Medimay Electronic Journal 2026; Volume 33:e2728
ISSN: 2520-9078 RNPS: 2441 RNSW A1269

ORIGINAL ARTICLE

Validez y confiabilidad de una escala de enfermedades bucales en adultos mayores medicados con antihipertensivos

Validity and reliability of an oral disease scale in older adults medicated with antihypertensives

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Cite as: Nuñez Peña LC, González Espangler L, Bosch Nuñez AI, Romero García LI. Validity and reliability of an oral disease scale in older adults medicated with antihypertensives. Medimay [Internet]. 2026 [cited: citation date];33:e2792. Available at: https://medimay.sld.cu/index.php/rcmh/article/view/2728/version/2063

RESUMEN

Introducción: La validación de una escala de riesgo, para la prevención de enfermedades bucales, en adultos mayores medicados con antihipertensivos de primera línea de tratamiento, resulta necesaria para su posterior aplicación en la práctica clínica. **Objetivo:** Evaluar la validez y confiabilidad de una escala de riesgo de enfermedades bucales en adultos mayores tratados con medicamentos antihipertensivos de primera línea por criterio de expertos. **Métodos:** Se realizó un estudio observacional, descriptivo transversal, en el servicio de Estomatología del Policlínico 14 de junio, en el municipio Jobabo en la provincia de Las Tunas, entre febrero y mayo de 2024. La población estuvo conformada por 24 expertos que obtuvieron un coeficiente de competencia medio y alto. Para medir la fiabilidad y la consistencia interna, se seleccionó el coeficiente Alfa de Cronbach. Asimismo, para determinar el grado de coincidencia entre expertos se utilizó el cálculo del coeficiente de concordancia de Kendall. Se aplicó la prueba estadística Ji cuadrado (X^2) con un nivel de significación $\alpha = 0.05$. **Resultados:** Tanto el coeficiente de competencia de los expertos como el Alfa de Cronbach, alcanzaron un valor de 0.9. Existió un consenso entre los expertos con un coeficiente W = 0.16; p = 0.004. **Conclusiones:** La escala de riesgo, constituye un instrumento de alerta temprana a pesar de reconocer su limitado poder explicativo. Su principal utilidad reside en complementar la evaluación integral del paciente junto con otros criterios diagnósticos, para optimizar el seguimiento y la toma de decisiones preventivas en adultos mayores polimedicados.

ABSTRACT

Introduction: The validation of a risk scale for the prevention of oral diseases in older adults medicated with first-line antihypertensive treatment is necessary for its subsequent application in clinical practice. **Objective:** To evaluate the validity and reliability of an oral disease risk scale in older adults treated with first-line antihypertensive medications based on expert criteria. **Methods:** An observational, descriptive, cross-sectional study was conducted in the Stomatology service of the June 14th Polyclinic, in the Jobabo municipality, Las Tunas province, between February and May 2024. The population consisted of 24 experts who obtained a medium and high competence coefficient. Cronbach's Alpha coefficient was selected to measure reliability and internal consistency. Likewise, Kendall's concordance coefficient was calculated to determine the degree of agreement among experts. The Chi-square (X^2) statistical test was applied with a significance level of $\alpha = 0.05$. **Results:** Both the experts' competence coefficient and Cronbach's Alpha reached a value of 0.9. There was a consensus among the experts with a W coefficient = 0.16; p = 0.004. **Conclusions:** The risk scale constitutes an early warning instrument despite recognizing its limited explanatory power. Its main utility lies in complementing the comprehensive evaluation of the patient alongside other diagnostic criteria, to optimize follow-up and preventive decision-making in polymedicated older adults.

Received:12/03/2024| | **Accepted:** 02/26/2026| | **Published:** 05/21/2026

to a otros criterios diagnósticos, para optimizar el seguimiento y la toma de decisiones preventivas en adultos mayores polimedicados.

