



Evaluation of Pain response experienced by the patients after normal teeth extraction according to the operator genders

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Abstract

Gender stereotypes can lead to a variety of generalizations that affect the perceptions of patients. Pain mechanism start with peripheral stimuli which will initiate the afferent nerves fibers that will transmit the signals towards the central nervous system through the spinal cord into the cerebral cortex where the pain signal will be translated.

The aim of this research is to evaluate the complex assessing of patient's pain perception in relation to the gender of the dentist during normal teeth extraction.

Samples in this study was composed of (50) patients, divided into two equal groups, first group treated by male students and the second's group treated by female students.

The results of statistical analysis of data showed that pain perception by the patients was in mild status more in male group 18(72%) than female group 4(16%), While in moderate was less in male group 5(20%) than female group 15(60%), and in sever also less in male group 2(8%) than female group 6 (24%).

A significant difference was shown between the two students' gender in case of moderate and sever pain status (Chi-square in moderate status **8.33 & p-value= 0.004 while in sever status 2.381 & 0.048 respectively**), while high significant difference in mild status (Chi-square **15.91 and P<0.01**).

In Conclusions: A statistical analysis showing that pain perception experienced by the patients treated by male students' operator liable to be less than those treated by female students' operator.

Key word: evaluation, pain, extraction, gender

Introduction

Pain has been defined by the International Association for the Study of Pain (IASP) as "unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage."⁽¹⁾

Pain varies in intensity and quality. In terms of intensity it may be mild,

moderate, and severe. In terms of quality, it could be vary from a dull ache, sharp, piercing, burning, pulsating, tingling, and throbbing sensation."⁽²⁾

Pain physiology has been a subject of extensive and thorough study for long time, and the dramatic development in the knowledge in this

field improved the vision and management of pain. The pain perception-threshold is the point at which the stimulus begins to hurt, and the pain tolerance threshold is reached when the subject acts to stop the pain. In pain science, thresholds are measured by gradually increasing the intensity of a stimulus such as electric current or heat applied to the body."⁽³⁾

Pain perception and tolerance thresholds were to be associated with among other factors, ethnicity, genetics, and sex. Some individuals in all cultures have significantly higher than normal pain perception and tolerance thresholds. For instance, patients who experience painless heart attacks have higher pain thresholds for electric shock, muscle cramp and heat."⁽⁴⁾

The pain mechanism starts with peripheral stimulus which will initiate the afferent nerves fibers that will transmit the signals towards the central nervous system through the spinal cord into the cerebral cortex where the pain signal will be translated. The cerebral cortex also plays a role in perception of the social, behavioral, and environmental influences. The overlapping between all these centers within the cortex of the brain can explain how our environment influences the pain translation and anticipation."⁽⁵⁾

The mechanism of pain can be straightforward in certain occasions (direct response to injury) or it can be extremely complicated when other factors will be added to the equation. Psychological, emotional, pain anticipation and pain perception all have their direct effect on the person pain expectations."⁽⁶⁾

Dentistry in general and oral surgery in particular can be extremely irritating procedure on many levels (physiological and psychological pain levels). The wide spread of the term

dental phobia is a good example on how this profession can be frustrating in many instances. Dentist's gender has been subjected to great controversies within the profession of dentistry, the majority of people have the feeling that female dentist will lack the ability to perform such procedure efficiently either due their delicate nature or due the lack of Competence."^{(7) (8) (9)}

Pain is often regarded as the fifth vital sign in regard to healthcare because it is accepted now in healthcare that pain, like other vital signs, is an objective sensation rather than subjective. As a result nurses are trained and expected to assess pain."⁽¹⁰⁾

One of the scales used to assess pain is the VAS or visual analogue scales use a vertical or horizontal line with words that convey "no pain" at one end and "worst pain" at the opposite end, you are asked to place a mark along the line that indicates your level of pain."⁽¹¹⁾

Methods

Population sample in this research composed of (50) Iraqi adult male patients (for standardization) attending the oral and maxillofacial surgery department at Al-Mustansiriya University for routine dental extraction. All of them have no history of any systemic diseases or taking any sedation, hypnotic, antipsychotic drugs, or had received any medications rather than local anesthesia during the extraction.

The sample divided into two equal groups, the first group treated by male dental students, and the second group treated by female dental students.

The extraction procedure performed under local anesthesia (2% lidocaine with 1/80000 adrenaline) with sterilized instruments. The VAS (visual analogue scale) (fig-1) was the

scale of choice that used in this research. After extraction each patient was asked to fill systemic form of VAS that composed of three parts ((mild, moderate, and severe) after proper explanation of the index to the patient."⁽¹²⁾

After that, the data was analyzed using both descriptive and inferential statistics including Chi-square to evaluate the changes between two groups.

Results

The study showed that mild pain perception by the patients was more in male students' group 18(72%) than female students' group 4(16%), While in moderate pain perception was less in male group 5(20%) than female group 15(60%), and in sever also less in male group 2(8%) than female group 6 (24%) (**Tab 1& fig 2**). Chi-square test between two groups showed highly significant difference in mild status (Chi-square **15.91** and **P<0.01**) (**Tab2**) which exhibit that pain perception by patients treated by male students was more less than that treated by female students (because the number of patients in mild status was more in male than female students' group), While there was significant difference in moderate and sever status (Chi-square in moderate status **8.33** & **p-value= 0.004** while in sever status **2.381** & **p-value= 0.048** respectively) (**Tab2**) which indicates again that pain perception by patients treated by male students was less than those treated by female students (because the number of patients in moderate and sever status was more in female than male students' group).

