Preliminary Training Needs assessment for Residents in «Temporomandibular Dysfunctions» practicing within the Fixed Prosthodontic Department of CHU IBN ROCHD's Dental Consultation and Treatment Center

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ABSTRACT: The analysis of residents' training needs in musculoskeletal disorders of the masticatory system is required in the department, because patients suffering from temporomandibular disorders and referred by general dentists constitute a significant proportion of patients consulting the service. Sufficient skills are thus required to provide appropriate care to these patients. Objective: The aim of our work is to survey residents' training needs in «Temporomandibular Dysfunction» practicing within the prosthodontics department of the Dental Consultation and Treatment Center of Casablanca. Method: Qualitative descriptive analysis of the initial training requirements in 'management of temporomandibular dysfunctions« among eleven residents in the department of fixed prosthodontic in Casablanca. Each participant responded to a questionnaire during a brainstorming session and an FGP grid has been done. Results: This work has highlighted a real need for training residents in temporomandibular dysfunction, especially for dysfunction of muscular origin and during the post-occlusal split stabilization period. Conclusion: Knowing the type of dysfunction (muscle or joint) is essential because the effectiveness of the diagnosis is a decisive step in the treatment. Within the context of the analysis of the training requirements for residents of the fixed prosthodontic department Casablanca in temporo-mandibular disorders, our preliminary survey should be regarded as a preliminary study.

KEYWORDS: Assessment, training needs, practical skills, brainstorming, know-how.

1 BACKGROUND

Several authors concur that "training needs analysis" must precede the planning of training activities to ensure their success [1]. It is a matter of evaluating the gap between a learner's current abilities and those that would be desirable for him to possess [2]. Identifying training needs requires measuring this gap, i.e. identifying the skills that employees need to acquire or improve [3]. Since relevance is the most important quality of a training program the training needs analysis is recommended as an essential step in the process of designing medical education training courses that are intended to increase rigor and efficiency [4]. In Morocco, as in the rest of the world, a prosthodontist has also a specialized training in jaw joint problems (such as temporomandibular joint disorders (TMDs)) must rely on the knowledge he has gained through his training and clinical practice. The responsibility of the specialist is to treat patients who present both aesthetic and functional complaints.

Some patients present with a muddled pathology in which the various diagnostic criteria overlap or contradict one another. At this stage, the practitioner's experience reveals his professional competence [5]. As a result, residents in fixed prosthodontics who will be responsible for the care of many of these patients as specialists require quality training (theoretical, practical, and relational) in jaw joint problems. During his residency, the resident participates in a variety of educational activities involving students, as well as clinical supervision and research activities. Learning in the field of jaw joint dysfunctions in the fixed prosthodontic department consists of participating in clinical practice where residents are confronted with cases of TMD.

To improve the management of patients with temporomandibular disorders (TMDs), the purpose of our work is to survey residents' training needs in "Temporomandibular Dysfunctions" practicing within the prosthodontics department of the Dental Consultation and Treatment Center (CCTD) of Casablanca.

2   MATERIALS AND METHODS

This is a three-month study conducted at the prosthodontic department of the CCTD in Casablanca, based on a qualitative descriptive analysis of the initial training requirements in "management of temporomandibular dysfunctions (TMDs) " among residents. This study was carried out in collaboration with eleven residents who are continuing their four-year residency program at the prosthodontic department of the CCTD in Casablanca.

2.1   DATA EXTRACTION

At this stage, it is necessary to determine the extent to which the learner already possesses the skills necessary to complete the initially determined professional tasks [2]. The resident must have enough understanding of the anatomy and physiology of the manducatory system. The best therapeutic option must result from the specialist's multidisciplinary knowledge.

He must explain to the patient that wearing the occlusal splint is an essential asset for the initial treatment and for the stabilizing treatment. Especially since an intervention by removable interocclusal device is reversible and non-invasive intervention [6].

Initially, we conducted a brainstorming session with the residents, who were given questionnaires on temporomandibular dysfunctions to assess their opinion, current knowledge, and training aspirations regarding the topics to be studied. This enabled the development of a list of clinical signs according to the type of temporomandibular disorder with which the resident is confronted, as well as a list regarding the practical implementation of occlusal splits during their placement in the mouth. In a second step, we identified the FGP grid items.

2.2   FGP GRID

The various retained items were then reported in an "FGP grid," the chosen method for quantitative and qualitative analysis of training needs. The resident completes the FGP grid according to a specific rating, based on his own experience and in good faith.

Frequency, or F. Rated as either 0 (rare), 1 (medium), or 2 (very common)

G stands for gravity (or severity). 0 = mild, 1 = medium, or 2 = severe (very serious)

P = three categories of problems (knowledge, interpersonal skills, know-how) scored as 0 (no problems), 1 (medium problems), or 2. (many problems) [7].

