



Mensagem do Presidente

Prezados Congressistas,

É com grande entusiasmo que damos as boas-vindas ao **I Encontro do Departamento Científico de Sono da ABN**, que será realizado em Brasília nos dias **22 e 23 de agosto de 2025**.

Nosso tema central, "Interfaces no Sono", reflete a essência deste encontro: promover um espaço para a troca de saberes, unindo o estudo do sono a outras áreas da neurologia e da medicina.

O sono, tão essencial à vida, dialoga com múltiplos aspectos da saúde humana, e é a partir dessas conexões que buscamos inspirar novas ideias, fortalecer colaborações e avançar no cuidado aos nossos pacientes.

Sabemos que o verdadeiro valor de um evento como este está nas pessoas que o constroem. É a presença de cada congressista, com suas experiências, dúvidas e contribuições, que dá vida às discussões e torna este momento único. Por isso, sinta-se parte fundamental deste encontro.

Preparamos uma programação especial, com temas pensados para estimular a reflexão e o aprendizado. Espero que este evento seja, além de uma oportunidade de atualização científica, um ambiente acolhedor onde possamos compartilhar ideias, desafios e conquistas.

Sejam muito bem-vindos! Que estes dias sejam inspiradores, produtivos e repletos de boas conexões!

Com os melhores cumprimentos,

Paulo Afonso Mei

Presidente do I Encontro do Departamento Científico de Sono da ABN

708 - Epidemiological Analysis of Sleep Apnea-Related Deaths: 2013-2023

Pesquisa Básica

Relato de Caso

Objectives: This study aims to conduct a comprehensive epidemiological analysis of mortality associated with sleep apnea in the period spanning from 2013 to 2023. **Methods:** This is a cross-sectional, retrospective, and epidemiological study. Mortality rates due to sleep disorders from 2013 to 2023 were analyzed based on data from DAENT, stratified by age group, sex, place of occurrence, race/ethnicity, certifying professional, place of residence, category of death notification, and number of deaths. **Results:** Between 2019 and 2023, 120 deaths related to sleep apnea were recorded in Brazil, with a progressive increase, peaking in 2023 (33 cases). Males predominated (49 men vs. 33 women), consistent with higher prevalence and severity in men. Most deaths occurred in the elderly, especially those aged 70–79 and age equal to or greater than 80 years old, reinforcing the link between aging, comorbidities, and apnea complications. Pediatric cases were rare. White (34) and brown (16) individuals were the most affected. Regionally, most deaths occurred in the Southeast (56) and Northeast (32), followed by the South, Central-West, and North. The North, with no cases in 2019–2020, had 5 in 2023. These patterns may reflect population density, healthcare access, and diagnostic capacity. The increase also suggests greater recognition of apnea as a contributing cause of death, despite evident limitations. **Conclusion:** Although deaths from sleep apnea have increased, the total remains low given the high prevalence in the general population. It is estimated that 5%–14% of adults have obstructive sleep apnea, pointing to probable underreporting in official records. Apnea is often underdiagnosed, rarely investigated as a contributing cause, and seldom included on death certificates, limiting the accuracy of epidemiological data. The lack of standardized clinical protocols for identifying apnea in hospitalized or deceased individuals contributes to this underrecognition. Therefore, the actual number of deaths in which apnea plays a significant role is likely much higher. Expanding professional awareness, improving early diagnosis, and enhancing surveillance strategies may help generate more accurate data and support better understanding of sleep-related mortality.

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707 - Epidemiological Analysis of Sleep Disorder-Related Deaths in Brazil from 2013 to 2023

