

Prevalence of Mandibular Impacted Wisdom Tooth in Relation to Age Factor, Pattern and Level of Impaction: An Observational Study

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ABSTRACT

Background: The registration of impacted wisdom teeth is described by Omar LF. The prevalence of impacted wisdom teeth among young people and is considered to be one of the common problems in dentistry. It is believed that the incidence of impaction has been increasing in recent years due to the less functional activity of the Jaws. The incidence of impaction may differ from one race to another due to the fact of genetically inherited factors and due to the type of food and habits which may have a role in the growth of the jaws.¹

Material and Method: A total one hundred twenty-four individuals visiting the Department of Oral and Maxillofacial Surgery, Institute of Dental Sciences, Bareilly who fulfilled the study criteria and consented to participate in this study were recruited based on Observational research.

Results: In our study out of 124 study subjects, the maximum 77(62.1%) were in the age group of 21-30 years followed by 32(25.8%) in the age group of 31-40 years and 15(12.1%) in the age group of 18-20 years the mean age of study subjects was 25.36 ± 4.56 years. Mesioangular 56 (45.6%) and level A class II 52(41.9%) pattern were maximum according to Pell and Gregory and winter's classifications.

Conclusion: A strong association was found between impacted wisdom teeth and the type of food and habits among the young population.

Keywords: Incidence, Impacted Wisdom Teeth, Type of Food and Habits.

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Introduction

Impacted wisdom teeth are considered to be one of the common problems in dentistry. It is believed that the incidence of impaction has been increasing in recent years due to the less functional activity of the Jaws. The incidence of impaction may differ from one race to another due to the fact of genetically inherited factors and due to the type of food and habits which may have a role in the growth of the jaws. The objective of this study is to know the prevalence of impacted wisdom teeth in the population, however, to my knowledge no similar study has been conducted

before in the same field. Also to study the correlation between impaction and type of food and habits that may have a role in reducing the prevalence of third molar impaction which become one of the most common problems in dentistry and in most situations surgical intervention is necessary to manage this problem.

In the human oral cavity, the teeth with the highest frequency of impactions are the third molars. Although they may cause pathology, the unerupted teeth are not pathological lesions

themselves. Impaction can manifest at various degrees and in various patterns. There is disagreement over whether to keep an affected tooth or remove it. The teeth in the human body that get impacted the most often are the third molars of the mandible. A tooth that fails to erupt into a healthy, functioning position in the dental arch within the anticipated amount of time is known as an impaction. Pell and Gregory created a classification system for a pattern of impaction that takes into account the level or depth of the mandibular and maxillary third molars.

Winter categorises wisdom teeth that are impacted based on the third molar's angulations in relation to 2nd molar.¹

For many years, there has been discussion over the wisdom of extracting asymptomatic molars in advance. Assessing the age-related factor and frequency of impaction, the angle of the impacted tooth according to the winter classification, and the depth of impaction according to the Pell and Gregory classification system, were the particular goals of this study.²

We are conducting a short study to assess the prevalence of mandibular impacted wisdom teeth in relation to age factor, pattern, and level of impaction on various materials.

Aim and Objectives

Aim

- The aim of this study is to assess the prevalence of mandibular impacted wisdom tooth in relation to age factors, pattern and level of impaction.

Objective

- To assess the age factor in relation to mandibular wisdom tooth.
- To assess the angulation of impacted tooth.

Result

AGE GROUP (IN YEARS)	Frequency	Percentage (%)
18-20 years	15	12.1

- To assess the level of impaction related to Pell and Gregory or winters classification.

Materials and Method

A total of one hundred twenty-four individuals visiting the Department of Oral and Maxillofacial Surgery, Institute of Dental Sciences, Bareilly who fulfilled the study criteria and consented to participate in this study were recruited based on sampling technique.

It will be then placed in the individual's mouth after it has been softened in warm water. Individuals will be instructed to bite normally into wax in a centric relation. The individual's teeth should remain embedded in the wax until the wax cools and hardens. Once it has been accomplished, the wax bite registration will be carefully removed from the oral cavity without causing any distortion to it.³

Photographs of the bite marks will be taken and the bite marks will be recorded accordingly (ABFO scale no 2).

Inclusion Criteria

- All patients from the age of 18 and above will be included.
- All 3rd molars which are partially erupted or completely impacted into the oral cavity.
- ASA 1 & 2.
- All patients having mandibular 1st molar and 2nd molar.

