

Effect of Health Workers Sensitization on Satisfaction with Immunization Services among Mothers of Under Fives In Ilorin, North Central Nigeria

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Abstract

Objective: Patients' satisfaction is a useful measure of the quality of service. An expression of satisfaction or dissatisfaction is also the patients' judgment on the quality of service in all its aspects. This study examined the effect of health workers sensitization on mothers' satisfaction with immunization service provided in health care facilities in a state in North Central Nigeria.

Methods: This is a quasi-experimental study involving sensitization of health workers on quality health service provision at the study site, Alanamu Health Centre, Ilorin. The control group was at Okelele Health Centre, Ilorin. One hundred and fifty mothers were recruited from each of the facilities and the total population of mothers bringing their children (0-14 weeks old) for immunization was recruited consecutively for the study.

Results: Less than 80% of respondents in the study group and the control group (73.3% and 77.3% respectively) were satisfied with the waiting time at the pre-intervention stage. At post-intervention, there was a significant increase in the proportion of mothers in the study group that were satisfied with the waiting time, seat provision and information received on immunization ($p < 0.05$) while there were no significant changes in satisfaction among mothers in the control group regarding these measures ($p > 0.05$). Age and level of education had significant influence on mothers' satisfaction ($p < 0.05$).

Conclusion: Mothers became more satisfied with various aspects of immunization service received after sensitization of health workers on quality health service. Sensitization of health workers towards quality health service may be necessary to generate options in service provision and improve client satisfaction.

Keywords: Clients' Satisfaction, Immunization Services, Health Workers Sensitization, Nigeria

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Effet de la sensibilisation des agents de santé sur la satisfaction des services de vaccination chez les mères de moins de cinq ans à Ilorin, centre-nord du Nigeria

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Resume

Objectif: La satisfaction des patients est une mesure utile de la qualité du service. Une expression de satisfaction ou d'insatisfaction est aussi le jugement des patients sur la qualité du service sous tous ses aspects. Cette étude a examiné l'effet de la sensibilisation des agents de santé sur la satisfaction des mères à l'égard du service de vaccination dispensé dans les établissements de soins de santé d'un État du centre-nord du Nigeria.

Méthodes: Il s'agit d'une étude quasi expérimentale portant sur la sensibilisation des agents de santé à la prestation de services de santé de qualité sur le site de l'étude, Alanamu Health Centre, Ilorin. Le groupe témoin était au Okelele Health Centre, Ilorin. Cent cinquante mères ont été recrutées à partir de chacune des installations et la population totale de mères amenant leurs enfants (0-14 semaines) pour la vaccination a été recrutée consécutivement pour l'étude.

Résultats: Moins de 80% des répondants du groupe d'étude et du groupe témoin (73,3% et 77,3%, respectivement) étaient satisfaits du temps d'attente au stade pré-intervention. À la suite de l'intervention, on a noté une augmentation significative de la proportion de mères dans le groupe d'étude qui étaient satisfaites du temps d'attente, de la disponibilité du siège et de l'information reçue sur la vaccination ($p < 0,05$). Le groupe témoin en ce qui concerne ces mesures ($p > 0,05$). L'âge et le niveau d'instruction ont eu une influence significative sur la satisfaction des mères ($p < 0,05$).

Conclusion: Les mères sont devenues plus satisfaites des divers aspects des services de vaccination reçus après la sensibilisation des agents de santé à des services de santé de qualité. La sensibilisation des agents de santé à des services de santé de qualité peut être nécessaire pour générer des options dans la prestation de services et améliorer la satisfaction de la clientèle.

Mots-clés: Satisfaction des clients, Services de vaccination, Sensibilisation des travailleurs de la santé, Nigeria

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INTRODUCTION

Patients' satisfaction is a useful measure of the quality of service and it is considered to be one of the desired outcomes of care and even an element in health status itself (1). The information from which inferences about quality of service can be drawn and can be classified under three categories: Structure, process and outcome. Client satisfaction is an important outcome measure and it may be a predictor of whether patients re-attend the clinic to obtain services (3,4). An expression of satisfaction or dissatisfaction is also the patients' judgment on the quality of service in all its aspects (5).

