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Effect of Socioeconomic Status on Expectations among Completely Edentulous Patients Regarding Conventional Complete Dentures

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Abstract

Objective: The purpose of this study was to determine the effect of socioeconomic status on patient expectation from the treatment through a questionnaire based survey.

Material and Method: The Present study was conducted in region of Delhi. 1500 completely edentulous patients with age group of 63-74 yrs who report to Dental OPD first time are taken for the study from the period of January 2015 to January 2016. The sample questionnaire was designed to test the hypothesis. Results were statistically evaluated.

Results: Out of 1500 patients, percentage of upper, upper middle, lower middle and upper lower and lower class who had higher expectations from treatment were greatest. Percentage of patients with no expectation from treatment was highest in upper lower and lower classes.

Conclusion: Socioeconomic status of the patients had definite influence on expectation. Communication and patient education is essential for all socio-economic classes of patients and it becomes even more important for lower middle and lower classes of patients.

Keywords: Socioeconomic; KruskWallis test; Man-Whitney test

Introduction

There is growing population of elderly patients in India. Although the elderly population in India is 7.4% of total population, but this is expected to increase [1-3] up to 19% by the year 2025. Delhi is capital of India and has population of 18 million people (Delhi Census-2011).

Perception and attitude of patients towards complete denture treatment is changing in present scenario. Now level of expectations of the patients has increased from the past [4]. Their mental makeup and socio-economic background plays vital role in this. Their socioeconomic background [5-7] is one of the major criteria in determining choice of treatment and level of expectation. There is a difference in decision making abilities of upper and lower socioeconomic status patients [5-11]. Moreover sex of the patient also plays the vital role. Female patients have certain preferences for the treatments that male patients may not have and vice-versa.

There are a few small studies based on awareness, need and expectation of complete denture patient in India. But there is no such study that is conducted in Delhi region on a larger scale. The purpose of this study was to assess the effect of socioeconomic status on patient expectation from the treatment through a questionnaire based survey [12,13]. This will help dentist to formulate treatment planning fulfilling needs and expectation of the patient in a better way.

Material and Method

The Present study was conducted in region of Delhi. The nature of study was observational and cross-sectional.

1500 completely edentulous patients [14] with age group of 63-74 years who report to dental OPDs of Multispecialty dental centres for the first time are taken for the study from the period of January 2015 till January 2016. Patients were distributed in following age intervals (Table 1):

Age (years)
63-65
66 - 68
69 - 71
72-74

Table 1: Age intervals.

The data collection tool was a questionnaire. The sample questionnaire to determine felt needs and expectation of patient based on their socio economic status was formulated. The questionnaire was tested on a few patients to test validity and reliability of the questions through pilot study.

The examiners for the patients (one for each centre) were trained for asking questions and recording the observations to minimize error in filling questionnaire which may arise due to Inter-examiner variability.

Confidence level of the study was set at 95%. Margin of error of the study was 5% with response distribution of 50%.

The questionnaire had namely 3 parts:

1.   Socioeconomic background and sex based on Kuppuswamy classification of socioeconomic status scale revised for 2015 using real time update.

2.   Question regarding expectations of the patient from the therapy. Based on which they will be divided in to:

- High expectation
- Medium expectation
- Low expectation
- No expectation.

Along with questionnaire, Informed consent form was prepared.

SPSS software 2016 (version 22) was used to analyse the result.

Descriptive analysis for the study was done using following methods:

1.   Frequency distribution tables

2.   % Distribution Table

3.   Mean standard deviation tables

4.   Bar diagrams

Inferential analysis was done using following:

KruskWallis test for intergroup comparisons

Man-Whitney test for intragroup comparisons

Statistical evaluation of the study was performed by biomedical statistician. Results of the study were statistically analysed.

Results

Total number of 1500 patients in age group of 63-74 years was considered for the Study. Maximum 33.2 percentages of Patients (498) were between 63-65 Years. Minimum of 16.2 percent (243) Patients were between 69-71 years. 58 percent (870) of patients for the study were males and 42 percent (630) of patients were females (Table 2 and Figure 1).

Age (years)	Frequency	Frequency (%)	Mean	SD	SEM
63-65	498	33.2			
66 - 68	353	23.5	68.74	3.525	.091
69 - 71	243	16.2			
72-74	406	27.1			
Total	1500	100.0			

Table 2: % Frequency distribution by age of patients. Values are expressed in numbers, Mean, SD (Standard Deviation) and SEM (Standard error of Mean).

