

Remarks on “Temporomandibular Disorders: Priorities for Research and Care”: how will Chile advance

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Abstract

Temporomandibular Disorders (TMDs) are complex multi-system disorders for which common traditional dental-centric approaches to research and care unfortunately continue to prevail. A Committee appointed by the National Academies of Sciences, Engineering and Medicine (NAM) of the United States of America summarized important recommendations regarding the urgent need to transform, from the predominantly biomedical model, the research, professional education/training, and patient care for TMDs into the biopsychosocial model that is standard in the rest of pain medicine. The release of the Consensus Study Report identifies eleven short-term and long-term recommendations regarding gaps and opportunities oriented towards the situation in the US, which are equally applicable to the situation in Chile. The first four recommendations focus on basic and translational research, public health research and strengthening clinical research. The next three recommendations concern risk assessment, diagnostics, and dissemination of clinical practice guidelines and care metrics to improve patient care and expand its access. Recommendations eight to ten propose Centers of Excellence for Temporomandibular Disorders and Orofacial Pain Treatment, improving professional school education, and expanding specialized continuing education for healthcare providers. The eleventh recommendation focuses on patient education and stigma reduction. This discussion below highlights the published recommendations and addresses what should be considered by Chilean professionals, as a first step of a major effort to shift TMD research, treatment, and education paradigms for the years to come.

MAIN MESSAGES:

- ◆ The National Academy of Medicine became involved in assessing the status of temporomandibular disorders due to substantial problems in the United States.
- ◆ The Report from the NAM committee included eleven recommendations regarding the importance of the biopsychosocial model for TMD research, professional education/training, and patient care.
- ◆ The Report is equally applicable to the Chilean setting, suggesting a first step to transform TMD research, treatment, and education paradigms.

BACKGROUND

The National Academy of Medicine (NAM) of the United States of America initiated a comprehensive 15-month evaluation of the current level of knowledge and clinical management methods for temporomandibular disorders (TMDs) in January 2019. The National Academy of Sciences, which includes NAM, was established by the United States Congress as an independent, non-profit body to provide objective and unbiased opinions on scientific issues. Their efforts conclude with final reports generated through multiple levels of oversight that guarantee their objectivity and neutrality. We shall discuss the Report "Temporomandibular Disorders: Research and Treatment Priorities" [1] [1] in this brief summary of the important points. While the Report was necessary due to current state of TMDs in the United States, the literature evaluation was worldwide in scope, and the recommendations are applicable to the vast majority of circumstances in many nations, including Chile.

Two of the authors contributing to this Commentary were actively involved in the NAM process: RO was one of three panelists with dental medicine training on the 18-member panel, and CG participated as a reviewer of the draft version of the Report. The other two authors, JFO and MJ, identified from this Report the significant implications for the clinical and research situation in Chile. Therefore, we encourage the readers to consider the eleven recommendations offered in the Report, which will hopefully motivate them to search the Report itself in its entirety in order to fully appreciate its significance. This summary discussion aims to bring attention to critical topics raised in the published Report and briefly describe their immediate implications for Chile.

The NAM became involved in evaluating the state of TMDs because of substantial problems in the US; likewise, in Chile, an independent scientific review panel might equally find controversial educational and clinical practices in this area with analogous complications. The NAM panel members were all scientists, representing clinical and research fields of anesthesiology, behavioral medicine, epidemiology, health care services and outcomes, law and health care, medicine, neurology, nursing, oral and maxillofacial surgery, biomechanics and orthopedics, pain medicine, patient advocacy, psychology, and

temporomandibular disorders. After examining all of the oral and written testimony, this broad interdisciplinary panel issued recommendations, which should be carefully considered and respected [1].

