

ORIGINAL ARTICLE

Health workers sensitization: effects on perceived quality of immunization services among mothers of under five children in Ilorin, North Central Nigeria

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Key words

Perceived quality • Immunization services • Health Workers Sensitization • Nigeria

summary

Clients' satisfaction with services received is an important dimension of evaluation that is examined only rarely in developing countries. Health care professionals have always acknowledged that satisfying the consumers at some level is essential to providing services of high quality. This is a quasi-experimental study. The study group included 150 mothers bringing their children for immunization at Alanamu Health Centre, Ilorin. The control group included 150 mothers bringing their children for immunization at Okelele Health Centre. Total population of mothers bringing their children for vaccines against tuberculosis/poliomyelitis/hepatitis B (BCG/OPV/HBV) and against diphtherite-pertussis-tetanus (DPT)/OPV/HBV were recruited sequentially until sample size was attained. Mean waiting time at pre-intervention was 82.7 ± 32.5 and 90.4 ± 41.7 minutes for the study and control groups respectively.

Post intervention, there was a significant decrease ($p < 0.05$) in the estimated waiting time in the study group (mean = 48.0 ± 24.4 minutes) while there was no observed difference in the control $p > 0.05$ (mean = 88.4 ± 40.6 minutes). Perceived adequacy of information on services being provided by the health facility was low (58%) in the study group while it was relatively higher in the control group (80%), but there was a significant increase in proportion of those that felt information was adequate only in the study group ($p < 0.05$) at post intervention. Waiting time in health facilities by clients should be reduced as this may give clients a positive perception of the service they have come to access. Information dissemination to clients should be encouraged among health workers as this would affect clients' knowledge and also quality of health care delivery.

Introduction

The view that consumers should have information and other resources necessary to make judgment about the value of goods and services pervades all other sectors of our society and is bound to influence health care eventually. One manifestation of this view is the concept of "consumer – centered care" [1]. Scientific development has fostered the growing emphasis on the importance and legitimacy of clients' perspective on the quality of service [2].

Clients' satisfaction with services received is an important dimension of evaluation that is examined only rarely in developing countries [3]. Health care professionals have always acknowledged that satisfying the consumers at some level is essential to providing services of high quality. At the same time however, health care professionals have often discounted the importance of clients' perspectives in the belief that clients' have very limited knowledge of what constitutes technical quality [3]. Although the perspective of the health care professionals is widely acknowledged to be important, other perspectives on quality have been emphasized in recent years. The most important change has been a growing recognition and insistence that services must be tailored towards the preferences and values of the con-

sumers especially individual opinion about services as this is an important indicator of its quality [4].

Clients' tend to be critical of poor communication and provision of information from health professionals [5]. Dissatisfaction with primary care services lead many people to turn to higher level hospitals for primary care [6]. Service marketing researchers suggest that the physical environment, the people and processes strongly affect consumers' judgment when they evaluate services. Consumers make judgment about quality of services by assessing factors they can appraise such as courtesy, responsiveness, attentiveness and perceived competence; waiting time after arrival at the health centre and duration of examination [7-9]. The information from which inferences can be drawn about quality of services can be classified under three categories: Structure, process and outcome [10, 11]. Structure denotes the attributes of the settings in which care occurs. This includes the attributes of material resources (such as facilities, equipment and money), of human resources (such as number and qualifications of personnel), and of organizational structure (such as medical staff organization, methods of peer review, and methods of reimbursement) [12, 13].

Process denotes what is actually done in giving and receiving care i.e. the technical competence and the interpersonal process/relationship [12, 13]. Outcome refers

to the effects of care in the health status of patients and populations. Improvement in the clients' knowledge and salutary changes in their behaviour are included under the broad definition of health status; it also includes clients' satisfaction with services [12, 13].

This study was carried out to determine the effects of health workers sensitization on the perceived quality of immunization services among mothers of under children in Ilorin North Central Nigeria.

Materials and methods

Ilorin can be described as an emerging city with a projected population of 805, 396 [14]. Children under five years of age constitute about 13.12% of the population [15]. 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 similar services to the study site.