Exclusion Criteria

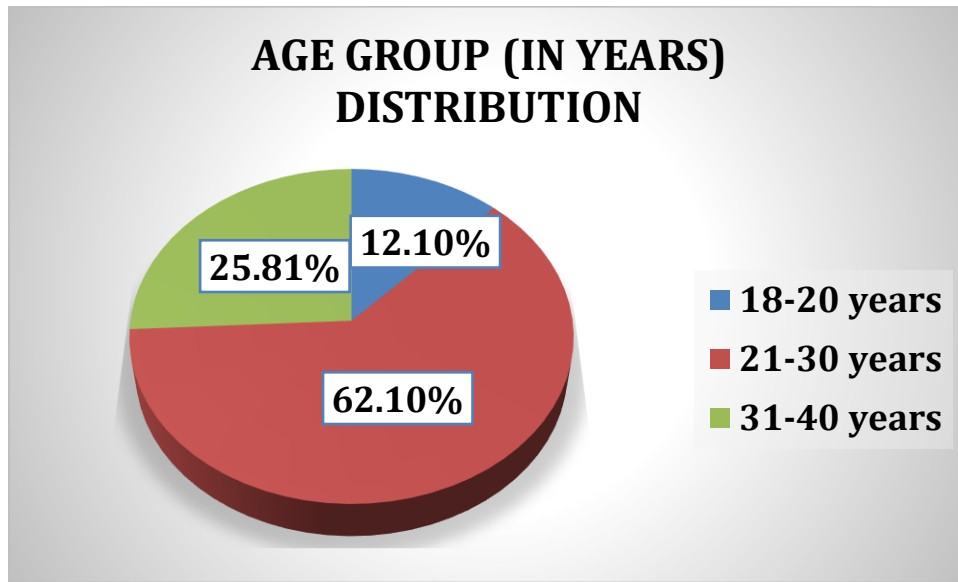
- Patients having fully erupted 3 molars into the oral cavity will be excluded from the study.
- ASA 3 & 4.
- Patients who are not willing for the treatment.
- Medically compromised patient.

21-30 years	77	62.1
31-40 years	32	25.8
Total	124	100.0

Table: Age Group (In Years) Distribution.

In our study out of 124 study subjects, the maximum 77(62.1%) were in the age group of 21-30 years followed by 32(25.8%) in the age group

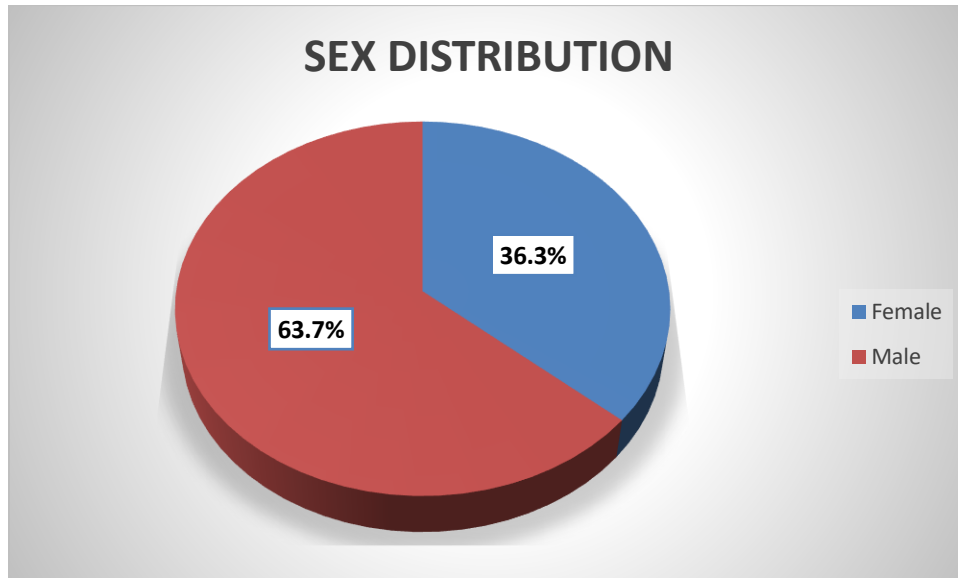
of 31-40 years and 15(12.1%) in the age group of 18-20 years the mean age of study subjects was 25.36 ± 4.56 years.



SEX	Frequency	Percentage (%)
Female	45	36.3
Male	79	63.7
Total	124	100.0

Table: Sex Distribution.