RECOMMENDATIONS

The eleven recommendations in the published Report are oriented towards the situation in the US, but all of them are equally applicable to the situation in Chile, and consequently the published recommendations should be considered by Chilean professionals. The recommendations should be addressed as part of a multidisciplinary and interprofessional team approach that includes professionals from the broader medical and research communities [2]. Together, the recommendations placed a major emphasis on the following:

- 1) Promote national research on TMD through the establishment of priorities in basic and translational research, public health research, and burden of disease, as well as the strengthening of clinical research on TMD (Recommendations one to four). Combined, the four priorities create the foundations for improving patient-centered care.
- 2) Enhance the quality of care for patients with TMD by improving disease risk assessment and stratification, patient diagnostics, disseminating clinical practice guidelines and metrics of care, and expanding access and economic coverage to care (Recommendations five to seven). The long-term objective is to develop clinical guidelines for the treatment of TMD patients.
- 3) Improve treatments for patients with TMD and recommend the establishment of centers of excellence for the treatment of TMD and orofacial pain, as well as improving undergraduate professional education and expanding specialized continuing education for healthcare providers (Recommendations eight to ten). To upgrade dental education, dental schools should incorporate TMDs into their curricula and seek ways to develop a new multidisciplinary model of care that incorporates expertise in other key fields of health care.
- 4) Improve patient education and awareness about TMDs, and reduce the stigma of disease (Recommendation eleven). There is a need to make better educational materials for people with TMDs based on current understanding about these disorders. These materials should include brochures, videos,

and virtual educational workshops which communicate about how to manage and care for TMDs, how to get high-quality treatment, and how to alleviate the stigma aspects of these disorders.

To supplement these recommendations, four appendices are included. An analytical essay on the "Prevalence, Impact, and Cost of TMD Therapy" and the section "Masticatory System: Anatomy and Function".

IMPLICATIONS FOR CHILE

Taken together, the Report addresses every aspect of TMD-related education, research, public health, and care delivery. The Report is valuable in our perspective since it illustrates the substantial scientific knowledge developed worldwide which, in turn, is available to Chileans. Those breakthroughs have provided a solid foundation for understanding at least some general elements of TMDs and pain phenomenology. However, we note that the Report clearly identified significant knowledge gaps regarding the temporomandibular joints, which have unique features that we as yet do not fully comprehend and which are an important area for improving approaches to clinical care in Chile as well as elsewhere in the world. The Report identifies the many substantial challenges for future research associated with all aspects of TMDs.

These recommendations include reflections on current dental realities that may foreshadow Chilean circumstances. In terms of a clinical perspective, the findings of the Report were mostly unfavorable, reflecting a dearth of health care providers possessing essential characteristics regarding TMDs: understanding of the masticatory system complexities, knowledge and adoption of existing etiological evidence, and utilization of current treatments that begin with the “do no harm” dictum and address what we already know about TMD care. The Report is also a harsh critique of clinical practices that, despite being adequately discredited, are nevertheless still being pushed and used by some professional organizations. These findings emphasize the need for rigorous independent evaluation with several layers of oversight. A key implication, equally for Chile as for the US, is that a lot of clinical dentistry is lagging far behind, relative to medicine, in its understanding and incorporation of pain management evidence into real care.

A notable aspect of the Report’s recommendations is its emphasis on the importance of a much broader education on the broad topic of TMDs among dental professionals, physicians, and other allied healthcare providers. Dental colleges around the world provide excellent preparation in the complexities of differential diagnosis associated with dental structures, because they are the most common source of pain in the orofacial region. As a result, the profession is in the best possible position of providing care to patients with orofacial pain conditions – especially the TMDs [2]. Consequently, better education for both undergraduate and specialty dental students is a key emphasis in the Report, with two important goals:

- 1) Recognizing the biopsychosocial model of care is essential for understanding complex disease and its management;
- 2) Implementing appropriate clinical assessment and management of TMDs [3].

These important goals become more attainable when we accept that clinical success of one’s preferred therapy does not prove correctness of either diagnosis or mechanism, nor does it prove generalizable (and predictable) efficacy [4]. Simultaneously, it should be evident to all observers of the situation involving TMDs within Chile that a supervised training model is essential and the only way to acquire the various sets of competences required by a dentist to deal with TMDs. Certification processes should acknowledge TMD specialists based on up-to-date and recognized research regarding the diagnosis and management of chronic pain and complex disorders. At the same time, we must ensure that the absolute minimal components of adequate training in critical decision-making skills necessary for this specialty are being provided.

