Proposal for a new self-compiled questionnaire in patients affected by temporo-mandibular joint disorders (TMD)

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Introduction

Usually clinical records of patients with temporo-mandibular joint dysfunction are considerably important to reach a correct diagnosis thus leading to the choice of the most appropriate and accurate therapy\(^1\).

To better identify the etiopathogenetic issues, all the collected data should merge reciprocally and they should come from diagnostic steps that allow in every moment a cross-control to verify in every phase the truthfulness of the obtained informations\(^2\). However, during the diagnostic path, it is very difficult to perform a systematic and accurate data collecting, both anamnestic and clinical, of the patients.

To facilitate this operation, a new questionnaire has been ideated dealing with a series of questions about different fields of familiar, remote and near physiologic and pathologic anamnesis. It could be self-compiled by the patient, at his home or in the waiting room. This questionnaire must support clinical files\(^1\), regularly adopted by specialists dealing with dysfunctional pathology of TMJ, and its aim is to implement clinical data collected during the visit, give a suggestion to the physician, and fix and enlighten specific issues. With this approach it is possible to obtain further information that might be overlooked during the visit but that might show useful in defining the correct diagnosis\(^3\).

Abstract. – In this work, we propose a self-compiled questionnaire, for those patients showing dysfunctions of the temporomandibular joint. The questionnaire, composed by 33 closed multiple-choice questions, represents one of the steps in the diagnostic procedure, together with the clinical notes compiled by the medical specialist and with the other necessary diagnostic researches. It also has the purpose to make easier anamnesis and clinic procedure and gathering of all informations useful for a right clinical diagnosis, and so for an appropriate therapy.

Key Words: Questionnaire, Self-compiled, Anamnesis, Temporomandibular disorders (TMD), Temporomandibular dysfunction.

Materials and Methods

An International literature review has been performed through medline with regard to Journal of orthognatodontics interest\(^4\).\(^10\).

So the discovered questionnaires have been processed and selected. While the unnecessary informations for the initial steps of the diagnostic path were discarded, the others have been simplified and integrated with our knowledge in order to create an other questionnaire, slim, easy, and straight. The aim of this new register is collecting only the informations that might be really useful to help clinician who, very often, because of the huge amount of informations supplies by the patients during the visit, difficulty remembers every single detail.

Table I shows the lay-out of our questionnaire.

Questionnaire frontispiece. The upper area reports data dealing with registration number or eventual patient’s registry code for TMD, date of access to the questionnaire. Usually it is reported the name of the sending specialist and his/her contacts so that is possible to have a dialogue with this doctor.

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The questionnaire is composed by 33 multiple choice items, coded with numbers and letters. The expressions used are the clearest possible to avoid any possible misunderstanding, having cure to avoid scientific language or explaining if necessary scientific terms thus allowing the questionnaire to be accessible for everyone.

The patient is asked for each item a list of alternatives to choose. This approach permits the questionnaire to be easier to compile and furthermore to improve the personal evaluation. It also supplies valuable information because of the limited choice of the answer we avoid to collect useless information. Furthermore, it avoids possible biases due to the personal interpretation of the patient.

This clearness simplifies the analysis and interpretation of data and it is possible to adopt a computerized system to process these informations with a dedicated software.

Some items show in their right side another code:

\[ I \ L \ R \ 2 \]

Whenever we need to investigate if the patient feels his disturb on the left or right side. It is sufficient when we give the questionnaire where and how to check the answers and, if necessary and not specified in the question, more than one answer can be checked.

It will take few instants and the remaining work is self made by the patient.

The 33 proposed items investigate many aspects of the patient, near or far, in relation to the actual problem. The questionnaire deals with disturb affecting the patient, starting period, how did it begin, typology of disturb, referred symptoms (pain, rumours, functional limitations, existence and intensity of eventual signs. Moreover, it should be always done, the patient is asked if he/she ever underwent orthodontics treatment in general or with the aim of solve the actual disturb, if he experienced traumas direct or non direct over the TMJ area or head and last if he/she suffers for any systemic disease. Last question’s aim is to analyze vicious habits, parafunctions but even on emotional status and the association with stressors.

