

# Orthodontic Treatment Need by Professionals and Parents with different Socio-Demographic Characteristics: A Comparative Study

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## ABSTRACT

**Introduction:** Malocclusion is defined as any deviation from the normal occlusion. The present study was aimed to assess the treatment need by professionals and parents with different socio-demographic characteristics using comparative study method.

**Material and methods:** 245 patients (130 girls and 115 boys) were selected for the present study. Age of the patients was between 9 to 18 years with mean age 13 + 2.5. The parents of these children were informed to rate their child's dental aesthetics based on Index of Orthodontic Treatment Need.

**Results:** The orthodontist's median treatment need score was higher than that of the parents (8 and 6, respectively). A definite need for orthodontic treatment was recorded in 121 subjects, borderline need in 42, and little need in 82 subjects.

**Conclusion:** A shared informed decision can be enabled by precisely teaching the patients and parents an evidence base for orthodontic treatment.

**Keywords:** Orthodontic Treatment, Socio-Demographic Characteristics

## INTRODUCTION

Any deviation from the ideal occlusion is defined as malocclusion. As based on the accepted standards it ranges from mild to severe form. Henceforth, wide ranges of treatment methods are available for malocclusion.<sup>1</sup> Whenever planning the orthodontic service; it is very helpful to estimate the prevalence of malocclusion and treatment needs in a population. In the case of limited orthodontic resources, prioritising of patients with utmost need is done by using orthodontic indices.<sup>2</sup> Nowadays, it has become very important in the orthodontics to consider the knowledge of parent's attitude towards malocclusion of their children. For the improvement of aesthetics of their children, parents seek orthodontic treatment.<sup>3</sup>

For the quantification of the severity of the malocclusion and need of the orthodontic treatment, various latest occlusal indices have been developed in an objective manner. Past results in relation to the use of these indices in Europe indicate that they play a significant role in the allocation and planning of the resources. For dental health planners, it is the of great interest to establish the relationship between the assessment and self-perception of need of treatment.<sup>2,3</sup> Hence, the present study was planned to assess the treatment need by professionals and parents with different socio-demographic characteristics using comparative study method.

## MATERIAL AND METHODS

The study was conducted in the orthodontic wing of the dental institute. 245 new patients (130 girls and 115 boys) were selected for the present study. Age of the patients was between 9 to 18 years with mean age 13±2.5. In total 126 patients were excluded. After the selection of subjects, they were divided into

two groups, mixed dentition group (9-12 years) and permanent dentition group (13-18 years). There were 135 patients (73 boys and 62 girls) in the mixed dentition group and 110 patients (42 boys and 73 girls) in permanent dentition group. From the institutional ethical committee, ethical clearance was taken along with written consent for carrying out the present study. The monthly family income (very poor: Rs.2,000 to 5,000/ month; poor: Rs.5,000 to 10,000 per month; moderate: Rs.10,000 to 20,000; high: Rs.20,000to 50,000/ month; or very high: more than Rs.50,000), absence or presence of social insurance, level of educational qualification of the parents of the subjects were also noted as shown in Table 1. For the determination of orthodontic treatment need, Index of Orthodontic Treatment Need (IOTN) was used. The IOTN is an internationally acknowledged scoring system for orthodontic treatment need as perceived by the professionals and patient.<sup>2-4</sup> Same person who collected the data of IOTN was employed for clinical examinations. The examiner was totally blind to demographic backgrounds of the patients. To determine the method error, 76 subjects were re-examined 2 months after the initial examination.

## STATISTICAL ANALYSIS

All the result, were analyzed by SPSS software. Chi-square test was used for the assessment of results.

## RESULTS

The orthodontist's median treatment need score was higher than that of the parents (8 and 6, respectively). A definite need for orthodontic treatment was recorded in 121 subjects, borderline need in 42, and little need in 82 subjects. Figure 1 shows the distribution of patients and socio-demographic characteristics of parents. According to dentist's ratings, 121 subjects had severe malocclusion, 42 subjects had borderline malocclusion and 82 had normal malocclusion. In comparison, only 82 parents rated their children's malocclusion as severe, 61 as borderline, and 82 as having negligible or minimal aesthetic malocclusion. Of the 102 patients whose oral status was considered normal by the parents, 12 were scored as borderline and 27 as severe by the orthodontist. On the other hand, of the 82 patients regarded as normal by the orthodontist, 11 were perceived as borderline and 8 as severe by the parents (Table 2). Figure 2 shows the

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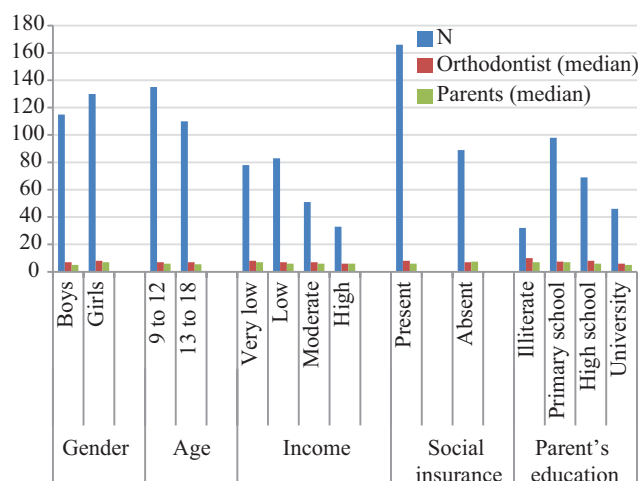
evaluations by the parents and orthodontist of the Index of Orthodontic Treatment Need.