Pesquisa Básica

Trabalho Científico

Objectives: To examine mortality due to sleep disorders in Brazil (2013–2023), identifying demographic, regional, and temporal patterns, as well as disparities affecting diagnosis and management. **Methods:** A cross-sectional, retrospective, epidemiological study using DAENT data. Sleep disorder mortality from 2013 to 2023 was analyzed by age, sex, place of death, race/ethnicity, certifier, place of residence, death category, and total number of deaths. **Results:** Between 2019 and 2023, 163 deaths related to sleep disorders were recorded in Brazil. Annual cases ranged from 12 to 44, with a progressive increase until 2023, possibly reflecting improved diagnostic awareness or worsening population risk factors. The Southeast had the highest concentration (67), followed by the Northeast (47), South (32), North (9), and Central-West (8), highlighting demographic and healthcare disparities. There was a male predominance (78 deaths) compared to 56 among females, suggesting greater vulnerability or underdiagnosis in women. Older adults were most affected, especially those aged 70+, with 32 cases in individuals aged 80 or older, confirming aging as a key risk factor. Regarding race/skin color, most were white (80), followed by brown (38), Black (10), and Asian (2). Approximately 75% of deaths were due to sleep apnea, and 9% to insomnia. Notably, insomnia-related deaths tripled in 2021 (6) compared to 2020 (2) and 2019 (2), indicating a possible external influence. **Conclusion:** The 163 deaths from sleep disorders in Brazil between 2019 and 2023 reveal a relevant and underestimated public health issue. The predominance of cases in the elderly underscores the need for policies focused on screening and monitoring this high-risk group. Regional concentration in the Southeast and Northeast contrasts with underreporting or limited diagnostic access in the North and Central-West. Higher mortality among men may reflect clinical or behavioral differences by sex. Race/ethnicity data show more deaths among White (80) and "Pardos" (38) individuals, followed by Black (10) and Asian (2), reflecting broader social and health inequities. Notably, insomnia-related deaths tripled in 2021 compared to previous years, a trend that may be associated with the COVID-19 pandemic and its effects on mental health and sleep. These findings emphasize the need to improve early diagnosis, strengthen reporting systems, and integrate sleep disorders into broader public health strategies.

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1189 - Excessive Daytime Sleepiness, Gender and Role in University Communities: UNISLEEP Preliminary Analysis

Pesquisa Clínica

Trabalho Científico

Introduction: Sleep is inherent to all human beings, although the reason behind it is not fully understood. Sleep disorders serve as an entry point for the decline in quality of life and the emergence of other pathologies. The excessive daytime sleepiness (EDS) is one of the issues related to the nighttime sleep that has consequences in daytime, with the urge to sleep during daily activities. Objectives: To screen for sleep disorders - including insomnia and EDS - and evaluate their association with substance use, physical activity and symptoms of stress, anxiety and depression in a university population, including gender and role in the university population. Methods: This cross-sectional, multicenter, observational study, called UNISLEEP (from Portuguese: Universidade, Sono, Saúde Mental, Estilo de Vida e Exercício Praticado) that includes undergraduate and graduate students, professors and staff from the 4 campuses of the Federal University of São Carlos (UFSCar) and the Faculty of Medicine of Jundiaí (FMJ). Data were collected online, through Google Forms, from October 2024 to June 2025, with a total of 566 participants. Instruments included self-designed questionnaires to assess sociodemographic data and validated scales, such as the Insomnia Severity Index (ISI), the Epworth Sleepiness Scale (ESS) and the Horne & Ostberg Morningness-Eveningness Questionnaire: Reduced Scale (rMEQ). Results: The sample was composed of 62% females and 38% males. Most participants were undergraduate students (75%), while 9% were graduate students, 8% professors and 8% staff. In preliminary analysis, we found that women had a higher ESS mean score compared to men ($t(562) = -3.36, p < 0.001$). ANOVA comparing the ESS scores between groups revealed a significant difference ($F(3, 92.744) = 12.227; p < 0.001$). Hochberg's post-hoc analysis showed a significant difference between undergraduate students and professors ($\Delta M = 3.62; p < 0.001$) and a trend toward significance between undergraduate students and staff ($\Delta M = 1.84; p = 0.083$). Conclusion: Preliminary findings suggest that women were associated with a higher ESS score than men. Additionally, important differences in ESS scores between undergraduate students and professors and undergraduate students and staff were found, with students having higher scores. Further analysis of this database is required to comprehend the associations involving sleep health and the lifestyle of the university population.