This questionnaire represents a good way to record all the informations that sometimes may be forgotten during the clinical visit.

**Discussion**

Basing on the need for a self-compiled questionnaire to manage TMJ patients we performed an international literature review of the field. The obtained results showed the existence of a small number of works dealing with this subject. After a critical analysis of the papers we understood that they didn’t satisfy our needs because some were very extended and gathered a huge number of non strictly necessary informations. Nevertheless others were too generic or didn’t fit our exigencies; others were too complex or difficult to understand for the patients.

After a brief selection of the most relevant items of each questionnaire, we simplified and merged our knowledge with our needs. We created so a new questionnaire, with the style of a brochure to be easy accessible and self-compiled by the patient. This questionnaire is essential, accessible for everyone.

Items have been classified with numbers and letters in order to simplify data collecting thus leading to the opportunity of performing a further computerized analysis of records. Moreover, this scheme has made the questionnaire easy to repeat thus leading to possibility of better following the evolution of patient’s condition.

We’d like to underline that this instrument is just one step in the diagnostic path, indeed it is developed on the basis of multiple choice questions that on one side simplify the compilation but on the other side reduce the accuracy. We always have to look for these information provided by the questionnaire during the clinical visit.

It is only with the combined results of clinical experience and collected data that we are able to analyse the whole patient condition to achieve a correct diagnosis and choose the most appropriate therapy.

**Conclusions**

The anamnestic and clinical investigation of the patient affected by cranio-mandibular disorders needs for a protocol, a diagnostic strategy that due to the complexity and multifactoriality of etiopathogenesis must be the most accurate, complete, systematic and practical possible.
This questionnaire, according to the necessity for a complete collecting of data and the need for an accurate diagnosis, may contribute to easily manage dysfunctional patients. Moreover, this questionnaire in association with traditional clinical records gives a complete view of every single case.

This work begins from the belief that to obtain a correct diagnosis, prognosis, and a subsequent treatment plan, every single anamnestic or diagnostic step should be characterized by humility to better listen the patient and to give us the opportunity of changing our opinion if needed.

References


6) Servizio per le Disfunzioni Cranio-Mandibolari, Questionario - Prof. Antonio Beltrame, Clinica Odontoiatrica di Padova. www.dspmc.unipd.it/questionario.rtf


Self compiled temporo-mandibular joint (TMJ) disorders questionnaire

<table>
<thead>
<tr>
<th>N° Registr</th>
<th>Compilation date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last name</td>
<td>First name</td>
</tr>
<tr>
<td>Sex:</td>
<td>Age:</td>
</tr>
<tr>
<td>Date of birth</td>
<td>Place of birth</td>
</tr>
<tr>
<td>Profession</td>
<td></td>
</tr>
<tr>
<td>Phone:</td>
<td>Mobile:</td>
</tr>
<tr>
<td>Sent by:</td>
<td>Phone:</td>
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</tbody>
</table>
### 1) Which is the first reason for you came to our observation?
(Choose the most relevant)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Headaches</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Nuchal, cervical or neck pain</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Shoulder or arm pain</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Tmj sounds or right before the ear?</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Tmj pain or right before the ear?</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Mouth opening limitation</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Hiss or buzz</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Vertigo or acufene</td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td>L</td>
<td>Hands tickle</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Lower back pain</td>
<td></td>
</tr>
</tbody>
</table>

### 2) Do you suffer of any of these other symptoms?
(Choose one or more)

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</tr>
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</table>
A new self-compiled questionnaire in patients affected by TMD

**Self compiled temporo-mandibular joint (TMJ) disorders questionnaire**

3) When did your main problem started?
   - A  □  1 day to 1 month
   - B  □  1 month to 3 months
   - C  □  3 months to 6 months
   - D  □  6 months to 1 year
   - E  □  More than a year