In the past two decades, there has been a growing recognition of client satisfaction of health service which has led to increased research in this area (6-9). Previous studies have shown that consumers of health services appraise factors such as courtesy, responsiveness, attentiveness, waiting time, availability of vaccine and some patients even consider these more important than the technical competence (9-11). Provider behavior, especially respect and courtesy have been found to be an important predictor of client satisfaction (5).

However, there have been arguments that patient feedback is not credible because of patients lack knowledge of technical quality (11), but recent thinking is that if these patient feedback measures address a specific event or visit, focus on provider-patient interactions, and are assessed in a timely manner, they seem to capture an important and otherwise unmeasured dimension of quality of care (12). It has been suggested that the debate should not center on whether patients can provide meaningful quality measures but on how to improve patient experiences by focusing on activities (such as care coordination and patient engagement) found to be associated with both satisfaction and outcomes (12).

Immunization remains the most cost effective strategy to reducing childhood morbidity and mortality occurring from vaccine preventable diseases. Immunization services are made available at primary health facilities in Nigeria and the national schedule is at birth, 6 weeks, 10 weeks, 14 weeks, 6 months and 9 months of age. This study therefore aimed to determine the effect of health workers' sensitization to quality health care service provision on mothers' satisfaction with immunization service provided in two primary health care facilities in Ilorin, North Central

Nigeria.

MATERIALS AND METHODS

This was a quasi-experimental study that was carried out in three stages: Pre-intervention, intervention and post-intervention stages in Ilorin. Ilorin can be described as an emerging city with 3 local government areas (LGAs) and a population of 847,582 (13). Children under 1 year of age are estimated to be 3.31% of the population while children under five years of age constitute about 13.12% of the population (14). Ilorin metropolis has one tertiary health institution, two secondary health institutions, nine primary health facilities and one hundred and eleven privately owned hospitals.

Alanamu Health Centre, where the study was conducted, is a primary health facility located in Ilorin West LGA. It serves as a fixed site for immunization and it provides other services such as maternal services, family planning, growth monitoring, food demonstration and general outpatient consultations. The control site is at the Okelele Health Center located in Ilorin East LGA. It is also a fixed site for immunization and provides other services such as maternal services, family planning, growth monitoring, food demonstration and general outpatient consultations. Alanamu Health Centre and Okelele Health Centre both offer immunization service once a week.

The study population was mothers of children who were receiving immunization at these health facilities. A sample size of 150 each (for study group and control group) was calculated using the formula for estimating sample size in comparison of two proportions (15).

Inclusion criteria: Mothers bringing infants (0-14 weeks old) for immunization were consecutively recruited into the study until sample size was reached for both groups. This made it easy to get a cohort of mothers attending the clinic at the same time, and as such expected to be due for revisit at the same time.

Mothers that were unwilling to participate in the study were excluded from the study. The study duration was 10 months.

The instrument of data collection was a structured questionnaire which was administered by 3 trained research assistants and the researcher. The questionnaire was pretested in a health facility in Ilorin south LGA. The

questionnaire was administered to mothers at the pre- Intervention stage and post- Intervention stages as exit interviews.

At Pre-Intervention, the questionnaire was administered to both the study and control groups to generate quantitative data. The serial number on the questionnaire was indicated on the immunization card. Phone numbers and address were also indicated on the questionnaire to ensure that the same mothers were also interviewed at post intervention.

At Intervention, there was sensitization of health workers at Alanamu Health Centre where the study group was. The health workers sensitized were nurses, CHO and CHEWs because they were the ones involved in immunization. Other health workers such as the laboratory technicians, pharmacy technicians, attendants and other hospital workers that were not involved with immunization were not sensitized. The sensitization involved all 18 health workers in the facility (with the exception of one who was on leave), over the span of two days (to make provision for those on shift duties and those that were not present on the first day).

The sensitization focused on improving quality of immunization service and client satisfaction at the health center based on findings from the perspectives of mothers of children attending the immunization clinic (findings were from the data collected at the pre-intervention). The sensitization addressed waiting times of mothers, adequate seat provision, attitude of health workers towards mothers, provision of information regarding number of visits due to complete immunization, immunization due for the day, possible side effects, information on what to do if there are side effects and information on when to return for next appointment. It was agreed that immunization sessions be held twice a week in order to improve client satisfaction in terms of waiting time, sitting arrangements and provision of better interaction between health workers and the mothers. An extra day was therefore added to the one day that had previously existed as an immunization day. Role plays and discussions were used to emphasize the issues raised and to encourage participation of the health workers. The sensitization took place within Alanamu health center facility.