According to the Report and based on practices in the US, it is necessary to develop de-implementation research on the outdated mechanistic models of TMD clinical management; Chile faces comparable clinical challenges and should consider the NAM recommendations while advocating for clinical research. For example, due to the complexity of TMDs once they have progressed beyond the clinical acute phase, proper initial management becomes even more critical, and this falls primarily on general dental clinicians. Furthermore, we now comprehend that even when TMDs are still acute, they are rarely independent disorders and instead occur as a result of a complex combination of risk factors. Unfortunately, the clinical behaviours of Chilean dentists regarding TMDs still appear to be misaligned with best clinical practices based on optimal evidence-based standards of care [5].

Finally, the Report emphasizes the critical role of stakeholders, and this is no less true in Chile: stakeholders include the Ministry of Health, scientific societies, patients and advocates, all of whom are pivotal for defining the stages and achieving these objectives. In Chile, TMD and Orofacial pain has been recognized as a dental specialty since 2013, 171 individuals are currently enrolled as specialists the National Registry of Health Providers, the National Accreditation Commission (CNA) has certified two of the five postgraduate programs in TMD & Orofacial Pain, and a reference and counter-reference protocol has been created for public health care.

CONCLUSION

Despite this progress, there is no doubt that Chile must continue to advance by increasing the number of specialists and positions along the country, providing sufficient decentralized coverage, guaranteeing skilled attendance being available at a public level and adequate health insurance recognition, improving clinical dental education, promoting evidence-based patient information, and fostering research in the field. These stated

objectives will be achieved only through a balance of sound science and coordinated policies designed to enhance the national global vision for TMDs.

To summarize, anyone with an interest about TMDs is invited to read the Report in its entirety, including students, researchers, physicians, and patients. Those who follow this journal can benefit from this document's realistic evaluation of the profession's current state and appreciate the recommendations for how Chile might move ahead with TMDs.

Notes

Contributor roles

RO and CG provided initial manuscript conceptualization. All authors contributed to manuscript drafting and provided critical review for intellectual content, gave final approval of the version to be published, and agreed to be accountable for all aspects of the article.

Competing Interests

This article has been written without any conflicts of interest. Richard Ohrbach and Charles Greene participated in the development of the NAM Report; Dr. Ohrbach as part of the General Committee and Dr. Greene as Final Reviewer.

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Observaciones sobre trastornos temporomandibulares: prioridades de investigación y atención: ¿cómo avanzará Chile?

Resumen

Los trastornos temporomandibulares (TTM) son complejos trastornos multisistémicos para los que, lamentablemente, siguen prevaleciendo los enfoques tradicionales odontocéntricos comunes de la investigación y la atención. Un comité designado por las Academias Nacionales de Ciencias, Ingeniería y Medicina (NAM) de los Estados Unidos de América resumió importantes recomendaciones relativas a la urgente necesidad de transformar, desde el modelo predominantemente biomédico, la investigación, la educación/formación profesional y la atención al paciente para los TTM en el modelo biopsicosocial que es estándar en el resto de la medicina del dolor. La publicación del Informe del Estudio de Consenso identifica once recomendaciones de corto y largo plazo respecto a brechas y oportunidades orientadas a la situación en EE.UU., que son igualmente aplicables a la situación en Chile. Las primeras cuatro recomendaciones se centran en la investigación básica y traslacional, la investigación en salud pública y el fortalecimiento de la investigación clínica. Las tres recomendaciones siguientes se refieren a la evaluación de riesgos, el diagnóstico y la difusión de guías de práctica clínica y métricas asistenciales para mejorar la atención de los pacientes y ampliar su acceso. Las recomendaciones octavas a décima proponen Centros de Excelencia para el Tratamiento de los Trastornos Temporomandibulares y el Dolor Orofacial, la mejora de la formación en los colegios profesionales y la ampliación de la formación continuada especializada para los profesionales sanitarios. La undécima recomendación se centra en la educación de los pacientes y la reducción del estigma. Este artículo destaca las recomendaciones publicadas y aborda lo que deberían tener en cuenta los profesionales chilenos, como primer paso de un gran esfuerzo por cambiar los paradigmas de investigación, tratamiento y educación sobre los TTM para los próximos años.



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