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763 - IDOSOS COM SONO FRAGMENTADO: UMA REVISÃO SOBRE OS PRINCIPAIS ASPECTOS RELACIONADOS A ESSA CONDIÇÃO

Revisão bibliográfica e meta-análises

Trabalho Científico

Objetivos: Elencar etiologia, fatores de risco e epidemiologia da fragmentação de sono em idosos, de acordo com as evidências mais atualizadas. Métodos: revisão de escopo baseada na metodologia proposta pelo Instituto Joanna Briggs. As buscas foram realizadas nas plataformas PubMed, SciELO, LILACS e Google Acadêmico, incluindo artigos originais e estudos de revisão publicados entre 2021 e 2025, usando os descritores "SLEEP" e "Elderly". Foram selecionadas 7 publicações originais em texto completo. Resultados: O sono fragmentado é o quadro caracterizado por múltiplos despertares noturnos e consequente redução da eficiência do sono, como resultado da interação entre alterações fisiológicas relacionadas ao envelhecimento, fatores psicossociais e distúrbios específicos do sono ou outras doenças prévias (como a apneia obstrutiva do sono - AOS). Quanto à fisiopatologia, o envelhecimento modifica a arquitetura do sono, com a diminuição do sono de ondas lentas (SWS) e da estabilidade dos ciclos, gerando microdespertares e períodos prolongados de vigília após seu início. Isso se associa à neurodegeneração do hipotálamo e à presença de placas beta-amiloides, além de modificações vasculares cerebrais. A prevalência aumenta progressivamente com a idade, sendo maior entre mulheres, indivíduos institucionalizados e multimórbidos. Entre os principais fatores de risco clínicos encontrados, constam: hipertensão arterial, diabetes mellitus, dislipidemias, doença arterial coronariana e insuficiência cardíaca; a presença deles se associou a menor qualidade subjetiva do sono e maior número de despertares noturnos. Sugere-se que idosos com sono fragmentado apresentem AOS não diagnosticada, e que, por isso, há mais desfechos adversos com comprometimento cognitivo, eventos cardiovasculares e maior mortalidade. Entre os fatores de risco psicossociais, citam-se: baixo suporte social, isolamento, depressão e ansiedade. Conclusão: O sono fragmentado é uma condição que leva à menor eficiência do sono, é mais prevalente com o avanço da idade, especialmente em mulheres e indivíduos com multimorbidade. Os fatores de risco incluem: isolamento, depressão e baixo suporte social. Sua fisiopatologia está relacionada à neurodegeneração do hipotálamo e ao acúmulo de beta-amilóide. Há a hipótese de que o sono fragmentado esteja relacionado à AOS não diagnosticada, aumentando o risco de desfechos adversos associados à AOS.

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305 - OXIMETRY-BASED DEVICES IN DIAGNOSIS OF OBSTRUCTIVE SLEEP APNEA: A SYSTEMATIC REVIEW AND META-ANALYSIS

Revisão bibliográfica e meta-análises

Trabalho Científico

Introduction: Obstructive sleep apnea (OSA) is a common disorder, associated with significant morbidity and mortality. Polysomnography (PSG) or a home sleep apnea test (HSAT) is required for OSA diagnosis. Recently, several oximetry-based devices have been developed to assist with diagnosing OSA. Objectives: This study aims to evaluate the diagnostic performance of these oximetry-based devices compared to PSG. Methods: We performed research in MEDLINE, EMBASE, Google Scholar, and Lilacs databases. We included studies that evaluated oximetry-based devices in comparison to PSG for OSA diagnosis in adults. Selected studies were divided into two subgroups: consumer wearable devices and medical devices. Results: A total of 18 studies were included in the analysis, with 4 studies in consumer wearable devices subgroup and 14 studies in medical devices subgroup). The overall sensitivity was 97% (95% Confidence Interval [CI]: 96 – 97%) and specificity was 63% (95% CI: 61 – 65) of oximetry-based devices for OSA diagnosis. In the consumer wearable devices subgroup, sensitivity was 93% (95% CI: 90 – 96) and specificity was 63% (95% CI: 53 – 71). In the medical devices subgroup, sensitivity was also high as 97% (95% CI: 96 – 97) with a specificity of 63% (95% CI: 61 – 65). The summary area under the curve was 0.90 and the estimated post-test probability was 90%. Conclusions: Oximetry-based devices have high sensitivity and high post-test probability but low specificity in adults at high risk for OSA diagnosis. Further research is necessary to assess these devices, particularly wearable ones, especially in low-risk individuals and those with comorbidities.

