

## **Satisfaction of Mothers Attending Immunisation Clinic in a Slum Area of North Kolkata: A Cross-Sectional Study**

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### **I. Introduction**

Childhood immunisation is considered to be among the most effective preventive services, and is therefore critical to monitor and evaluate.<sup>1</sup> Uptake of vaccination services is dependent on different factors including knowledge and attitude of mothers.<sup>2</sup> Research on parental health beliefs and attitudes often assumes that parents decline immunisation or are simply less knowledgeable without examining their access and utilisation of well-child care.<sup>3,4</sup> The other side of the system, that is, the deficiencies on the provider side largely remain unaccounted for. Parental satisfaction with paediatric care is an indicator of provider quality that has been relatively unexplored in relation to childhood immunisation.<sup>5</sup> A satisfied parent is more likely to develop a deeper and long-lasting relationship with the healthcare provider, leading to improved compliance, continuity of care, and ultimately better health care outcomes.<sup>6</sup> However satisfaction, being mostly in the domain of heart is difficult to measure, rather quantify. In this regard the Client Satisfaction Questionnaire-8 item (CSQ-8) which is an easily scored and administered measurement designed to measure client satisfaction with health and human services can be helpful. The CSQ-8 seems to operate about the same across all ethnic groups.<sup>7</sup> Psychometric properties, operating characteristics, and coefficient alpha are very strong for this measure.<sup>8</sup> With this background, the present study was conducted with the following objectives:

1. To describe the socio-demographic pattern of the study participants
2. To assess their level of satisfaction (using CSQ-8) towards the service they are receiving
3. To identify the factors influencing satisfaction

### **II. Methodology**

1. **Study Period:** The study was conducted in the months of June to September 2014 i.e. for an approximate period of 4 months.
2. **Place of study:** Immunisation clinic of Urban Health and Training Center under the Department of Community Medicine of RG Kar Medical College and hospital. The clinic is situated in the field practice area in Bagbazar slum under ward no. 7 of Kolkata Municipal Corporation.
3. **Study Design:** Cross sectional.
4. **Study Population:** All the mothers who attended the clinic for the purpose of immunisation of their children during the study period.
5. **Sample size:** Study by Bholal Nath et. al<sup>9</sup> done in Lucknow showed that overall satisfaction regarding immunisation was more than 90% among mothers. Using the formula  $n = z^2 pq / l^2$  for sample size determination with alpha 0.05 and absolute precision 5, the sample size is about 140.
6. **Sampling technique:** Every third mother was chosen to allow time for interview as was estimated during pre-testing.
7. **Study tool:** Pre-designed and pretested schedule. Based on Client Satisfaction Questionnaire-8 item (CSQ-8) and literature review schedule was prepared. Scale Format – 8 items, 4-point Likert. Scores range from 8 to 32 with higher score indicating higher level of satisfaction. Face validity was judged by few subject matter experts. Pre-tested on 14 mothers and necessary adjustments were made.
8. **Study Technique:** After obtaining requisite permissions and informed consent, selected mothers were interviewed at the time of exit in the waiting area after their children settled down following vaccination.
9. **Exclusion criteria:** Mothers who did not give consent.
10. **Analysis:** Data analysed using SPSS v.16 and represented with tables. Unpaired t test, ANOVA, Chi square test and logistic regression analysis have been utilized.

### **III. Results And Discussion**

All the selected mothers gave consent for participation in study.

Table 1. Distribution of mothers according to some demographic characteristics (n=140)

Attributes		Number	Percentage
Age category (yrs.)	21-30	95	67.90 %
	31-40	45	32.10 %
Education	illiterate	16	11.40 %
	primary	41	29.30 %
	upto secondary	63	45.00 %
	secondary and above	20	14.30 %
Occupation	housewife	100	71.40 %
	others	40	28.60 %
Number of children	1	90	64.30 %
	≥2	50	35.70 %
Socio-economic status (modified BG Prasad Scale 2014)	I	20	14.30 %
	II	34	24.30 %
	III	44	31.40 %
	IV	42	30.00 %

N.B - As regards to occupation others include mothers employed as domestic help and temporary workers in nearby establishments.

Majority of respondents (67.90%) are in the age group of 21-30 years and have education upto secondary (45%). Most of them are housewives (71.40%) with 1 living child (64.30%). Similar profile of mothers in West Bengal attending immunisation clinic was reported by Maulik S. and Dasgupta A.<sup>10</sup>

Table 2. shows that mean satisfaction score does not differ significantly across different categories of demographics. Study conducted by Luman ET et al<sup>11</sup> reported that parental satisfactions with pediatric care and up-to-date immunization at 24 months are independent of maternal age, race, and education. Though it might not influence satisfaction but education of mothers was identified as a major factor for increased immunization of Nigerian children in a rural area.<sup>2</sup>

Table 2. Comparison of satisfaction score of study subjects across a few demographic attributes (n=140)