Palabras clave: validación, experto, escala de predicción, adulto mayor, tratamiento antihipertensivo, enfermedad bucal
Descriptores: estudio de validación; especialización; predicción; anciano; antihipertensivos; enfermedades de la boca

Keywords: validation, expert, prediction scale, older adult, antihypertensive treatment, oral disease
Descriptors: validation study; specialization; forecasting; aged; antihypertensive agents; mouth diseases

INTRODUCTION

Arterial hypertension (HTN) is a chronic, multi-cause, and asymptomatic disease.[1] According to the World Health Organization (WHO), HTN is diagnosed when blood pressure in the blood vessels exceeds 140 over 90 mmHg.[2] In Latin America, the prevalence of HTN is of 35 %, while in Cuba, it ranges between 28 and 32 % of the adult population and is essential in older adults compared to other age groups.[3]

Advanced age stands out among the risk factors for HTN. For this reason,[2] the various current and available treatment guidelines cited in a study generally recommend[3] diagnostic figures of 140 over 90 mmHg and target treatment figures of less than 150 over 90 mmHg for patients over 60 years of age. In this regard, the World Health Organization (WHO)[2] recommends starting drug treatment with thiazide diuretics, angiotensin-converting enzyme inhibitors, angiotensin, angiotensin II receptor antagonists, and calcium channel blockers; these constitute the first-line treatment for HTN.

With increasing age, the appearance of oral diseases is common, among which dental caries, periodontal disease, xerostomia, and others stand out.[4,5] Reviewed authors[6-8] agree that dental caries, gingival enlargement, and xerostomia are associated with treatment with first-line antihypertensive medications in older adults.

Based on the above, a risk scale was developed for the prevention of said oral diseases caused by first-line antihypertensive medications in older adults, which is necessary in comprehensive stomatological care for the older adult.[4]

According with that, authors[9] confirm that the application of the expert consultation method constitutes an effective tool in scientific research as long as it is applied with the required methodological rigor.

The developed risk scale is conceived as a system of additive scores and consists of two aspects: one related to three groups of first-line antihypertensive medications: thiazide diuretics, angiotensin-converting enzyme inhibitors, and calcium channel blockers, and another with internationally recognized antihypertensive medications: hydrochlorothiazide, captopril, enalapril, nifedipine, and amlodipine. A value is assigned to each medication, where a score of 10 or more is considered high risk of suffering from oral diseases. However, it is necessary to demonstrate its validity and reliability before its application in clinical practice.[4]

The objective of this research is to evaluate the validity and reliability of an oral disease risk scale in older adults treated with first-line antihypertensive medications based on expert criteria.

METHODS

An observational, descriptive, cross-sectional study was conducted in the Stomatology Service of the June 14th Polyclinic, in the Jobabo municipality, Las Tunas province, between February and May 2024.

The expert population consisted of 24 professionals whose knowledge and mastery of the addressed topic exceeded the average level of their peers, who were selected according to the following criteria:
-Professionals with five or more years experience.
-First and Second Degree Specialist Physicians in Geriatrics, Cardiology, or Internal Medicine.
-First and Second Degree Specialists in Comprehensive General Stomatology.
-First and Second Degree Specialist in Comprehensive General Medicine.
-First and Second Degree Specialists in Pharmacology.
-Graduates in Pharmaceutical Sciences.

Those who agreed to participate in the re-

search had their competence level measured based on the calculation of the competence coefficient (K) proposed by the State Committee for Science and Technology of the former Union of Soviet Socialist Republics, cited by Bosch A and others.[10]

The formula $K = \frac{Kc + Ka}{2}$ was used; where:

Kc: coefficient of knowledge or information that the expert had about the addressed topic.
Ka: coefficient of argumentation or foundation of the expert's criteria.

The competence level was considered as follows:

-If: 1.0 ≥ K > 0.8; high competence level.
-If: 0.8 ≥ K > 0.5; medium competence level.
-If: 0.5 ≥ K; low competence level.

The average competence coefficient was calculated using the formula: $K=(\sum_{i=1}^{m} Ki)/m$, 1 ≥ i ≥ ; where m represents the number of experts, and those who obtained a medium and high competence coefficient were selected (n_1 = 24).

The level of expert consensus was determined by measuring Kc and Ka, where a self-assessment questionnaire with two questions was applied. The first, to calculate Kc based on the expert's own self-assessment, on an ascending quantitative scale from 0 to 10, ¨0¨ for null knowledge and ¨10¨ for maximum knowledge. The result was multiplied by 0.1. The second, to calculate Ka based on six argumentation sources. The values from a standard table were used to sum the value obtained from each source.[9]

Once the experts were selected, they gave their opinion on the fulfillment of the five basic properties that the scales should meet according to Moriyama's basic criteria using a Likert scale cited by authors,[11] which included questions about understanding, sensitivity to variations, justifiable and reasonable basic assumptions, clear definition of its components, and whether it was derived from feasibly obtainable data; aspect and content validation were taken into account.