The post intervention was done three months after the intervention to allow for changes to occur in quality of service delivery. The same questionnaire used in the pre-intervention stage was administered again as exit interviews to both

study and control groups to evaluate the effect of sensitization of health workers on satisfaction with immunization services among mothers of children attending the clinic. The same mothers interviewed at the pre intervention were also interviewed at post intervention in both the study and the control groups.

The study group included 150 mothers bringing their children for immunization at Alanamu Health Centre, Ilorin and the control group also included 150 mothers bringing their children for immunization at Okelele Health Centre.

Data collation and editing was done manually to detect omission and ensure uniform coding. The analysis was done using EPI INFO version 6.0, frequency tables and cross tabulations generated. Two stage analysis was done; analysis of the pre-intervention questionnaires and the post-intervention questionnaires. Satisfaction or dissatisfaction was based on the mothers' responses and satisfaction was further graded as: Excellent, very good, good, fair and poor. Chi-square test was used to compare proportions and Yates correction was used in instances where values were less than 5. A p- value of less than 0.05 was considered as statistically significant.

Ethical approval for the study was obtained from the ethical committee of the University of Ilorin Teaching Hospital. Mothers' consent was obtained before interview and nature of study was made clear. For ethical reasons, sensitization was carried out at Okelele health centre after the post intervention data had been collected.

RESULTS

The respondents' ages ranged from 16 to 48 years. The mean age of the study respondents was 28.5 ± 5.2 years and the modal age group was 26-30 years. The mean age of the control respondents was 26.7 ± 4.9 years and the modal age group was 26-30 years. Majority of the respondents in both the study and the control groups had at least 3 children 72.7% and 73.4% respectively. Forty two percent (42.7%) of respondents in study group and 53.3% of the control group were traders. Only a few of the respondents 7.3% of study and 4.7% of the control group were housewives. Other occupation which accounted for 14% of study and 18% of the control included hairdressing, farming, butchering, cloth weaving and shop attendant.

Majority of the respondents (63.3% and 62.7% of the study and control groups respectively) had at least primary education and majority (82.7% in the study group and 90.0% in the control group) were Yoruba. The other ethnic groups included tribes like the Nupe, Ebira, Igala and Urobo. Islam was the predominant religion as 84.0% of the study group and 92.0% of the control group were Muslims. Majority of the respondents were married in both the study and the control groups (96.7% and 94.0% respectively). The socio-demographic characteristics of both the study and control groups were similar as there was no significant difference in their socio-demographic characteristic ($p > 0.05$) (Table 1).

Mean waiting time was 82.1 ± 32.5 minutes and 90.4 ± 41.7 minutes for the study and control groups respectively at the pre-intervention stage. At post-intervention, mean waiting time in the study group was 48.0 ± 24.4 minutes while that of the control group was 88.4 ± 40.6 minutes. Less than 80% of respondents in both study and control groups were satisfied with waiting time at pre-intervention stage. However, at post-intervention, there was a significant increase in proportion of satisfied mothers with the waiting time ($p < 0.05$) in the study group and no significant difference in the control group. Seventy six percent (76.7%) of respondents in the study group were satisfied with seats provision at pre-intervention while 94.7% of respondents in control group were satisfied with seat provision. There was a significant increase in proportion of mothers satisfied with seat provision in the study group ($P < 0.05$) while there was no significant change in the control group. More than 85% of mothers in both the study and control groups (91.3% and 89.3% respectively) were satisfied with information they had received on immunization at pre-intervention, but only the study group witnessed a significant increase in proportion of satisfied mothers at post-intervention ($P < 0.05$). In the study group at pre-intervention, 96.0% of mothers were satisfied with the way they were treated by the health workers and 98% were satisfied with the overall service they had received in the facility at that visit but these had no significant change at post intervention in the study group. Similarly, in the control group at pre-intervention, 96.7% of mothers were satisfied with the way they were treated by the health worker while 98% of the mothers were satisfied with the overall service they had received at the visit. However, there were no significant changes at post-intervention

in the control group in the proportions of mothers satisfied with the way they were treated by the health workers and in their overall satisfaction with the service they had received on the visit (Table 2).