Attributes		Satisfaction score Mean(SD)	Statistical significance
Age category (in years)	21 -30	24.07(3.15)	t=1.716,p=0.088
	31-40	22.88(4.95)	
Education	illiterate	23.68(1.62)	F(ANOVA)=3.126 p>0.05(post hoc between group comparison by Bonferroni's test)
	primary	22.62(4.88)	
	upto secondary	24.72(3.14)	
	secondary and above	22.75(3.98)	
Occupation	housewife	23.97(3.13)	t=1.354,p=0.178
	others	23.00(5.19)	
Number of children	1	24.01(3.19)	t=1.318,p=0.190
	≥2	23.12(4.78)	
Socio-economic status (modified BG Prasad Scale 2014)	I	25.00(5.20)	F(ANOVA)=3.952 p>0.05(post hoc between group comparison by Bonferroni's test)
	II	22.58(5.01)	
	III	22.84(2.77)	
	IV	24.86(2.28)	

Minimum score of respondents is 17 and maximum is 31. Based on median score of 24, respondents are thus divided into two categories- “More satisfied” with score $\geq$ 24 and “Less satisfied” with score $<$ 24. These 2 categories are compared against a few dichotomous variables which may likely influence satisfaction as reported by mothers. Table 3. shows that being an inhabitant of the slum, proper location of clinic, convenient working hours, short waiting period, adequate time allotment and being able to disclose complaints properly are significantly associated( $p<0.01$ ) with “More satisfied” category i.e. higher satisfaction scores.

Table 3. Comparison of category of satisfaction across a few attributes (n=140)

Satisfaction category Attributes	More satisfied Number (%)	Less satisfied Number (%)	Statistical significance
Client type <i>Inhabitant : outsider</i>	80(57.1) : 6(4.3)	16(11.4) : 38(27.1)	$\chi^2=61.857, p<0.01$
Location of clinic <i>Proper : improper</i>	84(60.0) : 2(1.4)	28(20.0) : 26(18.6)	$\chi^2=43.531, p<0.01$
Working days <i>Adequate : inadequate</i>	76(54.3) : 10(7.1)	14(10.0) : 40(28.6)	$\chi^2=56.340, p<0.01$
Working hours <i>Convenient: inconvenient</i>	70(50.0) : 16(11.4)	28(20.0) : 26(18.6)	$\chi^2=13.787, p<0.01$
Waiting period <i>Short : long</i>	80(57.1) : 6(4.3)	14(10.0) : 40(28.6)	$\chi^2=67.693, p<0.01$
Time allotted <i>Adequate : inadequate</i>	84(60.0) : 2(1.4)	42(30.0) : 12(8.6)	$\chi^2=14.591, p<0.01$
Ability to disclose complaints <i>Yes : no</i>	86(61.4) : 0(0)	14(10.0) : 40(28.6)	$\chi^2=24.774, p<0.01$

In contrast to the present study ,in West Bengal, according to a study, 40.7% mothers complained of long waiting time before availing the services.<sup>12</sup> The inconvenience of clinic hours ,dates of immunization clinics and locations of clinics have been reported by 75% of the parents <sup>1</sup>.Whereas in our study the respective percentages are 30, 35.7 and 20.However studies conducted by Ghosh et al, Ughade et al and Yadav et al who found that increase in the distance of the immunization centre led to unfavorable effect on the immunization status of the child, did not comment on the satisfaction regarding the same.<sup>9</sup>The contrasting results may be due to the fact that the clinic is located in an urban area and the beneficiaries are mostly local residents. Also the attitude and behaviour of doctors in the clinic which has been mentioned as proper and cordial by all respondents (hence regarded as a constant and not included in analysis) may be a contributing factor.

Table 4. Logistic regression analysis to elicit factors influencing “less satisfied” category

Model Summary				Hosmer and Lemeshow Test			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	Step	Chi-square	df	Sig.
1	84.968	.516	.701	1	8.508	6	.203

Criteria	Exp(B)	Significance
Inadequate Sitting provisions <sup>a</sup>	18.132	<0.01
Improper drinking water and toilet facilities <sup>a</sup>	3.574	0.043
Indifferent behaviour of other health personnel <sup>a</sup>	27.082	<0.01
Inability to understand health talk properly <sup>a</sup>	4.117	0.019

a. As compared against adequate sitting provisions, proper drinking water and toilet facilities, cordial behaviour of other health personnel and proper understanding of health talk

Factors like “inadequate Sitting provisions”, “improper drinking water and toilet facilities”, “indifferent behaviour of other health personnel” and “inability to understand health talk properly” were entered into final model after univariate testing. These were significantly increasing the probability of lesser satisfaction. A study on utilization of health care facilities by at risk children in India found that in 12.03 % cases unpleasant behavior of hospital staff was a reason for not availing health services.<sup>13</sup>

#### **IV. Conclusion**

The results of this study reveal that the immunisation clinic is managing to keep its clients mostly satisfied due to factors both structural and interpersonal, inherent to the clinic itself. However, there is scope for improvement of service as few predictors have been identified for which inter-sectoral collaboration will be pivotal in bringing about necessary changes.

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