To measure reliability or internal consistency, Cronbach's Alpha coefficient was selected, which allowed us to know the extent to which the items used in an instrument were correlated, with its value ranging between -1 and 1. The minimum acceptable value was α = 0.70; below that value, the internal consistency of the scale used was low.

Furthermore, to determine the degree of agreement among experts, Kendall's concordance coefficient (W) was calculated, whose value ranges between 0 and 1, where:[9,10]

-W = 0 indicates a total lack of agreement among experts.
-W = 1 is the maximum possible value of agreement among experts.

The following scientific hypotheses were tested:

-H0: there was no agreement among the consulted experts.
-Ha: there was agreement among the consulted experts.

To test the hypotheses, the Chi-square (X^2) statistical test was applied with a significance level of α = 0.05.

Ethical considerations: In this regard, the research was conducted under the bioethical recommendations of the Declaration of Helsinki. Likewise, this article was approved by the Scientific Council and the Health Research Ethics Committee, which in turn is part of a research project for a doctoral thesis.

RESULTS

The specialty of Comprehensive General Stomatology predominated among the experts at 33.4 %, which coincides with the fact that the risk scale was essentially aimed at this specialty, Table 1.

Table 1. Distribution of experts by specialty

Specialty	Total	
	No.	%
Geriatry	3	12.5
Pharmacology	3	12.5
Cardiology	3	12.5
Internal Medicine	3	12.5
Comprehensive General Medicine	2	8.3
Comprehensive General Stomatology	8	33.4
Graduates in Pharmaceutical Sciences	2	8.3
Total	24	100.0

The high competence level stood out, with 79.2 %, while 20.8 % had a medium competence level. The average competence coefficient was high (K = 0.9). All candidates were selected as experts, Table 2.

Table 2. Distribution of the competence coefficient of expert candidates

Candidate for expert	Knowledge coefficient (Kc)	Coeficiente de Argumentación (Ka)	Argumentation coefficient (K)	Proficiency level
1	0.7	0.9	0.8	high
2	0.7	0.9	0.8	high
3	0.8	1.0	0.9	high
4	0.9	1.0	0.9	high
5	0.8	0.9	0.8	high
6	0.9	1.0	0.9	high
7	0.8	0.8	0.8	average
8	0.7	0.9	0.8	average
9	0.9	0.9	0.9	high
10	0.8	0.9	0.9	high
11	0.9	0.9	0.9	high
12	0.7	0.9	0.8	high
13	0.8	0.9	0.9	high
14	0.9	0.8	0.8	average
15	0.7	0.9	0.8	average
16	0.9	0.9	0.9	high
17	0.8	1.0	0.9	high
18	0.7	1.0	0.9	high
19	0.8	0.9	0.9	high
20	0.7	0.9	0.8	average
21	0.9	0.9	0.9	high
22	0.7	0.9	0.8	high
23	0.9	1.0	0.9	high
24	0.7	1.0	0.9	high
Average competence coefficient			0.9	high

To evaluate the reliability or internal consistency of the scale, Cronbach's Alpha coefficient was used, which reached a value of 0.9; all predictors were useful, Table 3.

Table 3. Internal consistency elements for the proposed risk scale

Internal consistency elements for the proposed risk scale	Scale mean if item deleted	Scale variance if item deleted	Cronbach's alpha if item deleted
Reasonable and understandable	18.7	2.8	0.9
Sensitive to variations in the phenomenon being measured	18.6	2.5	0.9
Justifiable and reasonably intuitive basic assumptions	18.3	2.8	0.9
Clear, defined components	18.5	2.4	0.9
Derivable from obtainable data	18.5	2.5	0.9

Alfa de Cronbach: 0.9

The aspect and content validation carried out by the experts achieved, when evaluating understandable and reasonable content, 45.8 %; sensitivity to variations with the phenomenon being measured, 54.2 %; basic assumptions were justifiable and reasonably intuitive in 79.2 %; the components were clearly defined and the derivable data were feasible to obtain in 66.7 % respectively, as the statistical results were very adequate. Furthermore, there was a consensus among the experts with a Kendall's W coefficient of 0.16 and an associated probability of 0.004, Table 4.