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762 - REM Sleep Behavior Disorders and the Risk of Neurodegenerative Diseases

Revisão bibliográfica e meta-análises

Trabalho Científico

Authors: Livia Xavier Paiva¹; Ana Luísa Oliveira Portela²; Valentina Diniz Cathoud³; Livia Helene da Costa Rabelo⁴; Isabella Rios Mármore Campos⁵; Sarah Gabriela Albernaz Barbosa dos Santos⁶; Objectives: This review aims to examine the link between REM sleep behavior disorder (RBD) and neurodegenerative diseases, identifying clinical, environmental, and biological predictors of phenoconversion to support early detection and preventive care. Methods: Following PRISMA guidelines, searches were performed in PubMed and Cochrane using the terms "REM Sleep Disorders," "Neurodegenerative Diseases," and "Risk Factors." Of 69 screened articles, 15 met the inclusion criteria, and six studies from the World Sleep Society were included for comparative analysis. These studies provided insights into the impact of RBD on disease progression through long-term follow-up. Methodological approaches were analyzed to understand predictive potential and guide preventive strategies. Results: Sample sizes ranged from 44 to 7,225 participants, with follow-ups up to 12 years. Phenoconversion rates from idiopathic RBD (iRBD) to neurodegenerative conditions ranged from 13% to 73.5%. Common outcomes included Parkinson's disease, dementia with Lewy bodies, and multiple system atrophy. Risk factors were constipation, hyposmia, orthostatic hypotension, diabetes, family history of parkinsonism or dementia, and exposure to toxins. Protective factors included tea intake, rural living, and certain medications. Biomarkers like reduced dopamine transporter uptake and REM sleep without atonia (RSWA) improved prediction. Stratifying iRBD patients by clinical profiles and comorbidities enhanced risk assessment. The FARPRESTO study demonstrated that combining olfactory testing, DAT-SPECT imaging, and autonomic symptom scales improved predictive accuracy. RSWA has been proposed as an early marker, even without dream enactment. Cognitive patterns differed: PD converters showed executive dysfunction; DLB converters showed visuospatial and memory decline. These findings underscore the need for individualized monitoring strategies. Conclusion: iRBD is a key early marker for neurodegenerative diseases. Identifying risk factors and biomarkers enhances early detection and intervention. Despite heterogeneity among studies, current evidence supports the integration of iRBD monitoring into personalized care and preventive planning.

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737 - SLEEP AND CLINICAL SAFETY: THE IMPACT OF DEPRIVATION ON PHYSICIANS: A SCOPING REVIEW

Revisão bibliográfica e meta-análises

Trabalho Científico

Objectives: To analyze the prevalence of medical errors committed in hospital institutions by physicians working under sleep deprivation conditions. **Methods:** This is a scoping review conducted according to PRISMA-ScR guidelines. To define the guiding question, we used the PCC strategy: P (Population): physicians; C (Concept): sleep deprivation; C (Context): medical practice. This resulted in the following guiding question: "What evidence is available on the relationship between sleep deprivation in physicians and the occurrence of medical errors in clinical practice?" The search was performed in PubMed using the keywords "Physicians AND Sleep Disorders AND Medical Errors." Filters applied included: Clinical Study, Clinical Trial, Comparative Study, Observational Study, Randomized Controlled Trial, English, and Humans. A total of 29 articles were retrieved, and after screening titles and abstracts and evaluating full texts, 7 articles met the inclusion criteria. **Results:** Data analysis revealed a consistent correlation between extended working hours, sleep restriction, and an increase in medical errors. Physicians with shorter workloads showed better neurobehavioral performance, including sustained attention, faster reasoning, more accurate diagnoses, and proper medication dosage. However, two clinical trials reported an increase in error rates among groups with shorter shifts (≤ 16 hours), possibly due to an increase in total weekly workload. In contrast, some intervention groups with reduced shift lengths also showed fewer errors but reported decreased learning opportunities, indicating physician dissatisfaction. These inconsistencies suggest that optimizing physician work hours to enhance patient safety is complex. Only four out of the seven studies showed clear benefits for patients from reduced working hours. **Conclusion:** Sleep deprivation is associated with an increased risk of clinical errors among physicians. While shorter shifts may enhance certain cognitive functions, their benefits are inconsistent when overall workload remains high. Furthermore, reduced hours might hinder professional learning. The current evidence is inconclusive and predominantly originates from Europe and the United States, highlighting the need for more research in the Brazilian healthcare context.