Among socio-demographic factors, age and level of education were significantly related to whether or not a respondent was satisfied with the service she had received in both the study and control groups ($p < 0.05$). (Table 3)

At pre-intervention, less than 15% of respondents in both study and control groups (10.7% and 9.3% respectively) had rated their level of satisfaction as "Excellent" and less than 50% of the respondents (46% of study group and 48.6% of control group) had rated their satisfaction as either "Excellent" or "Very good". At post intervention, there was a better rating of respondents' satisfaction which was significant ($P < 0.05$) in the study group. Ninety one percent (91.0%) of respondents rated their satisfaction as either "Excellent" or "Very good" in the study group. At post-intervention in the control group, there was no significant difference in the ratings of the mothers' satisfaction (Table 4).

At pre-intervention, 92.7% and 98% of respondents in study and control groups respectively were willing to re-attend the facility for immunization and there was no significant change at post intervention. More than 90% of respondents (96.0% and 97.3%) in both study and control groups were willing to recommend someone else to attend immunization in the same facility with no significant increase in the proportion in both groups at post intervention ($p > 0.05$) (Table 5).

DISCUSSION

The respondents' age ranged between 16 – 48 years which falls within the reproductive age group and this is expected as the respondents were the mothers. In this study, age was found to be an important socio-demographic factor that influenced the mothers' satisfaction with service at the immunization clinic ($p < 0.05$). The younger mothers were more satisfied than the older mothers. Educational level was also found to be a significant factor that influenced mothers' satisfaction with service received ($p < 0.05$). Those that had less education were more satisfied.

Demographic factors have been documented to make a difference in perceived hospital quality of care with findings reported in an earlier study where age, health status and race (among demographic status) had significant

effect on patient satisfaction (16,17). Educational level of patient was found to be an important factor on patients' perception of quality in another study where health workers gave necessary information to clients if they perceived they were formally educated (18). The educational level as a factor is not surprising since education brings about more exposure and makes expectation higher. A study in Ibadan (Nigeria), however did not report sociodemographic factor as a predictor of satisfaction among women receiving antenatal care (8). This also may be due to the fact that the study was carried out at a tertiary health facility where it is expected that service is rated better.

More than 70% of respondents in this study were satisfied with the waiting time at health facilities pre and post intervention stages. At post intervention however, there was a significant increase in the respondents that were satisfied in the study group which can be attributable to the intervention (adding an additional day for immunization service) in the study. This is likely to have reduced the number of children to be immunized at each visit compared to when immunization service was provided once in a week. Similar finding was reported in an intervention program where approximately 90% of respondents had rated their appointments as timely since the appointments were scheduled on the computers (19). Findings from other studies have also reported waiting times as satisfactory despite the respondents describing them as long (8,20). The perception of clients and their satisfaction may likely depend on the service they have come to utilize at the health facility.

The effect of sensitization of health workers in the study group facility reflected in the satisfaction with provision of seats and information provided in addition to the waiting times among the mothers in the study group at post-intervention stage and this was statistically significant ($p < 0.05$) but this was not the case at the control site. This is not unexpected because there were lesser children and hence mothers at each visit implying more space on the seats due to addition of an extra day to immunization though the facility did not purchase more seats.

Over 90% of mothers in both study and control groups were generally satisfied with the service they had received at the pre-intervention (Other studies have also reported high rates of satisfaction among respondents (8,21,22) and post intervention stages. Overall satisfaction was generally high and this suggests that there are some other factors that affect patients satisfaction

with service received in a health facility as documented by other studies (16,23,24). Previous studies in Ibadan, Ilorin, have also documented high satisfaction figures (8,25) despite lower satisfaction with individual components of the process. Could this suggest that health services are generally bad or fair and so anything that is fair is generally acceptable and would give client satisfaction? These findings may support thoughts from previous studies which suggest that client satisfaction with health services is not associated with the performance of process (26), satisfaction may be associated with such factors as satisfaction of the hospital staff and the work environment of the hospital staff (6,27). However, satisfaction lower than 70% among respondents have been reported in Bangladesh and Ethiopia (28,29).