Table 4. Content and aspect evaluation according to the expert consultation

Moriyama's criteria	Quite adequate		Very adequate	
	No.	%	No.	%
Understandable and reasonable	13	54.2	11	45.8
Sensitive to changes in the measured phenomenon	11	45.8	13	54.2
Justifiable and reasonable intuitive basic assumptions	5	20.8	19	79.2
Clear and defined components	8	33.3	16	66.7
Derivable from obtainable data	8	33.3	16	66.7

DISCUSSION

It is important to note that the statistical validation of the risk scale, although the results are not optimal, constitutes the first approach to antihypertensive medications as risk factors for oral diseases in this population group and classifies the influence of the three groups of antihypertensive medications on the oral cavity: thiazide diuretics, as well as angiotensin-converting enzyme inhibitors and calcium channel blockers.

It is valid to highlight that the International Classification of Diseases, 11th revision (ICD-11), groups alterations in salivary secretion without distinguishing between hypo- and hypersalivation; but it does separate xerostomia, which constitutes an oral disease. Currently, it is defined that hyposalivation is the objective decrease in salivary flow, xerostomia is the subjective sensation of dryness, and hypersalivation is the increase in flow.[12]

In the consulted literature,[13-15] the importance of preventing oral diseases in older adults is exemplified, and the control of HTN without drug treatment is advocated. However, prolonged use of antihypertensive medications in the elderly is mostly inevitable due to the deterioration of organic functions and unhealthy lifestyles in this population group.

Authors[16] propose an individual job performance scale for Peruvian employees to evaluate the reliability and validity of the individual job performance scale; however, they use content-based validity to assess its theoretical viability and corroborate its scientific value. Other authors[17] determine the reliability of an instrument that evaluates the cognitive-practical abilities necessary for the minimum intervention treatment of dental caries in the stomatology curriculum, and as in the present research, the mean variability for each item is calculated using Cronbach's alpha coefficient, considering a minimum value of 0.70.

The application of the risk scale in the present study allows for an individualized analysis of the probability of occurrence of oral diseases, taking into account for the first time an antihypertensive medication approach. Likewise, it facilitates decision-making by professionals who work with this population group. It contributes to comprehensive care and the quality of life of older adults as a priority group of the National Public Health System in Cuba.

Thus, the importance of first-line antihypertensive medication during aging is recognized for the first time as a risk factor to be identified in order to avoid the appearance of oral diseases in older adults. Authors[18] design and validate a preterm birth risk scale with a periodontal approach that accepts a minimum value of $\alpha = 0.70$ and $p < 0.05$ for Cronbach's alpha coefficient. To obtain content validity, it is explored through consultation with 20 selected experts who meet Moriyama's criteria, a methodology that coincides with the present research.

In relation to the above, Moriyama's criteria[11] represent a fundamental tool for the validation of all types of scales, including risk scales. Due to their comprehensive approach, clarity and precision, adaptability, empirical validation, and ease of use, they are indispensable for any researcher seeking to design and validate scales in the health area. Moriyama's criteria are based on measurement theory and validity theory, which provide a solid approach within a systematic and rigorous framework that ensures scales are relevant, representative, and accurate; this increases their reliability and quality.[11,16,18]

The results of this research demonstrate the reliability and validity of a risk scale that takes into account first-line antihypertensive medication in the risk approach to oral diseases in older adults, for which no precedents have been found from a stomatological point of view to date. On the other hand, in a conducted study[19] that analyzes the validity and reliability of an academic procrastination scale in Cuban stomatology students, when calculating

internal consistency with Cronbach's alpha coefficient of 0.786 (95 % CI = 0.75 – 0.81), it is found that the internal consistency of the instrument is good.

The oral disease risk scale in older adults treated with antihypertensive medications can be used as an instrument in Primary Health Care and its use can be generalized to the Secondary and Tertiary Levels in order to classify the most vulnerable older adults within the community or those attending health services and contribute to the National Program for Comprehensive Stomatological Care for the population and the Comprehensive Care Program for Older Adults.

Both the content validity and the aspect validity of the risk scale are explored through expert consultation, selected by the recognized competence method. Likewise, in a study on the design and validation of a preterm birth risk scale with a periodontal approach, the reliability of the scale is established, where Cronbach's alpha coefficient shows high values, indicating that if one of the predictors is eliminated, this figure decreases; therefore, all are necessary in the construction of the instrument.(18)

The proposed risk scale can be used to measure the risk of oral diseases by identifying older adults with a higher probability of developing such diseases. By stratifying their risk, its approach focuses on recognized antihypertensive medication factors.