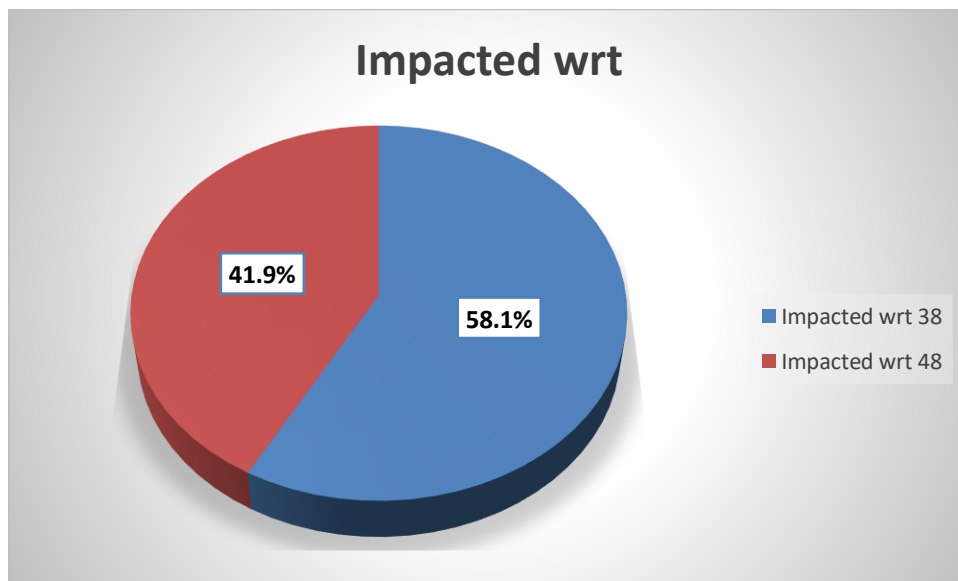
Out of 124 study subjects 79(63.7%) were male and 45(36.3%) were female.



DIAGNOSIS	Frequency	Percentage (%)
Impacted wrt 38	72	58.1
Impacted wrt 48	52	41.9
Total	124	100.0

Table: Impacted wrt.

Out of 124 study subjects 72(58.1%) were Impacted wrt 38 and 52(41.9%) were Impacted wrt 48.

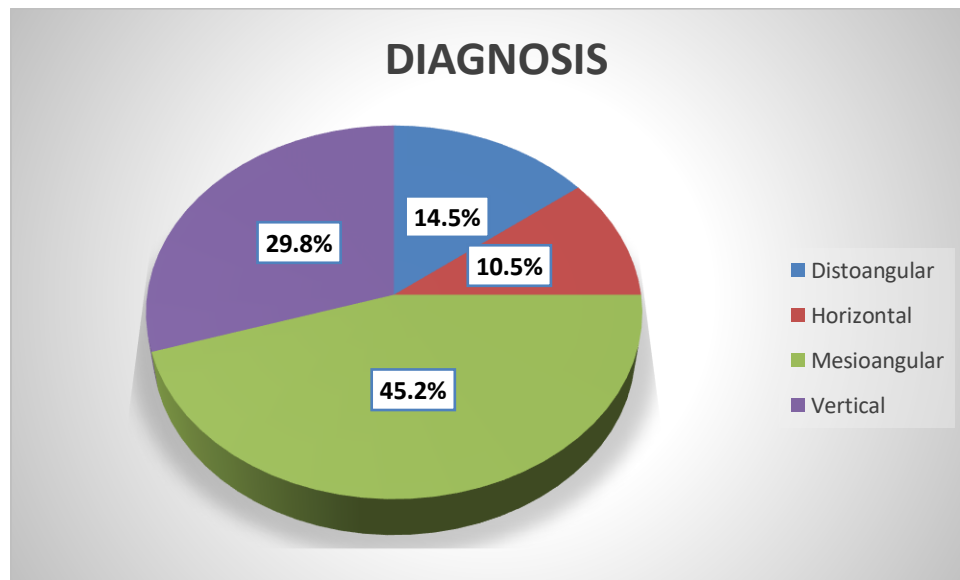


Angulation of Impacted Tooth According to Winters Classification	Frequency	Percentage (%)
Distoangular	18	14.5
Horizontal	13	10.5
Mesioangular	56	45.2
Vertical	37	29.8
Total	124	100.0

Table: Angulation of Impacted Tooth According to Winters Classification.

