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# Temporomandibular Disorder And Its Influence on Cervical Mobility, Pain Threshold Pressure and Quality of Life in Individual after Stroke

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In the rst stage of the research, the volunteers signed the ICF and performed the MMSE, a questionnaire used to assess di erent cognitive patterns [9]. In a second stage, the volunteers were submitted to the ResearchDiagnosticCriteria for Temporomandibular Disorders questionnaire, or Diagnostic Criteria for Research on Temporomandibular Disorder (RDC / TMD), cervical ROM

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only in the GD, showing lower values of LDP for the homolateral side hemiparesis at these points.

With respect to QV results obtained by WHOQOL-bref, the physical domain (p=0.001) provides QV short scores for GD with signi cant di erences between the GD and GS groups. ese domains do not display di erences as they are displayed at Tables 3 & 4.

### Discussion

e TMD study has been carried out in several populations, among them, the most studied are children and young adults [17]. When it comes to TMD in the elderly or in populations with some neurological impairment, the literature is scarce, since the individuals who composed the sample were aged between 60 and 80 years, we observed a predominance of joint TMD, approaching the results found in the literature for that same age group18-19, also, conditions called osteoarthrosis and arthralgia of the TMJ were identi ed as the most frequent, and may be related to the physiological process of aging, since, with advancing age, the intra-articular disc of the TMJ loses its viscoelastic property, and its vascularization decreases, making the brocartilaginous bundles more dense and increasing the signs of degenerative changes of the ATM [20]. It is known that hemiparesis and spasticity are the main changes observed in the individual who su ered a stroke and that imply impairment of musculoskeletal functions and disabilities to perform activities of daily living [21]. In TMJ when there is hypertonia, the intra-articular disc is pulled in an antero-medial direction, causing imbalances in the functional relationship of the TMJ.

Furthermore, failures in motor control can lead to compensations

in the TMJ, due to the close anatomical and functional relationship between cerebellum, pons and TMJ. Knowing that the bridge innervates

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resulting in hypomobility of the upper cervical spine, this relationship may contribute to explain the decrease in FRT in the DG found in the study in question.

e ECOM muscle plays a fundamental role in the mobility of the cervical spine and in the balance between the chest and head, especially in individuals with TMD, in addition to being an important lateral exor and neck rotator. In the present study, there were decreases in cervical ROM for latero- exion and FRT movements homolateral to hemiparesis in the DG. Lower LDP values were also observed for the ECOM muscle and masseter homolateral to hemiparesis only in the GD, such ndings can be related to the diagnosis of TMD, which most of them were found on the side a ected by the stroke. For Amaral, TMD in uences the functionality of the cervical, being a factor that restricts its mobility mainly of the segments of C1 and C2, due to the proximity between the TMJ, occipital bone and rst cervical vertebrae [26-28].

Changes in mobility and muscle strength are also attributed to de cits in postural motor control in individuals a ected by stroke. ese changes cause a decrease in body awareness, with less movement to the a ected side. Some cervical muscles in uence the stomatognathic system by balancing the cranio-cervical complex and the mandible. During cervical movements, changes occur in the TMJ intra-articular space, which justi es the importance of studying cervical ROM in

e weakness of the exor muscles of the neck and the shortening of the ECOM muscle can in uence an anterior head posture, this posture is frequently observed in hemiparetics, which can interfere with cervical mobility and TMJ functioning, causing hyperactivity in the suboccipital muscles and ECOM, and changes in the position of the mandibular condyle. When there is hyperactivity in the suboccipitals, the intravertebral spaces of C1 and C2 are reduced, resulting in hypomobility of the upper cervical spine, this relationship may contribute to explain the decrease in FRT in the DG found in the study in question.

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## Conclusion

TMD in this population.

A high frequency of TMD was observed in the sample, with a predominance of diagnosis for the side homolateral to hemiparesis. TMD had negative in uences on cervical mobility, with decreased movements of latero- exion and FRT homolateral to hemiparesis, in LDP with increased pain sensitivity in masseter and ECOM and in the impairment of the physical domain of QOL in the population in question. Due to the scarcity in the literature on the in uence of TMD on post-stroke hemiparetic patients, further studies are needed, with a larger sample size, which analyze TMJ and its disorders, as well as LDP, cervical mobility and QOL in a given population for better statements.

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