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1161 - Sleep Health, Chronotype and Lifestyle Factors in University Communities: UNISLEEP Preliminary Analysis

Pesquisa Clínica

Trabalho Científico

Introduction: Sleep is inherent to all human beings and is understood to be necessary for various physiological and neurophysiological mechanisms, with sleep disorders serving as an entry point for the emergence of other pathologies. Chronotype is a broad concept that encompasses individuals' preferences for rest and activity, which may conflict with social and academic schedules. Objectives: To screen for sleep disorders and evaluate their association with chronotype, substance use, physical activity and symptoms of stress, anxiety and depression in a university population. Methods: This cross-sectional, multicenter, observational study, called UNISLEEP (from Portuguese: Universidade, Sono, Saúde Mental, Estilo de Vida e Exercício Praticado) included undergraduate and graduate students, professors and staff from the 4 campuses of the Federal University of São Carlos (UFSCar) and the Faculty of Medicine of Jundiaí (FMJ). Data were collected online, through Google Forms, from October 2024 to June 2025, with a total of 566 participants. Instruments included self-designed questionnaires to assess sociodemographic data and validated scales, such as the Insomnia Severity Index (ISI), the Epworth Sleepiness Scale (ESS) and the Horne & Ostberg Morningness-Eveningness Questionnaire: Reduced Scale (rMEQ). Results: The sample was composed of 62% females and 38% males. Most participants were undergraduate students (75%), while 9% were graduate students, 8% professors and 8% staff. In preliminary analysis, we found that women had a higher ISI mean score compared to men ($t(562) = -2.74, p < 0.01$). No significant correlations were found between chronotype and sex. ANOVA comparing the ISI score between groups revealed a significant difference ($F(3, 219.939) = 7.643; p < 0.001$). Hochberg's post-hoc analysis showed a significant difference between undergraduate students and professors ($\Delta M = 3.67; p < 0.001$) and graduate students and professors ($\Delta M = 3.35; p < 0.014$). There was no other significant correlation among groups. Conclusion: Preliminary findings suggest that women were associated with a higher ISI score than men. Additionally, important differences in ISI scores between students (undergraduate and graduate) and professors were found, in which students had higher scores. We will conduct further, more detailed analysis of this database to comprehend the associations involving sleep health and the lifestyle of the university population.

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758 - TREATMENT WITH MANDIBULAR ADVANCEMENT DEVICES IN COMORBID INSOMNIA AND SLEEP APNEA

Pesquisa Clínica

Trabalho Científico

Introduction: Comorbid insomnia and sleep apnea (COMISA) is a prevalent and clinically significant condition associated with increased cardiometabolic risk. This study aimed to evaluate treatment with mandibular advancement oral appliances (OAm) in COMISA patients by assessing its impact on sleep-disordered breathing, insomnia severity, and autonomic nervous system modulation. **Methods:** A retrospective multicentric case-control study was conducted, comprising two cohorts. Cohort 1 included patients diagnosed with OSA (n=35) or COMISA (n=31) who underwent OAm therapy. Cohort 2 consisted of 12 COMISA patients treated with a titratable OAm. Clinical, polysomnographic, and heart rate variability (HRV) measures were assessed pre- and post-treatment. HRV analyses were conducted using time-domain and frequency-domain parameters, including fast Fourier transform and wavelet spectral methods. **Results:** In Cohort 1, post-treatment apnea-hypopnea index (AHI) improved significantly in both OSA and COMISA groups, but COMISA patients retained a slightly elevated residual AHI (6.4 ± 6.9 vs. 3.7 ± 3.2 events/hour; $p=0.04$). Sleep latency in COMISA patients decreased significantly from 63.6 ± 46.0 min to 22.8 ± 20.8 min ($p=0.001$). In Cohort 2, AHI decreased from 22.7 ± 12.7 to 4.0 ± 3.5 events/hour ($p<0.0002$), oxygen desaturation index (ODI) improved from 18.8 ± 14.0 to 3.5 ± 2.0 events/hour ($p<0.02$), and sleep latency improved from 63.1 ± 49.4 to 21.8 ± 21.4 min ($p<0.02$). HRV analyses demonstrated increased parasympathetic activity and reduced sympathetic dominance post-treatment. **Conclusion:** OAm therapy reduced the severity of sleep-disordered breathing and ameliorated insomnia symptoms in COMISA patients. Additionally, HRV improvements suggest potential cardiovascular benefits. These findings support the consideration of OAm as a viable therapeutic option for COMISA management, warranting further investigation through prospective controlled trials.