Out of 124 study subjects, the maximum angulation of impacted tooth according to winter classification was Mesioangular in 56(45.2%) of

cases followed by Vertical in 37(29.8%) of cases, Distoangular in 18(14.5%) of cases, and Horizontal in 13(10.5%) of cases.

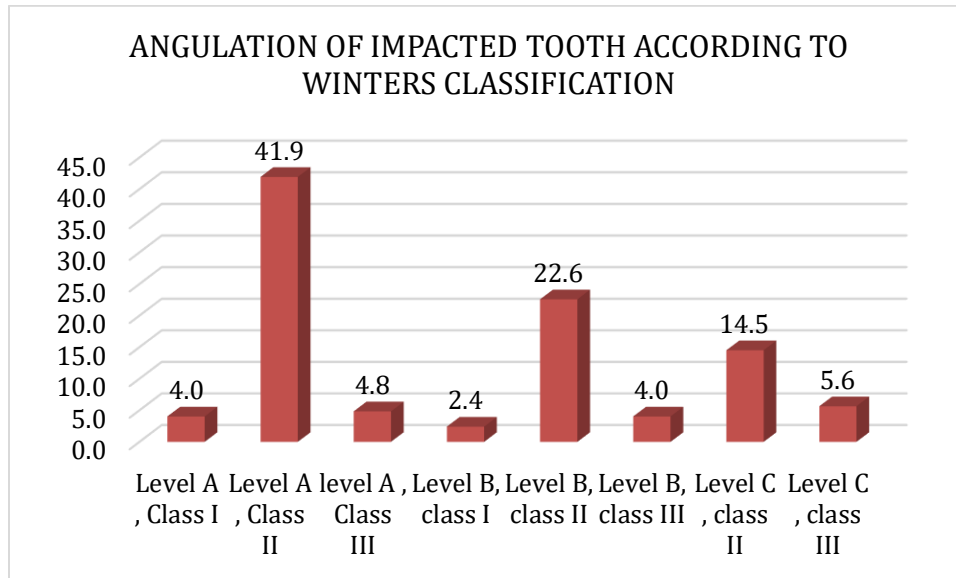


Level of Impaction According to Pell and Gregory or Winters Classification	Frequency	Percentage (%)
Level A , Class I	5	4.0
Level A , Class II	52	41.9
level A , Class III	6	4.8
Level B, class I	3	2.4
Level B, class II	28	22.6
Level B, class III	5	4.0
Level C , class II	18	14.5
Level C , class III	7	5.6
Total	124	100.0

Table: Level of Impaction According to Pell and Gregory or Winters Classification.

Out of 124 study subjects' level of impaction according to Pell and Gregory or winters classification Level A, Class II was maximum in 52(41.9%) of cases followed by Level B, class II in 28(22.6%) of cases, Level C, class II in 18(14.5%)

of cases, Level C, class III in 7(5.6%) of cases, level A, Class III in 6(4.8%) of cases, Level A, Class I & Level B, class III both in 5(4.0%) of cases and Level B, class I in 3(2.4%) of cases.



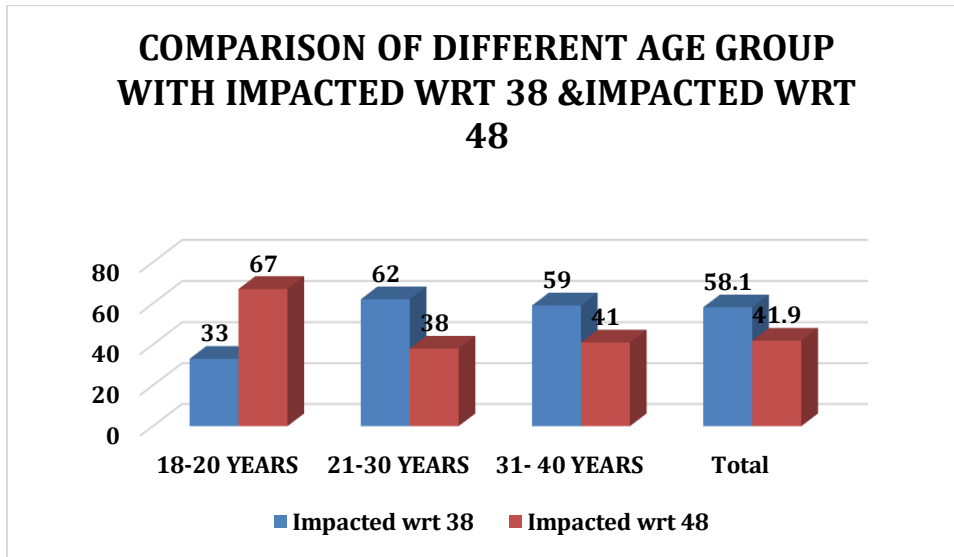
	AGE GROUP								P-Value
	18-20 YEARS		21-30 YEARS		31-40 YEARS		Total		
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)	
IMPACTED WRT 38	5	33	48	62	19	59	72	58.1	0.113#
IMPACTED WRT 48	10	67	29	38	13	41	52	41.9	
Total	15	100	77	100	32	100	124	100.0	