Discussion

The complexity of this research is due to the multifactorial nature of its

parameters; patient's psychological components, true pain perception, quality of the work performed, the efficiency of the anesthetic technique, cultural background, and social point of view all can change or influence the pain and discomfort the patient may face during exodontia. Collecting the previously mentioned factors in a single research can be almost impossible, and it will be misleading to the reader and the academic community. The differences in the nature of the parameters of this subject make it extremely difficult to standardize the data and that will affect the quality of our statistical interpretation. Therefore, simplicity and efficiency was the motto of this research. Our selection criteria were open, we did not restrict the selection into special groups because all what we wanted to know was if there a significant difference in pain perception in relation to the gender of the dentist.

In between dentists themselves on one level and the patients on the other. The masculine nature of our community has affected the perception of the quality of the feminine part of the dental community, which lead to development of unwanted effect on both the patient perception and the dentist confidence.

Most of the research in the world try to study the patient pain perception deference according to the gender of the patient, while in this study tries to get the patient pain perception according to the gender of the operators.

One of the studies that sought to determine the effect of gender operator on the perception of dental pain by the patient in Nigerian subjects found that there was no statically significant difference between the two genders"⁽¹³⁾. And this comes in disagreement with our study.

Also some authors found that Gender was not an important factor when selecting dentist for the majority of peoples⁽¹⁴⁾

Another studies noticed that Gender stereotypes can lead to a variety of generalizations that affect the perceptions of patients and there was significant relationship between pain and gender of dentist⁽¹⁵⁾ were found that the extent to which evolving gender stereotypes affect patient perceptions is particularly significant as women form an increasingly large proportion of those training to be dentists. A greater understanding of such attitudes can help dentists anticipate expectations that influence the clinician-patient relationship. And this come in agreement with our study which found that there was significant deference in pain perception by the patient according to the operator gender, were the pain perception by the patients was more with female than male operator.

Conclusion

Pain perception experienced by the patients treated by male students' operator liable to be less than those treated by female students' operator.

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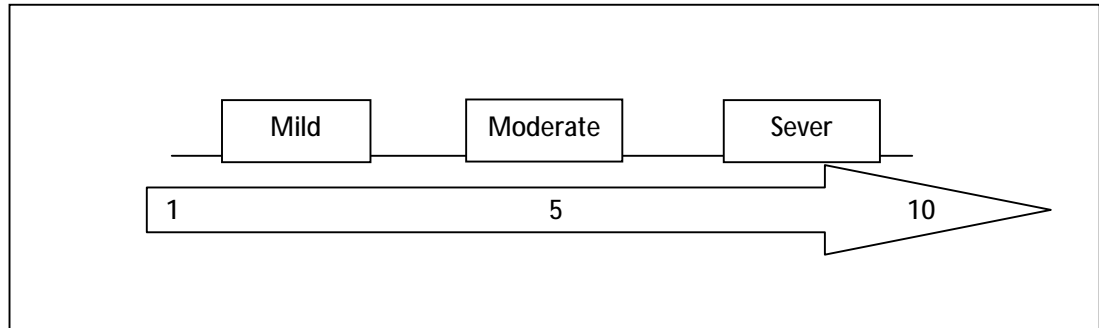


Table (1) Number and Percentage% of patients in different groups

	Mild		Moderate		sever	
	No.	%	No.	%	No.	%
Male	18	72	5	20	2	8
Female	4	16	15	60	6	24
Total	22	44	20	40	8	16

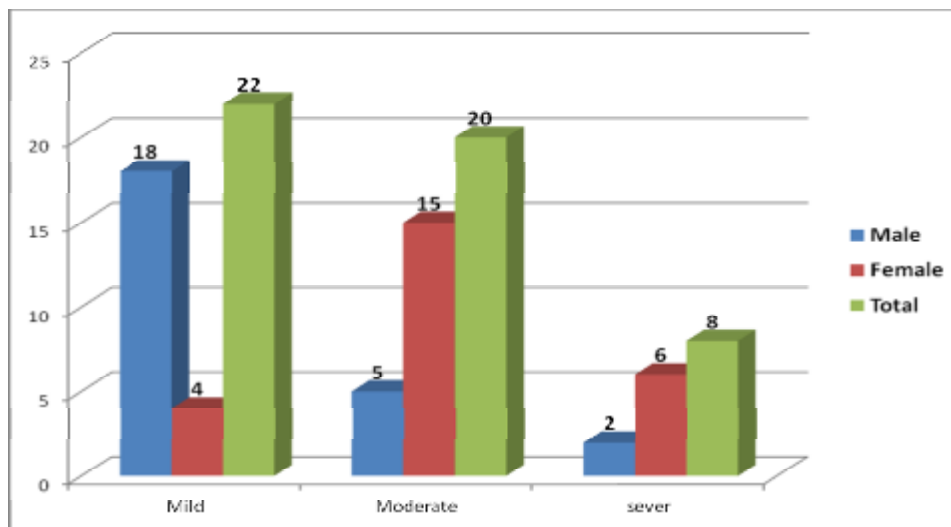


Figure (2) Number and Percentage% of patients in different groups

Table (2) Number and percentage of pain status according to gender and Chi-square test.

	Male		Female		Chi-square	P-value	Sig
	No.	%	No.	%			
Mild	18	72	4	16	15.91	P<0.01	HS
Moderate	5	20	15	60	8.33	0.004	S
Sever	2	8	6	24	2.381	0.048	S

*p<0.05 Significant

**P<0.01 High significant