**DISCUSSION**

A person always opts for orthodontic treatment for one of the following reasons. It might be the wish to look eye-catching, the self-awareness of dental health, self-respect or peer group norms.<sup>5</sup> Parents were used for the evaluation of the children’s need for orthodontic treatment using IOTN because parents are head of their child’s well-being. To describe the relationship between their visual aesthetic understanding and that of orthodontist’s, their evaluations were compared to those of an orthodontist. The results showed that parents were less aware about their child’s real treatment need as compared to an orthodontist. A study conducted by Al-Sarheed et al. specified that 18.7 percent of their study population of paediatric subjects needed orthodontic treatment.<sup>4</sup> Kolawole KA et al in their study indicated that more parents liked their child's facial and dental appearances than the children liked themselves. Almost twice as many school children thought they needed (27 per cent) and desired (29 per cent) orthodontic treatment than their parents (115 per cent). Low, but statistically significant correlations were found between the children's, their parents' and an orthodontist's assessments of treatment need using the AC scale. Only 8 per cent of the children and 3 per cent of the parents considered that there was a 'moderate-definite' need of treatment. The orthodontist considered 38 per cent of the children had a 'moderate-definite' need of treatment.<sup>5</sup>

Hamdan AM et al reported a significant difference in between the parents of the subjects and the dental clinician in relation to the average perceived need scores. Differences between AC and perceived need scores were also significant for the patients and parents, but not for the clinician ( $P > 0.05$ ).<sup>6</sup> In the present study,

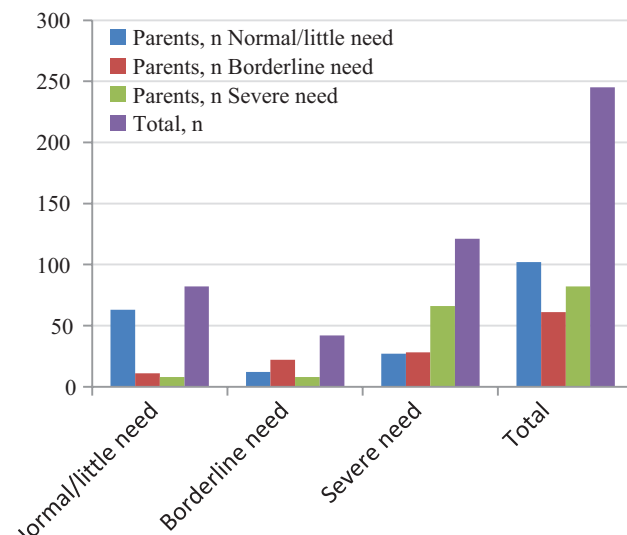
121 patients were in severe need of orthodontic treatment, while 163 were in definite need of orthodontic treatment (Tables 2). Vally et al found that orthodontists tend to recommend 10–12 per cent more treatment than laypersons.<sup>7</sup> In the present study 63 subjects had no or little orthodontic need according to both orthodontist and parents<sup>8</sup>, which is lesser as compared to studies by Hamdan AM and Abu Alhaija et al. Additionally, the subjects having severe need for orthodontic treatment determined by parents and orthodontist were greater than as compared to similar studies.<sup>8-10</sup> In the present study, the observation of dental appearance was not affected by socio-demographic features like income and social insurance. Parent’s education was an exception to this. As the parent’s education level increased, the occlusion was more accurately perceived.



**Figure-1:** Distribution of patients and socio-demographic characteristics of parents

Characteristics of the patients		N	Orthodontist	Parents
Gender	Boys	115	7	5
	Girls	130	8	7
Age (years)	9-12	135	7	6
	3-18	110	7	5.5
Income	Very low	78	8	7
	Low	83	7	6
	Moderate	51	7	6
	High	33	6	6
Social insurance	Present	166	8	6
	Absent	89	7	7.5
Parent's education	Illiterate	32	10	7
	Primary school	98	7.5	7
	High school	69	8	6
	University	46	6	5

**Table-1:** Distribution of patients and socio-demographic characteristics of parents



**Figure-2:** Evaluations by the parents of the Index of Orthodontic Treatment Need

Parameter	Orthodontist n				
	Normal/little need	Borderline need	Severe need	Total	
Parents, n	Normal/little need	63	12	27	102
	Borderline need	11	22	28	61
	Severe need	8	8	66	82
Total, n	82	42	121	245	

**Table-2:** Evaluations by the parents and orthodontist of the Index of Orthodontic Treatment Need

## CONCLUSION

From the above results, the authors concluded that a shared informed decision can be enabled by precisely teaching the patients and parents an evidence base for orthodontic treatment.

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