#statistically not significant.

Table: Comparison of different age groups with Impacted WRT 38 and Impacted WRT 48.

In our study impacted wrt 38 were a maximum of 62% in the age group of 21-30 years followed by the age group of 31-40 years in 59% of cases, and 33% cases in the age group of 18-20 years, In our study impacted wrt 48 were maximum 67%

in the age group of 18-20 years followed by age group of 31-40 years in 41% of cases and 38% of cases in the age group of 21-30 years. There was no significant difference in Impacted wrt 38 and Impacted wrt 48 between different age groups.



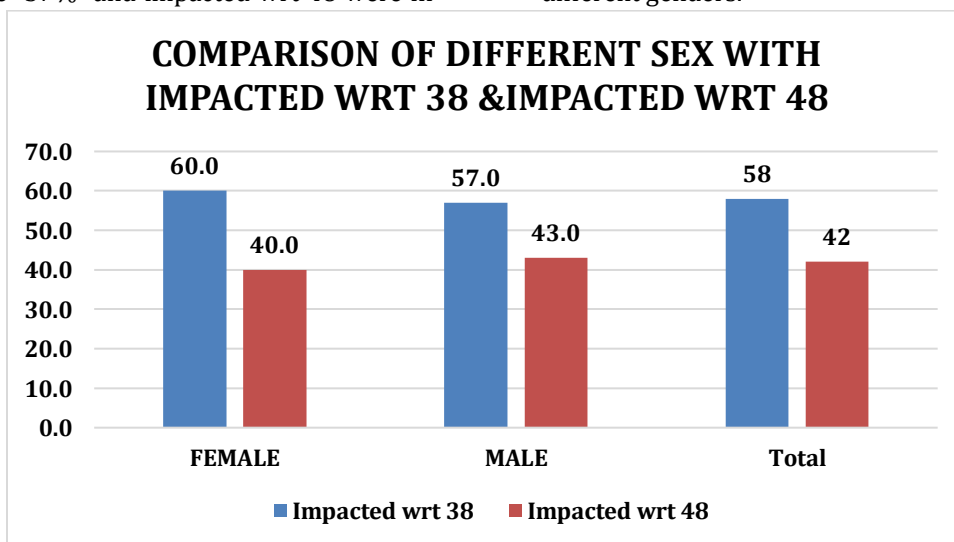
	SEX						P-Value
	FEMALE		MALE		Total		
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)	
Impacted wrt 38	27	60	45	57	72	58	0.742#
Impacted wrt 48	18	40	34	43	52	42	
Total	45	100	79	100	124	100	

#statistically not significant.

Table: Comparison of different sex with impacted WRT 38 and impacted WRR 48.

In our study impacted wrt 38 were 60% and impacted wrt 48 were in Female and impacted wrt 38 were 57% and impacted wrt 48 were in

43 % in Male, There was no significant difference in Impacted wrt 38, Impacted wrt 48 in between different genders.