Ratings of satisfaction by mothers significantly increased at post-intervention and this is in agreement with other findings, which have suggested that customer service initiatives in health care have become a popular way of attempting to improve patient satisfaction (30,31).

This study indicates that more than 90% of mothers (both in study and control groups) were willing to re-attend immunization in the same health facility and also to recommend someone else to attend at pre-intervention stage with no significant increase in either the study or control group at post intervention. This may imply that some other factors may be responsible for a patients' willingness to attend a facility (28). There is no significant change because of the already high willingness to re-attend since there are little alternatives to receive such services in developing countries. Factors identified by Andaleeb included closeness to home, referral by family and friends and other miscellaneous factors which this study did not consider.

The findings in this study revealed that overall satisfaction with service received was high, age and educational status influenced mothers' satisfaction with immunization service. In conclusion, mothers of children became more satisfied (statistically significant $p < 0.05$) with waiting time, seat provision and information received on immunization after sensitization of health workers on quality health service. Health workers' sensitization had no significant increase in mothers' satisfaction with the way they were treated by health workers, overall satisfaction and willingness to re-attend the health facility ($p > 0.05$).

The limitation of this study is that it

considered satisfaction alone as an outcome measure of quality of care which is subjective. Considering other aspects such as structure and technical competence and particularly introducing an observatory component may provide a more objective assessment of health service and a broader scope of quality for this service.

It is therefore recommended that sensitization of health workers towards quality health service may be necessary in order to generate options in service provision and improve client or patient satisfaction.

Conflict of interest: The authors declare no conflict of interest.

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Table 1: SOCIODEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Variables	Study group (%) (N=150)	Control group (%) (N=150)	χ^2 p-value df
AGE GROUP			
16-20	4 (2.7)	6(4.0)	
21-25	41 (27.3)	40(26.7)	
26-30	63 (42.0)	58(38.7)	$\chi^2=1.48$
31-35	26 (17.3)	26(17.3)	p=0.9157
36-40	12 (8.0)	13(8.7)	df=5
>40	4 (2.7)	7(4.6)	
NO OF CHILDREN			
1	33 (22.0)	36(24.0)	$\chi^2=0.28$
2	39 (26.0)	40(26.7)	p=0.9633
3	37 (24.7)	34(22.7)	df=3
>3	41 (27.3)	40(26.6)	
OCCUPATION			
Trader	64 (42.7)	80(53.3)	
Tailor	34 (22.7)	26(17.3)	$\chi^2=10.42$
Housewife	11 (7.3)	7(4.7)	df=6
Civil servants	8 (5.3)	1(0.7)	p=0.1081
Teaching	6 (4.0)	5(3.3)	
Student	6 (4.0)	4(2.7)	
Others	21 (14)	27(18.0)	
LEVEL OF EDUCATION			
None	55 (36.7)	56(37.3)	
Primary	59 (39.3)	62(41.4)	$\chi^2=0.43$
Secondary	25 (16.7)	21(14.0)	df=3
Post secondary	11 (7.3)	11(7.3)	p=0.9334
ETHNICITY			
Yoruba	124 (82.7)	135(90.0)	$\chi^2=3.42$
Fulani	17 (11.3)	10(6.7)	df=2
Others	9 (6.0)	5(3.3)	p=0.1804
RELIGION			
Christianity	24(16.0)	12(8.0)	$\chi^2=3.82$
Islam	126(84.0)	138(92.0)	p=0.0507
MARITAL STATUS			
Single	5(3.3)	9(6.0)	$\chi^2=0.67$
Married	145(96.7)	141(94.0)	p=0.4115

