series of phrases representing different levels of pain intensity, ranging from no pain, mild pain, moderate pain,

severe pain, extreme pain and the most intense pain. It has good reliability and validity in older people [13]. This is suitable for articulate patients because it is easier for patients to interpret or express their pain and pain intensity in verbal terms. The VDS is the most preferred scale among pain intensity scales evaluated with older adults. In a study evaluating 89 older people, 100% were able to complete the scale, with a completion rate of 73% when used among cognitively impaired adults [12, 13]. Another form of the VDS is the Present Pain Inventory (PPI), which uses broader adjectives to describe pain such as discomfort, distressing, none, mild, horrible and excruciating. The PPI was shown to be feasible for use in older people, including mild to moderate cognitive impairment, with 65% completion rate, and good validity [26-28]. However, there were several difficulties noted by researchers using the PPI compared with a descriptor scale with simpler adjectives [29].

Another variation of VDS is the Pain Thermometer (PT) that illustrates a vertical scale with adjectives describing pain along the scale. Studies indicate that many older adults prefer PT to the VAS or to the NRS, with PT showed good psychometric properties in persons with cognitive impairment [12, 15].

CONCLUSION:

There are several assessment tools for self-reporting pain severity, which are appropriate for use in older people, depending on their

cognitive, verbal, auditory, motor abilities and educational level. Clinicians should identify an assessment tool or combination of tools that patients can use consistently during each assessment. While these tools have good validity, studies suggest that older people prefer VDS and NRS. The NRS has good psychometric properties and has the ability to illustrate different levels of scale, so would be the first choice for use in suitable patients. For those with mild-moderate cognitive impairment, VDS and PPS may be preferable. Patients with severe cognitive deficits will require other approaches to assessment, particularly observational methods.

Conflict of Interest: The authors declare that they have no conflict of interests

Authors Contribution: The authors were both involved in drafting the manuscript and approval of the final version for publication.

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