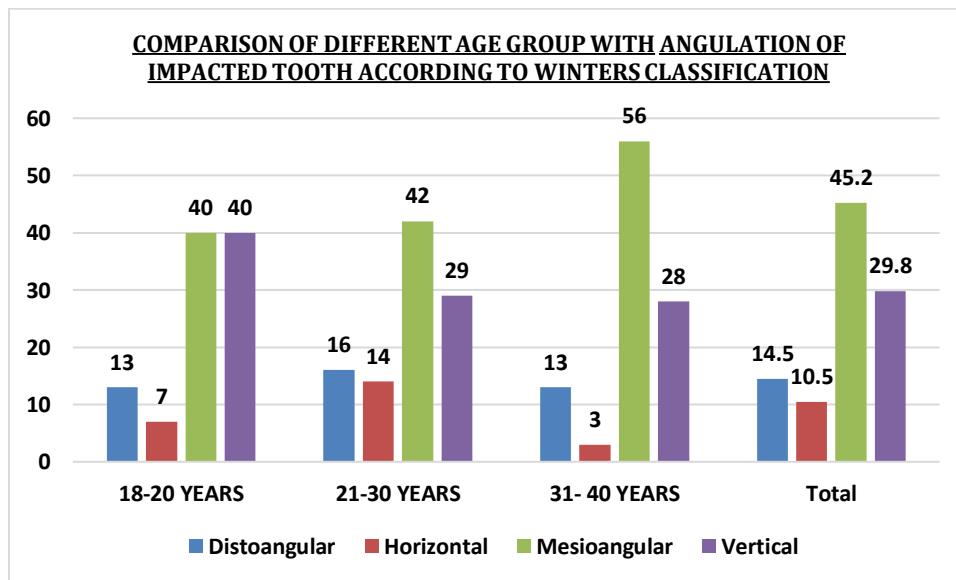
ANGULATION OF IMPACTED TOOTH ACCORDING TO WINTERS CLASSIFICATION	AGE GROUP								P-Value
	18-20 YEARS		21-30 YEARS		31- 40 YEARS		Total		
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)	
Distoangular	2	13	12	16	4	13	18	14.5	0.562 #
Horizontal	1	7	11	14	1	3	13	10.5	
Mesioangular	6	40	32	42	18	56	56	45.2	
Vertical	6	40	22	29	9	28	37	29.8	
Total	15	100	77	100	32	100	124	100.0	

#statistically not significant.

Table: Comparison of different age groups with angulation of impacted tooth according to winters classification.

Out of 124 study subjects maximum angulation of impacted tooth according to winter classification was Mesioangular which was maximum in 56% of cases in the age group of 31-40 years followed by Vertical in 40% of cases in the age group of 18-20 years, Distoangular was maximum in 13% of

cases in the age group of 18-20 years and Horizontal was maximum in 14% of cases in age group of 21-30 years. There was no significant difference in the angulation of impacted teeth according to winter classification in different age groups.



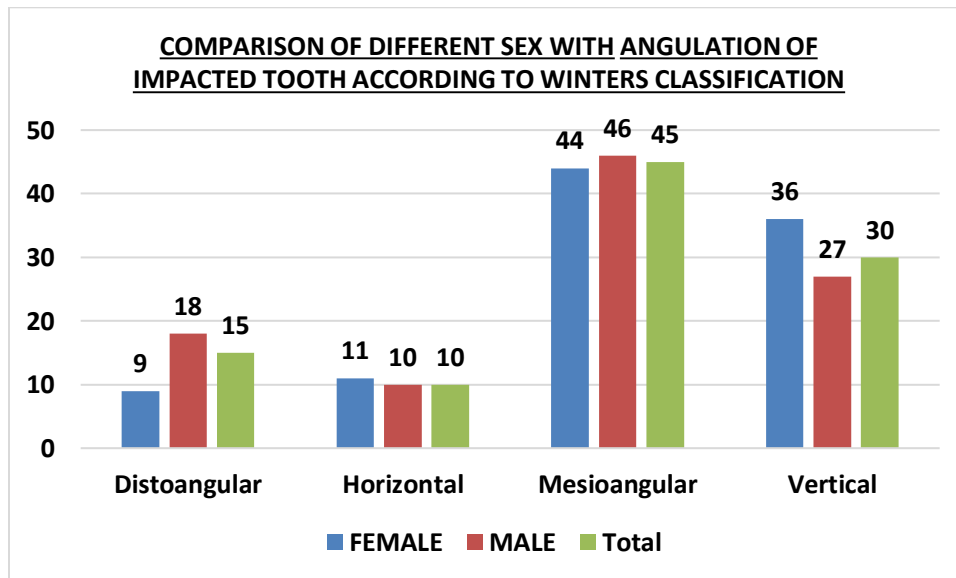
ANGULATION OF IMPACTED TOOTH ACCORDING TO WINTERS CLASSIFICATION	SEX						P-Value
	FEMALE		MALE		Total		
	Frequency	Percentage(%)	Frequency	Percentage(%)	Frequency	Percentage(%)	
Distoangular	4	9	14	18	18	15	0.503 #
Horizontal	5	11	8	10	13	10	
Mesioangular	20	44	36	46	56	45	
Vertical	16	36	21	27	37	30	
Total	45	100	79	100	124	100	

#statistically not significant.

