

GUEST EDITORIAL

Patient Reported Outcome Measures as an effective evaluation tool in Prosthodontics

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ABSTRACT

In evaluation of outcomes of a particular treatment, there can be subjective and objective outcomes. Analysis of objective outcomes, are considered scientific as they can be measured and presented as numbers which can be subjected to statistical analysis and interpretation. The p value and statistical significance has been the norm and gold standard in conventional research. With the evolution of Qualitative research and Patient reported outcome measure tools, the clinical relevance of such outcomes have gained more significance. The further researches are encouraged to be mixed method, when it comes to evaluation of patient treatment outcomes. They are the true end points and thrust needs to be given to these patient reported outcome measure tools. The editorial aims to sensitise the readers to consider these tools and mixed method analysis which involves quantitative and a qualitative component.

Key words: Outcome evaluation, Patient Reported Outcomes, Questionnaire.

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Health professions research use specific indicators to monitor and evaluate the performance of a prosthesis, restoration or an intervention in a patient. In the literature, we find the use of various scales and measurement tools to evaluate the effectiveness of desired outcomes. Inappropriate usage of such tools in research or even during a casual evaluation of an outcome would affect largely the clinical relevance and usability of the tool.

For example, in a replacement prosthesis like a complete denture, the usual outcomes evaluated are retention and stability in a denture, which were conventionally assessed using a dislodging apparatus [a spring loaded measurement tool or a force sensor device] and the effectiveness of the retention is interpreted as a number, which corresponds to the total weights or maximum load shown in a digital display.¹ This was practiced with the perception that it was fairly objective as they are based on numbers and they can be used in statistical analysis and can be interpreted in tests of significance. Retention of the denture is not merely dependent on the extension and adaptation of denture base. Retention is defined as the resistance

of the prosthesis to vertical and oblique dislodging forces. The weight of the completed prosthesis and the oblique forces by the muscles of mastication, would dislodge the denture in varying angles. The conventional method of measurement of retention, using an apparatus as mentioned before, would measure the retentiveness of the denture only in a vertical direction. The retention of a denture checked with a suspended weight showing difference between two groups do not convey a relevant outcome, beneficial to the patient. An important clinically relevant outcome measure would be patient reported outcomes of the prosthesis in terms of performance, satisfaction and comfort during functions and swallowing, which would carry more weightage in determining the effectiveness of a prosthesis.

In fixed prosthesis as implants the success of the prosthesis is evaluated in terms of clinical features, crown to root ratio and radiographic interpretation of crestal bone loss.^{2,3} Very few literature is available on patient reported outcomes like comfort, ease of maintenance, pain, and chewing ability for a range of foods.

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The measurement tools used to assess and evaluate these kind of patient reported outcome measures are called as PROM tools, which would provide a more realistic picture and true end point measurement when it comes to retention. There is another entity called as the PREM [expanded to Patient Reported Experience Measures] tools which intends to capture gathered experience of the patient on their overall perception on the care they have received and the treatment impact on their overall well-being. These are usually assessed with questionnaires on their experience and opinion of the patient on the performance of the denture. In a conventional quantitative research, the recorded outcomes are numbers. The variations in recorded numbers may or may not have a direct clinical relevance. PROM tools evaluate these aspects involved in the assessment. Objective numerical measurements should be used along with patient reported outcome measurement tools to provide a wholesome understanding of the performance of the prosthesis.

In Dentistry, several PROM tools are used and they are called as dental related Patient Reported Outcomes or dPROs. These are age specific addressing the needs of the child, adult or a geriatric.⁴ With increasing number of the dPROs, there arises a question on validity and direct clinical applicability. The items or questions mentioned in the measurement tool dPROs, should intend to test the desired objective in a more specific manner. Hence, in a systematic review these adult dPROs were grouped under the following domains viz., Oral Function, Appearance, Pain and Psychosocial impact.⁵ Approximately 53 dPROs were identified and 36 were found to be valid for an adult dental patient's oral health experience. They fall under four prominent domains viz., Oral Function, Oro Facial Pain, Oro Facial Appearance, Psychosocial impact. For pediatric patients too, PROM tools like CARIES QC was developed to proceed further in treatment planning.⁶ The data obtained from PROM tools can be analysed with statistics. It is a common misconception that PROM tool is exclusively a Qualitative research tool. Most of the questionnaires with scales are tools for Quantitative Research. The reader is encouraged to acquire more knowledge on these tools and their methodology so that they can be adopted in their clinical research.⁷

Quantitative research involving patients and clinical outcomes are never complete without the component of Qualitative Research. With the emergence of Qualitative Research, research has taken a U turn to understand the outcomes of an experiment or an observation with a different perspective which would add value to the research. The relevance of such outcomes to clinical practice and dental knowledge was much appreciated in the previous literature.⁸ The identification of relevance was also considered as one of the attributes of the Dental graduate.⁹ Qualitative research is also claimed to remove the bias introduced in experimental study in terms of negligence or operator introduced. The researcher also should be adept in the study designs and statistical methods used for qualitative research. Thematic analysis and softwares developed exclusively for these can be used to decipher the information obtained in a systematic manner [Mixed method analysis - MAXQDA, Full Story – Behavioral Analysis platform]. Data collection of Gathered Experiences through Open Feedback, Ethnography, Phenomenology, Interview, Focus Group Discussion, Observation, Case Study are a few to mention, among the methodologies. There are few limitations or challenges in qualitative research like authenticity/veracity of data collection and difficulty in performing conventional statistical analysis.⁸ These challenges can be overcome with adoption of a careful methodology, prudent data collection and use of technology and softwares to carry out smart statistical analysis and interpretation.

The acceptability of a manuscript and evaluation of a relevant outcome measure with research or systematic reviews is made possible if more valid researches are encouraged with mixed approaches. In the literature we see many articles in the last two years with patient reported outcome measures featuring in reputed publications.¹⁰⁻¹²

The afore-mentioned examples, are just situations described to help us critically analyse the reliability and relevance of the existing measurement tools used for evaluation of patient related outcomes. In the above said context it is encouraged of the researcher to identify the relevant outcomes of a research and use appropriate and valid measurement tools and feedback tools apart from conventional objective measurements, to evaluate the treatment outcomes.

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