The utility of the scale lies in its practical design for daily clinical care. Its simplicity, based only on pharmacological questioning, and its function as a screening tool, allow for systematic prioritization of patients at higher risk due to their medication. It integrates naturally into the anamnesis and triggers preventive interventions before the clinical onset of the disease.

The present study is preceded by the construction of the oral disease risk scale in older adults treated with antihypertensive medications, where a rigorous methodological process was carried out that gives scientific solidity to the scale. The moderate predictive power (R^2 14.4%) does not invalidate the model; on the contrary, it allows us to quantify its limitations and make its specific scope transparent: to quantify and stratify the risk attributable to antihypertensives, a frequent iatrogenic factor that is underestimated. The scale represents a validated first step, whose appropriate use complements comprehensive evaluation, and whose known limitations guide the development of more comprehensive future tools.(4)

The application of the risk scale allows for an individual analysis of the probability of occurrence of oral diseases, taking into account, for the first time, the perspective of first-line antihypertensive medications and aiding in decision-making by stomatologists and other healthcare professionals responsible for the care of older adults.

Among the limitations of the present research, the fact that it was not possible to evaluate criterion validity stands out, due to the lack of a similar scale that quantifies the risk of first-line antihypertensive medications and is used for screening oral diseases in older adults.

It is concluded that the risk scale constitutes an early warning instrument despite recognizing its limited explanatory power. Its main utility lies in complementing the comprehensive evaluation of the patient alongside other diagnostic criteria, to optimize follow-up and preventive decision-making in polymedicated older adults.

BIBLIOGRAPHIC REFERENCES

1.Alvares Hernández JC, Hernández Buchillón MM, Tusell Hormigó D, Morales Cabrera M, Guzmán López A, García Novoa S. Manifestaciones bucales en pacientes con medicación antihipertensiva. Acta Odontol Colomb [Internet]. 2022 [citado 12 Dic 2022];12(2):52-60. Disponible en: https://www.redalyc.org/journal/5823/582372875005/html/

2.Organización Mundial de la Salud. Hipertensión [Internet]. Suiza: Ginebra; ©OMS 2023 [citado 12 Dic 2022]. Disponible en: https://www.who.int/es/news-room/fact-sheets/detail/hypertension

3.Villar Pilgrin Y, Salazar Molina A. Efectividad de los Mensajes de Texto en el control de la Hipertensión arterial: Revisión Sistemática. Rev Chil Cardiol [Internet]. 2025 [citado 15 Feb 2026];44(2):147-56. Disponible en: https://www.scielo.cl/pdf/rchcardiol/v44n2/0718-8560-rchcardiol-44-02-147.pdf

4.Nuñez Peña LC, González Espangler L, Bosch Nuñez AI. Escala de riesgo de enfermedades bucales en adultos mayores tratados con medicamentos antihipertensivos. Rev Méd Electrón [Internet]. 2025[citado 15 Feb 2026];47:e6028.

Disponible en: https://revmedicaelectronica.sld.cu/index.php/rme/article/view/6028/6237

5.Torrecilla Venegas R, Castro Gutiérrez I. Efectos del envejecimiento en la cavidad bucal. Rev 16 de abril [Internet]. 2020 [citado 12 Ene 2024];59(278):e819. Disponible en: https://rev16deabril.sld.cu/index.php/16_04/article/view/819/pdf_278

6.Uma Sudhaka, Kreethika S, Sandhiya J, Sandhya V. Awareness of Oral Manifestations Related to Systemic Diseases International. J Innovative Science Research Technology[Internet]. 2020 [citado 12 Ene 2024];5(10):730-4. Disponible en: https://ijisrt.com/assets/upload/files/IJISRT20OCT416.pdf

7.Lalvay Armijos DA, Castañeda Espin AO, Cobos Carrera DF. Antihypertensive medication and its adverse reactions in the oral cavity. An integrative review. RSD[Internet]. 2022 [citado 12 Ene 2024];11(10):e202111032624. Disponible en: https://rsdjournal.org/rsd/article/view/32624/27686

8. Risdiana N, Nuraeni E. The Oral Health Status, Salivary Flow Rate and pH in Hypertensive Patients Who Consume Antihypertensive Drugs in Puskesmas Kasihan I Zogyakarta. JIMC[Internet]. 1ª Conferencia Médica Internacional Jenderal Soedirman, en conjunto con la 5ª Reunión Científica Anual (Temilnas) Consortium of Biomedical Science Indonesia; Purwokerto: Indonesia; 2020 [citado 12 Ene 2024].1:273-7. Disponible en: https://www.scitepress.org/PublicationsDetail.aspx?ID=H+O1M+LoelU=&t=1