Table: Comparison of different sex with angulation of impacted tooth according to winters classification.

Out of 124 study subjects maximum angulation of impacted tooth according to winter classification was Mesioangular which was maximum in 46% of cases in males and 44% of cases in females, followed by Vertical in 36% of cases in females and 27% of cases in males, Distoangular was

maximum in 18% of cases in males and 9% of cases in females and Horizontal was maximum in 11% of cases in females and 10% of cases in males. There was no significant difference in angulation of impacted teeth according to winter's classification in different genders.



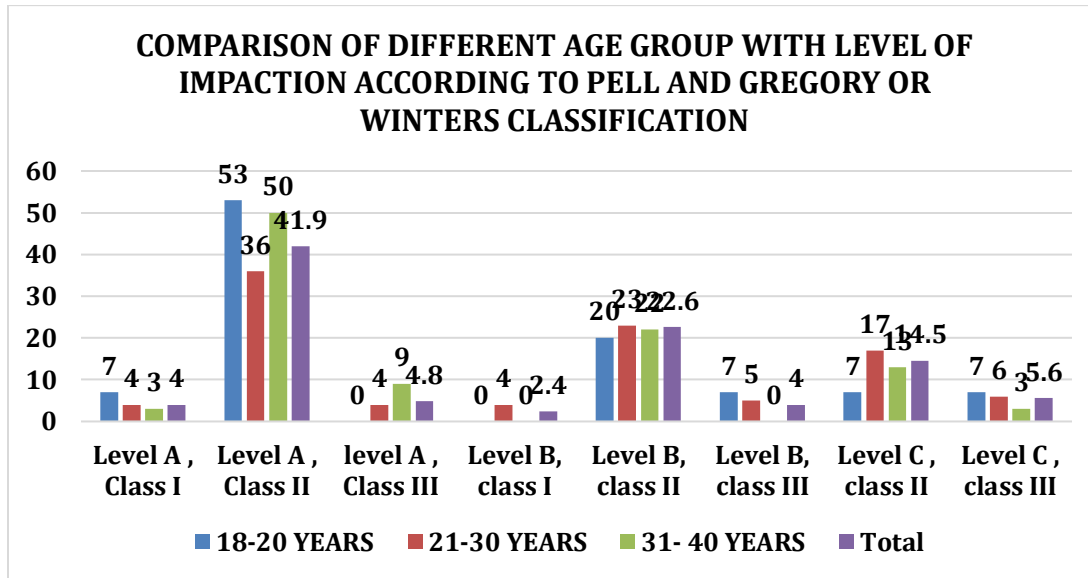
LEVEL OF IMPACTION ACCORDING TO PELL AND GREGORY OR WINTERS CLASSIFICATION.	AGE GROUP								P-Value
	18-20 YEARS		21-30 YEARS		31- 40 YEARS		Total		
	Freque ncy	Percentage (%)	Freque ncy	Percentage (%)	Freque ncy	Percentage (%)	Freque ncy	Percentage (%)	
Level A, Class I	1	7	3	4	1	3	5	4.0	0.811 #
Level A, Class II	8	53	28	36	16	50	52	41.9	
level A, Class III	0	0	3	4	3	9	6	4.8	
Level B, class I	0	0	3	4	0	0	3	2.4	
Level B, class II	3	20	18	23	7	22	28	22.6	
Level B, class III	1	7	4	5	0	0	5	4.0	
Level C, class II	1	7	13	17	4	13	18	14.5	
Level C, class III	1	7	5	6	1	3	7	5.6	
Total	15	100	77	100	32	100	124	100.0	

#statistically not significant.

Table: Comparison of different age group with level of Impaction according to pell and greccory or winters classification.

In our study level of impaction according to Pell and Gregory or winters classification Level A, Class II was maximum in 53% of cases in the age group of 18-20 years followed by 50% of cases in the age group of 31-40 years, level A, Class III and Level B, class I in none of the cases in age group

18-20 years and Level B, class I and Level B, class III was none of cases in age group of 31-40 years, there was no significant difference in level of impaction according to pell and Gregory or winters classification in between different age groups.