Maximum percentage (Number) of Males was in Upper class 55 percent (478) and minimum was in Lower class 3 percent (27). Percentage (Number) of females in was also maximum in upper class

47.9 percent (302) and minimum in lower class 2.8 percentage (18) (Table 2).
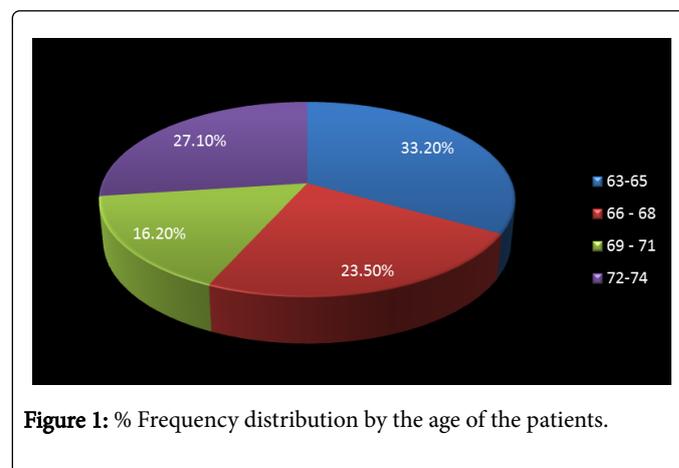
Figure 1: % Frequency distribution by the age of the patients.

Sex	Upper No. %	Upper middle No. %	Lower middle No. %	Upper lower No. %	Lower No. %	Total %
M	478 55	148 17	130 15	87 10	27 3	870 58
F	302 47.9	152 24.2	110 17.5	48 7.6	18 2.8	630 42
χ2=16.522, df=4, p=0.0024, So, p<0.05 Significant						

Table 3: Sex distribution of patients based on socioeconomic status. Values are expressed in numbers, χ2 (Standard deviation), df (Degree in freedom) and p.

Percentage (Number) of upper class patients was highest 52 percent (780) and lowest in lower class and 3 percent (45) (Table 4).

Socioeconomic class	Number of patients	Percentage of patients
Upper	780	52
Upper middle	300	20
Lower middle	240	16
Upper lower	135	9
Lower	45	3

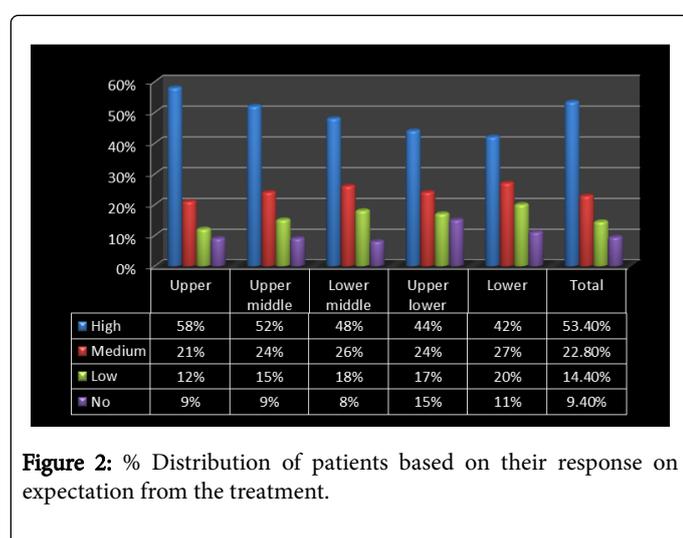**Table 4:** Distribution of patients based on their socioeconomic status.

Total percentage of patients having high expectation from the treatment was greatest followed by medium, low and no expectation from treatment (Table 5 and Figure 2).

Total percentage (Number) of Patients having High expectation from treatment was greatest in Upper Class 58 percent (452) and Lowest in Lower class 42 percent (19). Total percentage (Number) of Patients having Medium expectation was highest in Lower class 27 percent (12) and Lowest in Upper class 21 percent (164). Total % percentage (Number) of Patients having Low expectation from treatment was greatest in Lower Class 20 percent (9) and Lowest in Upper class 12 percent (94). Total percent (Number) of Patients having No expectation from treatment was greatest in Upper Lower Class 15

percent (20) and Lowest in Upper 9 percent (70) and Upper middle class 9 percent (27).

S.No	Socio-economic group	N	High Expectation	Medium expectation	Low Expectation	No Expectation	Mean Rank	Chi-Square Variate	df	P value
1	Upper	780	452	164	94	70	715.90	17.213	4	0.002
2	Upper Middle	300	156	72	45	27	758.22			
3	Lower Middle	240	115	62	43	20	786.64			
4	Upper Lower	135	59	32	24	20	839.95			
5	Lower	45	19	12	9	5	837.68			

Table 5: Distribution of patients based on their response on Expectation from the treatment.

Figure 2: % Distribution of patients based on their response on expectation from the treatment.