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1173 - Validation of a national actigraph in children and adolescents

Pesquisa Clínica

Trabalho Científico

Introduction: Sleep is a neurophysiological process essential to child and adolescent development, playing a central role in cognitive, behavioral, and emotional functions. Early identification of sleep disorders is key to prevent health impairments, which highlights the need for reliable evaluation methods. While polysomnography (PSG) offers detailed analysis of sleep architecture, actigraphy has emerged as a less invasive, more accessible alternative capable of prolonged sleep monitoring. However, validation of actigraphy in children and adolescents is still lacking. Objectives: This study aimed to validate the ActTrust2 actigraph and to compare the performance of three algorithms (Actiware, Cole-Kripke, and Sadeh) in estimating sleep parameters in children and adolescents, using PSG as the reference. Methods: Thirty-three participants, aged 2 to 16 years, underwent simultaneous PSG and actigraphy recording. Evaluated parameters included total sleep time, sleep latency, wake after sleep onset (WASO) and sleep efficiency. The three algorithms were compared using performance metrics such as accuracy, sensitivity, specificity, positive predictive value and negative predictive value. Data normality was assessed using the Shapiro–Wilk test, normality was assessed using the Shapiro–Wilk test, followed by nonparametric analyses including Friedman, Wilcoxon, and Spearman correlation tests with Bonferroni correction. Results: The Actiware algorithm showed the best overall performance, with higher accuracy (82.4%), sensitivity (86.6%), lower bias, and strong correlations with PSG for total sleep time, WASO, and sleep efficiency. However, its correlation for sleep latency was weak non-significant. The Cole-Kripke algorithm demonstrated intermediate performance, with balanced sensitivity (76.0%) and specificity (78.6%), and moderate bias. Despite higher bias, lower accuracy (69.5%), and sensitivity (65.6%), the Sadeh algorithm was the only one that did not show a significant difference in sleep latency compared to PSG suggesting better agreement. Conclusions: The results demonstrate that the ActTrust2 actigraph, when combined with appropriate algorithms, is a valid and reliable tool for assessing sleep in children and adolescents.

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CARTA AOS EDITORES

Prezados editores,

Tenho a satisfação de apresentar o **I Encontro do Departamento Científico de Sono da Academia Brasileira de Neurologia (ABN)**, realizado nos dias **22 e 23 de agosto de 2025**, em Brasília-DF.

Sob o tema central **“Interfaces no Sono”**, o evento reuniu especialistas de diferentes áreas da medicina e da neurologia, com o objetivo de construir pontes entre o sono e outras disciplinas, favorecendo o diálogo científico e a integração multiprofissional. A programação incluiu conferências, simpósios e sessões de comunicação científica, refletindo a diversidade de perspectivas e a vitalidade da pesquisa na área.

Os resumos reunidos neste suplemento correspondem aos trabalhos apresentados durante o encontro, abrangendo temas que vão desde a fisiologia do sono até aspectos clínicos aplicados, como insônia, apneia obstrutiva do sono, distúrbios do movimento relacionados ao sono, farmacologia e interfaces com psiquiatria, pediatria e geriatria.

A publicação destes anais no *Interamerican Journal of Medicine and Health* consolida a importância do encontro e amplia a disseminação do conhecimento produzido, garantindo que as contribuições científicas apresentadas permaneçam acessíveis à comunidade acadêmica e clínica.

Atenciosamente,

Paulo Afonso Mei

Presidente do Evento