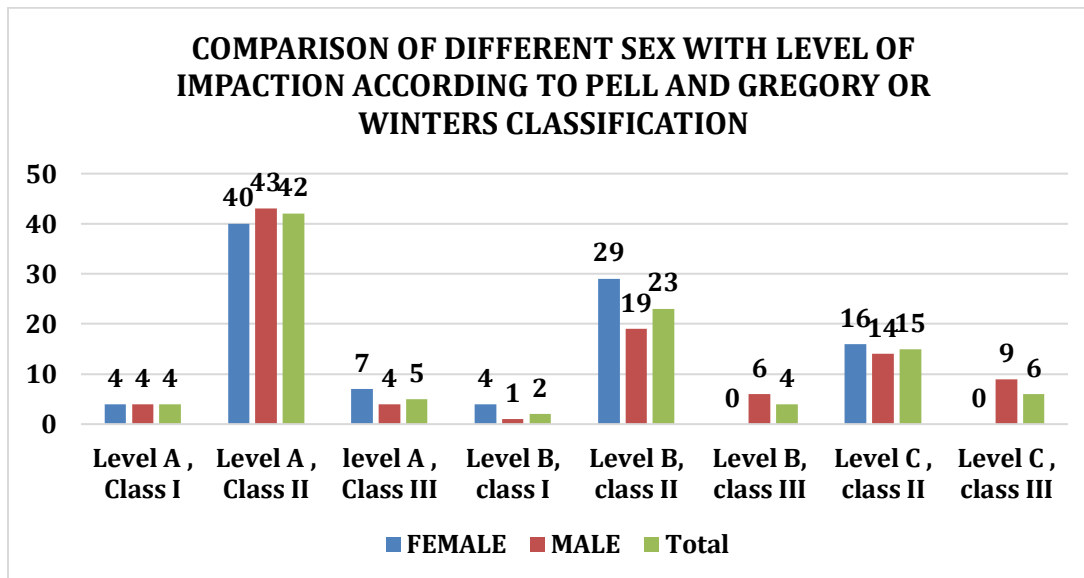
LEVEL OF IMPACTION ACCORDING TO PELL AND GREGORY OR WINTERS CLASSIFICATION.	SEX						P-Value
	FEMALE		MALE		Total		
	Frequency	Percentage(%)	Frequency	Percentage(%)	Frequency	Percentage(%)	
Level A, Class I	2	4	3	4	5	4	0.194 #
Level A, Class II	18	40	34	43	52	42	
Level A, Class III	3	7	3	4	6	5	
Level B, class I	2	4	1	1	3	2	
Level B, class II	13	29	15	19	28	23	
Level B, class III	0	0	5	6	5	4	
Level C, class II	7	16	11	14	18	15	
Level C, class III	0	0	7	9	7	6	
Total	45	100	79	100	124	100	

#statistically not significant.

Table: Comparison of different sex with level of impaction according to Pell and Gregory or winters Classification.

In our study level of impaction according to Pell and Gregory or winters classification Level A, Class II was maximum in 40% in females and 43% in males and Level B, class III and Level C, class III were in none of cases in females and Level B,

class I was in only 3% of cases in males and there was no significant difference in level of impaction according to Pell and Gregory or winters classification in between Male & Female.



Discussion

The prevalence of third molar impactions after examining 124 patients in the college of the Institute of Dental Sciences Bareilly in the Department of Oral and Maxillofacial Surgery. In our study out of 124 study subjects, the maximum 77 (62.1%) were in the age group of 21-30 years of both sexes. Out of 124 study subjects 79 (63.7%) were male and 45(36.3%) were female. Out of 124 study subjects 72 (58.1%) were impacted and 38 (30.6%) were not impacted. Out of 72 study subjects 48 (66.7%) were impacted and 24 (33.3%) were not impacted. Out of 124 study subjects maximum angulation of the impacted tooth were 56(45.6%) mesioangular and level of impaction maximum was 52(41.9%) Level A, Class II according to Pell Gregory and winters classification.

Conclusion

The fact that the incidence of impactions was found to be higher in the same family is expected due to the fact that the child inherits from his parents the size of the jaw according to Moss's theory stated that the bone has an inherited potential to achieve their predetermined size and

forms. Crowding of anterior teeth is also expected due to the fact that wisdom teeth tend to erupt without adequate space will push the mesial teeth anteriorly. Finally, no significant relation was found between impaction and emotional stress and fatigue. This is in agreement with the study of Siling that also found no relation between impaction wisdom teeth and emotional stress and fatigue. There was no significant difference in angulation of impacted tooth according to winter classification in different age groups, there was no significant difference in the level of impaction according to Pell and Gregory or winter classification in between Males & Female.¹

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