2.3   DATA ANALYSIS

Due to the small size of the staff, descriptive data analysis was performed without the use of statistical software. For the quantitative variables, the means were calculated.

3   RESULTS

A four-item FGP grid was established:

- Management of clinical signs of dysfunction of muscular origin
- Management of the clinical signs of an articular dysfunction
- Adjustment and fitting of the occlusal splint indicated by the pathologies (muscular/articular)
- Implementation of various therapies for the transition of the occlusal splint to the new mandibular position

This FGP grid was filled out by every resident. The limited personal experience that newly admitted residents had with temporomandibular dysfunction patients made it difficult for them to respond to the questions. Residents are divided into four first-year residents, two second-year residents, and five fourth-year residents.

With an average score of 6.08, " management of clinical signs of dysfunction of muscular origin " was the most important training need for residents, followed by "the implementation of different therapies for the transition of the occlusal splint to the new mandibular position" at 5.98. "The management of the clinical signs of an articular dysfunction" ranks third with an average score of 5.71, followed by "the adjustment and placement in the mouth of the occlusal splint indicated according to the pathologies (muscular/articular) " in fourth place with an average score of 4.88.

Table 1. FGP grid of resident training needs in temporomandibular dysfunction

Item	F	G	P			Means
			Knowledge	Know-how	Interpersonal skills	
Management of clinical signs of dysfunction of muscular origin	1.18	1.18	1.54	1.18	1	6.08
Management of the clinical signs of an articular dysfunction	1.36	1.18	0.90	1.27	1	5.71
Adjustment and fitting of the occlusal splint indicated by the pathologies (muscular/articular)	1.54	1.18	0.90	0.63	0.63	4.88
Implementation of various therapies for the transition of the occlusal splint to the new mandibular position	0.72	1.09	1.63	1.45	1.09	5.98

4   DISCUSSION

4.1   DISCUSSION OF RESULTS

To improve their training, the survey assisted in identifying the problems the residents faced when managing patients with temporomandibular dysfunction. The observations that result from our FGP grid are shown below, with item-by-item analysis.

- Implementation of various therapies for the transition of the occlusal splint to the new mandibular position

Our study showed that "the setting up of post-therapies or implementation of various therapies for the transition of the occlusal splint to the new mandibular position " (F: 0.72) had the lowest frequency and "adjustment and placing in the mouth of the occlusal splint" had the highest frequency (F: 1.54).

The study revealed a knowledge (1.63) and know-how (1.45) problem for this item, whose severity was understated (G: 1.09). So, the sustainability of the achieved results depends on the application of post-occlusal splint therapies.

These results can be explained by the fact that the residents, encountering fewer cases of this item, have not acquired the required medical skills in terms of knowledge and know-how.

- Adjustment and fitting of the occlusal splints indicated by the pathologies (muscular/articular)

The responses demonstrated that residents encounter this topic most frequently (F: 1.54). In addition, we observe that the candidate's knowledge, practical skills, and interpersonal abilities are adequate. The rating for the problems in the three domains (P: 0.9/ 0.63/ 0.63) is significantly lower than the ratings for the other three items, indicating that the residents have a greater understanding of this aspect of TMD treatment.

- Management of the clinical signs of an articular dysfunction

Recognition of clinical symptoms of joint dysfunction is relatively frequent (1.36). Medium severity is deemed to characterize this situation (G: 1.18). The problem is above all in the domain of know-how (SF: 1.27).

- Management of clinical signs of dysfunction of muscular origin

The subject with the highest score (6.08) demonstrates the importance of and necessity for planning a training regimen that takes pathologies of muscular origin into account. This knowledge gap is primarily at the theoretical knowledge level (1.54) and needs to be deepened.

4.2 ASSESSMENT OF METHODOLOGY

The FGP grid makes it possible to highlight the training needs expressed by most residents. In addition to the FGP grid, questionnaires were used during the brainstorming. This method has the advantage of being simple and easy to use. The responses to the questionnaires allowed for the completion of the FGP grid with the most-requested topics. One of the limitations of this study is the small size of the study group (N=11). The group is not entirely homogeneous because it contains residents at both the beginning and end of their training. However, the use of this grid has made it possible to evaluate the knowledge and challenges of the residents in the TMD domain and to prioritize training needs in this area.

5 CONCLUSION

Our study is to be considered as a preliminary work in the process of defining educational objectives, with a view to planning a teaching of temporomandibular dysfunctions for residents of prosthodontic department. Other more targeted studies are needed to better understand the extent of the training need and develop more appropriate programs.

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