Discussion

There has been a few studies regarding awareness [15-17]. Expectation and Satisfaction [4,9,13,18-24] needs [8,17,25] for the Patients for Complete dentures. But a study based on Indian Population that comprises all abovementioned factors and has large sample size to predict outcome with substantial significance was lacking. Also the detailed statistical evaluation which was lacking in most India based studies was done [2,3,5-7,15,17,25-28]. Therefore this study was designed to fulfill these lacunae.

Delhi was chosen for place of study as it is the capital of India and sample size of 1500 patient with age group of 63-74 was chosen seeing 18 million Population in Delhi and out of which 19% is edentulous [1,2,14,25].

Socioeconomic status of patients was taken in to consideration for classifying patients for the study as it had great impact on all variables used for the study [29,5-7] (Expectation and Need).

A sample questionnaire was used for study [12].Questions based on expectation and Needs of the patients were asked. Most common questions that were used in earlier studies were also taken in to consideration. The questionnaire was tested on a few patients to test validity and reliability of the questions through pilot study. The examiners for the patients (one for each centre) were trained for asking questions and recording the observations to minimize error in filling questionnaire which may arise due to Inter-examiner variability

Table 2 shows larger percentage of patients (55 percent of males and 47.9 percent of females) was of upper class. This is expected as Delhi is metropolitan city mainly comprising of urban and educated class population. Upper middle, lower middle and upper lower class male and female patient's percentage were in decreasing order respectively. It is expected as patients were of higher income group in Delhi. Only lesser percent (3 percent of males and 2.8 percent of females) were of lower class who sought for the treatment. Distribution of patients in different socioeconomic classes were based on Kuppuswamy classification [6,7]. A real time update 2015 tool was used to distribute patients in different classes.

Table 3 shows that 52 percent of patients were of upper class. It is expected as study was conducted in cosmopolitan city. Only 3 percent of patients were of lower class. Percentage of upper middle, lower middle and upper lower were 20 percent, 16 percent and 9 percent respectively. This is in accordance with expected trend of population in Delhi. Delhi standard of living and per capita income is higher as compared to other neighbouring states and job opportunities are more. This is the reason for the observation.

Table 4 and Figure 2 show that larger percentage of patients in all socioeconomic groups had higher expectation from treatment and least percentage of patients in all socioeconomic groups has no expectation from treatment. Percentage of patients having higher expectation in upper, upper middle, lower middle, upper lower and lower class were 58, 52, 48, 44 and 42 percent respectively. This is in co-relation with earlier studies [16,22,23] and also is expected because Delhi is cosmopolitan city. Upper class patients are more concerned with treatment outcome and have high expectation and willing to pay more for this. Even lower class patients in metropolitan cities demand best treatment results due to increased peer pressure and increased exposure to materialistic aspects of life. Overall quality of life of patients is better in Delhi. Even upper lower and lower class patients want to seek better quality of life. Results have higher significance and are decisive in nature. We can predict that patients of any socioeconomic class in metropolitan city has higher expectation from the treatment.

Percentage of patients with low and no expectation from treatment were highest in upper lower and lower classes. These are the classes

with minimal income group. This can be related to psychosocial attitude of these groups. This is in contrast to upper and upper middle classes positive psychosocial attitude where patients with low and no expectation were least. Patients of lower and upper lower classes are more interested in meeting daily needs of life. This might be reason for the observation. Whereas upper class patients expect more out of the treatment result because of the peer pressure and their willingness to spend more because of higher income. Patients with lower middle class had highest (18 percent) of low expectation. But this might not be representative of the class.

Percentage of patients with medium expectation was lowest in upper class (21 percent) and highest in lower class (27 percent). This was in accordance with expected trend and reason for the same has been discussed above [30-32].

Conclusion

1500 completely edentulous patients were evaluated through questionnaire for their expectation and felt needs regarding complete dentures.

Majority of patients who seek complete denture therapy were from upper class in metropolitan city like Delhi. Larger percentages of patients in all socioeconomic groups have higher expectation from the treatment. Dentist should take socioeconomic status of patient in to consideration. The dentist should believe that majority of patients (be it of any socioeconomic group) have higher expectation from treatment. Therefore the dentist should communicate with the patients so that they have realistic expectation from treatment and do not get disappointed from outcome of treatment.

It can be concluded that socio-economic status of patients had definite and marked influence on Expectations of the patients. This affects success of complete denture therapy as a whole.

Expectation of Patients based on their socioeconomic status of Patients was considered as Parameters for the study. Other Factors like Need of the patients can also be taken in to consideration for further studies on this subject. Same design of study can also be used for Implant supported complete denture therapy as nowadays it has become the recent treatment modality for treating completely edentulous patients.

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