Table 2: Respondents' satisfaction with service received

Client satisfaction	STUDY GROUP		CONTROL GROUP	
	Pre-intervention N=150 (%)	Post-intervention (N=150)	Pre-intervention N=150 (%)	Post-intervention N=150 (%)
Waiting time				
Yes	110(73.3)	140(93.3)	116(77.3)	123(82.0)
No	40(26.7)	10(6.7)	34(22.7)	27(18.0)
	$\chi^2=20.40$		$\chi^2=0.74$	
	df=1		df=1	
	p=0.0001		p=0.3894	
Seats provided				
Yes	115(76.7)	149(99.3)	142(94.7)	143(95.3)
No	35(23.3)	*1(0.7)	8(5.3)	7(4.7)
	$\chi^2=34.38$		$\chi^2=0.00$	
	df=1		df=1	
	p=0.0001		p=1.0000	
Information received on immunization				
Yes	137(91.3)	150(100)	134(89.3)	132(88.0)
No	13(8.7)	*0	16(10.7)	18(12.0)
	$\chi^2=11.58$		$\chi^2=0.03$	
	df=1		df=1	
	p=0.0007		p=0.8555	
Way treated by the health worker				
Yes	144(96.0)	148(98.7)	145(96.7)	144(96.0)
No	6(4.0)	*2(1.3)	5(3.3)	6(4.0)
	$\chi^2=1.16$		$\chi^2=0.00$	
	df=1		df=1	
	p=0.2824		p=1.0000	
Service received today				
Yes	147(98.0)	150(100)	147(98.0)	148(98.7)
No	*3(2.0)	*0	*3(2.0)	*2(1.3)
	$\chi^2=1.35$		$\chi^2=0.00$	
	df=1		df=1	
	p=0.2475		p=1.0000	

* = represents where values were less than 5 and Yates correction was used.

Table 3: Relationship between socio-demographic characteristic and respondents' satisfaction

Variable	STUDY GROUP		P value ² df	CONTROL GROUP		P value ² df
	Satisfied	Not satisfied		Satisfied	Not satisfied	
AGE GROUP						
16-30	108(72.0)	0	² =4.65	104(69.3)	0	² =3.99
>30	39(26.0)	3(2.0)	*p=0.0208 df=1	43(28.7)	3(2.0)	*p=0.0275 df=1
NO OF CHILDREN						
1-3	108(72.0)	1(0.7)	² =0.79	109(72.7)	1(0.7)	² =0.85
>3	39(26.0)	2(1.3)	p=0.1815 df=1	38(25.3)	2(1.3)	p=0.1736 df=1
OCCUPATION						
Employed	130(86.7)	3(2.0)	² =0.09	136()	3(2.0)	² =0.39
Unemployed	17(11.3)	0	p=1.0000 df=1	11()	0	p=1.0000 df=1
LEVEL OF EDUCATION						
None	55(36.7)	0	² =17.53	56(37.3)	0	² =11.30
Primary	59(39.3)	0	*p=0.0005	62(41.3)	0	*p=0.0102
Secondary	24(48.0)	1(0.7)	df=3	19(12.7)	2(1.3)	df=3
Post secondary	9(6.0)	2(1.3)		10(6.7)	1(0.7)	

* = where p is statistically significant

Table 4: Respondents' rating of level of over-all satisfaction with care received

Level of satisfaction	STUDY GROUP		CONTROL GROUP	
	Pre-intervention N=150 (%)	Post-intervention N=150 (%)	Pre-intervention N=150 (%)	Post-intervention N=148 (%)
Excellent	16(10.7)	56(37.3)	14(9.3)	13(8.8)
Very good	53(35.3)	81(54.0)	59(39.3)	65(43.9)
Good	64(42.6)	13(8.7)	54(36.0)	51(34.5)
Fair	16(10.7)	0	17(11.4)	19(12.8)
Poor	1(0.7)	0	6(4.0)	0
	² =78.85, df=4, p=0.0000		² =6.51, df=4, p=0.1641	

Table 5: Distribution of respondents by willingness to re-attend immunization clinic in the same health facility

Attendance of the same health facility for immunization	STUDY GROUP		CONTROL GROUP	
	Pre-intervention (N=150)	Post-intervention (N=150)	Pre-intervention (N=150)	Post-intervention (N=150)
Will want to re-attend				
Yes	139(92.7)	147(98.0)	147(98.0)	147(98.0)
No	11(7.3)	3(2.0)	3(2.0)	3(2.0)
	$\chi^2=3.67$		$\chi^2=0.17$	
	df=1		df=1	
	p=0.0554		p=1.0000	
Will recommend someone to attend				
Yes	144(96.0)	146(97.3)	146(97.3)	147(98.0)
No	6(4.0)	4(2.7)	4(2.7)	3(2.0)
	$\chi^2=0.10$		$\chi^2=0.00$	
	df=1		df=1	
	p=0.7477		p=1.0000	