4) How did the problem started?
   - A  □  All of a sudden
   - B  □  Gradually

5) Your main problem is:
   - A  □  Constant
   - B  □  Periodic
   - C  □  It happened once

6) Have you suffered of one of these symptoms in the past?
   - A  □  Headaches
   - B  □  Nuchal, cervical or neck pain
   - C  □  Shoulder or arm pain
   - D  □  Tmj sounds or right before the ear?
   - E  □  Tmj pain or right before the ear?
   - F  □  Mouth opening limitation
   - G  □  Hiss or buzz
   - H  □  Vertigo or acufene
   - I  □  Cheek or chin tickle
   - L  □  Hands tickle
   - M  □  Lower back pain
### Self compiled temporo-mandibular joint (TMJ) disorders questionnaire

#### 7) In the past 6 months your problem:
- **A** □ Unchanged/constant
- **B** □ Worsen
- **C** □ Improved
- **D** □ Disappeared
- **E** □ Changed

#### 8) Do you experience difficulties in mouth opening or chewing?
- **A** □ Yes
- **B** □ No
- **C** □ Sometimes

#### 9) Do you hear (click) in TMJ region near the ear or a crackling or sand like noise in mouth opening or chewing?
- **A** □ I do hear a click
- **B** □ I do hear crackling
- **C** □ I do hear sand like
- **E** □ No

#### 10) Do you feel pain in mouth opening or chewing or swallowing?
- **A** □ Yes, widespread (projections to the ear, cheeks, along the jaws or temporal area)
- **B** □ Yes, a defined point
- **C** □ Sometimes
- **D** □ No

#### 11) If you experience pain in the TMJ area, does it worsen in the morning with chewing and/or with chewing?
- **A** □ Yes
- **B** □ No
- **C** □ I don’t feel pain

#### 12) Are there trigger or alleviating factors?
- **A** □ Yes
- **B** □ No
- **C** □ I don’t feel pain
### Self compiled temporo-mandibular joint (TMJ) disorders questionnaire

13) Do you feel tmj pain even without moving your mouth?
- A □ Yes
- B □ No
- C □ I don’t feel pain

14) If you feel tmj pain, which value with you say it is in a range from 0 (no pain) to 100 (the highest pain possible)?
- A □ 10-20
- B □ 20-40
- C □ 40-60
- D □ 60-80
- E □ 80
- F □ 0

15) Did you ever experienced you were not able to close again your mouth?
- A □ Yes, one time
- B □ Yes from 2 to 6 times
- C □ Yes more than 6 times
- D □ No

16) Did you ever experienced you were not able to open again your mouth?
- A □ Yes, waking up at morning
- B □ Yes, one time
- C □ Yes from 2 to 6 times
- D □ Yes more than 6 times
- E □ Yes, during a very stressing period
- F □ I always feel locked
- G □ No

17) If you experienced lock when did it happen?
- A □ In past 2 weeks
- B □ From 2 weeks ago to 1 month
- C □ From 1 month to 3 months
- D □ From 3 months to 1 year
- E □ From 1 year and mor
- F □ No, I have never experienced lock

18) Is it the first time you call a maxillo facial surgeon or dentist for your problem?
- A □ Yes
- B □ No
### Self compiled temporo-mandibular joint (TMJ) disorders questionnaire

19) Which other specialists have you consulted for your problem?

- **A** Dentist and/or gnatologist
- **B** Otolaryngologists (ent)
- **C** Neurologist
- **D** Orthopaedic
- **E** Surgeon
- **F** Physiotherapist
- **G** Osteopathic and/or chiropractors
- **H** Others
- **I** None

20) Did you undergo therapies/cure for this problem?