9.Herrera Masó JR, Calero Ricardo JL, González Rangel MA, Collazo Ramos MI, Travieso González Y. El método de consulta a expertos en tres niveles de validación. Rev Haban Cienc Méd [Internet]. 2022 [citado 12 Ene 2024];21(1):e4711. Disponible en: https://revhabanera.sld.cu/index.php/rhab/article/view/4711/3037

10.Bosch Nuñez AI, Oliu Bosch SB, Rodríguez Reyes O. Validación de una estrategia didáctica para las relaciones interdisciplinarias entre Farmacología y asignaturas clínicas estomatológicas. Revista Cubana de Medicina Militar[Internet]. 2023 [citado 12 Ene 2024]; 51(1):e02302365. Disponible en: https://revmedmilitar.sld.cu/index.php/mil/articl-view/2365/1776

11.Fleites Dit TY, Pérez Gallego Y de la C, Gispert Abeu E de los A, Blanco Barbeito N, de la Mella Quintero SF. Validación de instrumentos educativos del conocimiento sobre salud bucodental. Revista Médica Electrónica [Internet]. 2021 [citado 12 Ene 2024]; 43(1):86-99. Disponible en: https://revmedicaelectronica.sld.cu/index.php/rme/article/view/3998/pdf_849

12.World Health Organization. International statistical classification of diseases and related health problems, 11th revision [Internet]. Geneva: WHO; 2019 [citado 23 Oct 2023]. Disponible en: https://icd.who.int/browse11

13.Valente B, Salas Apaza JA, Salgado MV. Nueva guía de la Organización Mundial de la Salud para el tratamiento farmacológico de la hipertensión arterial en adultos. Evid Actual Pract Ambul [Internet]. 2021 [citado 12 Ene 2024];24(4):e002163. Disponible en: https://www.evidencia.org/index.php/Evidencia/article/view/6984

14.Brotons C, Camafort M, Castellanos MM, Clarà A, Cortés O, Díaz Rodríguez Á, et al. Comentario del CEIPV a las nuevas guías europeas de prevención cardiovascular 2021. Rev Clin Med Fam [Internet]. 2022 [citado 12 Ene 2024]; 15(2):106-13.Disponible en: https://scielo.isciii.es/pdf/albacete/v15n2/1699-695X-albacete-15-02-106.pdf

15.Flack JM, Adekola B. Blood pressure and the new ACC/AHA hypertension guidelines. Trends in Cardiovascular Medicine [Internet]. 2020 [citado 12 Ene 2024];30(3):160-4. Disponible en: https://www.sciencedirect.com/science/article/pii/S1050173819300684

16.Geraldo Campos LA. Validación de la escala desempeño laboral individual en colaboradores peruanos. Revista de Investigación en Psicología. 2022;25(1):63-81. doi: https://doi.org/10.15381/rinvp.v25i1.21920

17.Chaple Gil AM, Gispert Abreu EA. Confiabilidad de instrumento sobre capacidades cognitivas de mínima intervención en cariología durante la carrera de estomatología. Educ Med Super [Internet]. 2022 Sep [citado 12 Jul 2024]; 36(4):e3378. Disponible en: https://ems.sld.cu/index.php/ems/article/view/3378/1460

18.Peña Sisto M, López Barroso R. Diseño y validación de una escala de riesgo de parto pretérmino con enfoque periodontal. MEDISAN [Internet]. 2023 Ago [citado 12 Jul 2024];27(4):e4647.

Disponible en: https://www.redalyc.org/articulo.oa?id=368475632006

19.Corrales Reyes IE, Villegas Maestre JD, Vitón Castillo AA, Tusell Hormigó D, Mamani Benito OJ, Carranza Esteban RF. Validez y confiabilidad de una escala de procrastinación académica en estudiantes cubanos de Estomatología. Revista Cubana de Medicina Militar [Internet]. 2022 [citado 12 Ene 2024];51(3):e02201826. Disponible en: https://revmedmilitar.sld.cu/index.php/mil/article/view/1826/1416

Conflicto de intereses.
Los autores declaran que no existen conflictos de intereses para la publicación del artículo.

Authorship Contribution.
Participation according of the order agreed upon by each of the authors of this work.

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