- **A** Yes with drugs
- **B** Yes, bite or occlusal splints
- **C** Yes, physiotherapeutic trainings
- **D** Yes, selective moulages
- **E** Yes, orthodontics
- **F** Yes, prosthetics
- **G** Yes surgery or extractions
- **H** No

21) Did you ever undergo dentist treatment for any other reason except your problem?

- **A** Prosthetics
- **B** Orthodontics
- **C** Fillings
- **D** Surgery
- **E** Extractions
- **F** No

22) Did you miss your posterior teeth?

- **A** Yes, superiorly
- **B** Yes, inferiorly
- **C** Yes, superiorly and inferiorly
- **D** No

23) Do you have any dental prosthesis?

- **A** Yes, mobile
- **B** Yes, fixed
- **C** Yes, both mobile and fixed
- **D** No

24) Have you ever taken a x-ray radiograph for your problem?

- **A** Orthopantograms
- **B** Teleradiographs lateral view and/or postero-anterior
- **C** Teleradiographs postero-anterior
- **D** Stratigraphy
- **E** MRI
- **F** TC
- **G** Electromyography
- **H** Electrognatography
- **I** Kinesiography
- **L** Others
- **M** No
**Self compiled temporo-mandibular joint (TMJ) disorders questionnaire**

25) Did you reported head or jaw traumas?
   - A Yes, car accidents
   - B Yes, fractures
   - C Yes, traumas (injuries, sport accidents, punches, slappers)
   - D Yes, whiplash
   - E No

26) Did you have tmj problems before the trauma?
   - A Yes
   - B No
   - C No, I had not traumas

27) Do you have any systemic disease such as:
   - A Arthrosis
   - B Reumathoid arthritis
   - C Lupus
   - D Psoriasis
   - E Gout
   - F Other
   - G No

28) Does anyone of your family suffers for these pathologies?
   - A Yes
   - B No
   - C Don’t know

29) Do you usually:
   - A Eat nails
   - B Bite your tongue
   - C Bite your lips
   - D Smoke pipe
   - E None

30) Do you ever grind your teeth?
   - A Yes, during night
   - B Yes, during day
   - C Yes, always
   - D Yes, sometimes
   - E No

31) Do you feel that your teeth close different from usual or in a non comfortable way?
   - A Yes
   - B No
Self compiled temporo-mandibular joint (TMJ) disorders questionnaire

<table>
<thead>
<tr>
<th>32) Which of this activities is limited or completely blocked by your problem?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A □ Chewing</td>
</tr>
<tr>
<td>B □ Drinking</td>
</tr>
<tr>
<td>C □ Physical activity</td>
</tr>
<tr>
<td>D □ Eat hard foods</td>
</tr>
<tr>
<td>E □ Eat soft foods</td>
</tr>
<tr>
<td>F □ Smiling</td>
</tr>
<tr>
<td>G □ Teeth brushing</td>
</tr>
<tr>
<td>H □ Yawning</td>
</tr>
<tr>
<td>I □ Swallowing</td>
</tr>
<tr>
<td>L □ Talking</td>
</tr>
<tr>
<td>M □ Maintain facial expressivity</td>
</tr>
<tr>
<td>N □ Humidity/temperature variations</td>
</tr>
<tr>
<td>O □ None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>33) In the last year have you ever felt:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A □ Weak</td>
</tr>
<tr>
<td>B □ Dizziness</td>
</tr>
<tr>
<td>C □ Loss of interest for thing</td>
</tr>
<tr>
<td>D □ Difficulties in falling asleep or disturbed sleep</td>
</tr>
<tr>
<td>E □ Feel like everything is tiring</td>
</tr>
<tr>
<td>F □ Loss of trust in future</td>
</tr>
<tr>
<td>G □ Depression</td>
</tr>
<tr>
<td>H □ Anxious</td>
</tr>
<tr>
<td>I □ Heavy tension (work, family, school, society,...)</td>
</tr>
<tr>
<td>L □ None</td>
</tr>
</tbody>
</table>