This is a quasi-experimental study that was carried out in three stages: Pre-intervention, intervention and post-intervention stages. At Pre-Intervention, exit interview with mothers of children was conducted using a pre-tested structured questionnaire that was administered to both the study and control groups to generate quantitative data.

At Intervention, there was sensitization of health workers at Alanamu Health Centre where the study group was. The health workers sensitized were nurses, Community Health Officer (CHO) and Community Health Extension Workers (CHEWs) because they were the ones involved in immunization. The sensitization involved all 18 health workers in the facility over the span of two days. The sensitization focused on improving quality of immunization services 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 post intervention was carried out three months after the intervention to allow possible 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 effects of sensitization of health workers on the quality of service provided at the immunization clinic of the health facilities as perceived by mothers. The same mothers interviewed at the pre intervention were interviewed at post intervention in both the study and the control groups.

The study and control groups each included 150 mothers bringing their children for immunization at the health centres. Total population of mothers bringing their children for vaccines against tuberculosis/poliomyelitis/hepatitis B (BCG/OPV/HBV) and against diphtheria-pertussis-tetanus (DPT)/OPV/HBV were recruited sequentially until sample sizes were attained. This made

it easier to get a cohort of mothers attending the clinic at the same time and who will be due for revisit at the same time.

The analysis was done using SPSS version 16. Two-staged analysis was done; analysis of the pre-intervention questionnaires and the post-intervention questionnaires. McNemar's Chi-square test was used to compare proportions. Mann Whitney U test was used to test whether the two groups are significantly different from each other with regards to waiting time at the clinics. 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 socio-demographic characteristics (Tab. I) of both the study and control groups were similar as there were no significant differences in their socio-demographic characteristic ($p > 0.05$). Many of the respondents (54.0% of the study group and 53.3% of the control group) estimated that they waited > 60 minutes before they were attended to by health workers at pre-intervention (Tab. II). Mean waiting time at pre-intervention was 82.7 ± 32.5 and 90.4 ± 41.7 minutes for the study and control groups respectively. Post intervention, there was a significant decrease ($p < 0.05$) in the estimated waiting time in the study group (mean = 48.0 ± 24.4 minutes) while there was no observed difference in the control (mean = 88.4 ± 40.6 minutes). At pre-intervention, 60 (40%) of the respondents in the study group felt the waiting time was too long, while 49 (32.7%) of control felt same but there was a significant decrease ($p < 0.05$) in the number of the study group respondents that felt the waiting time was too long at post intervention (Tab. II). There was no observed difference among the control group at post-intervention.

About 43.3% and 36.7% of respondents in the study and control groups respectively were not told the number of immunizations they were to take to complete the schedule at pre-intervention but at post intervention there was a significant decrease in those that were not told the number of visits left to complete the schedule ($p < 0.05$) in the study group. This difference was not observed in the control group (Tab. III).

Generally, greater than 70% of respondents in both study and control groups felt the information they had received on immunization was adequate though there was a significant increase ($p < 0.05$) in the proportion that felt information was adequate in the study group only at post intervention (Tab. III).

Perceived adequacy of information on other services being provided by the health facility was low (58%) in the study group while it was relatively higher in the

Tab. I. 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)	$\chi^2 = 1.48$ $p = 0.9157$ df = 5
21-25	41 (27.3)	40 (26.7)	
26-30	63 (42.0)	58 (38.7)	
31-35	26 (17.3)	26 (17.3)	
36-40	12 (8.0)	13 (8.7)	
> 40	4 (2.7)	7 (4.6)	
No of children			
1	33 (22.0)	36 (24.0)	$\chi^2 = 0.28$ $p = 0.9633$ df = 3
2	39 (26.0)	40 (26.7)	
3	37 (24.7)	34 (22.7)	
> 3	41 (27.3)	40 (26.6)	
Occupation			
Trader	64 (42.7)	80 (53.3)	$\chi^2 = 10.42$ df = 6 $p = 0.1081$
Tailor	34 (22.7)	26 (17.3)	
Housewife	11 (7.3)	7 (4.7)	
Civil servants	8 (5.3)	1 (0.7)	
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)	$\chi^2 = 0.43$ df = 3 $p = 0.9334$
Primary	59 (39.3)	62 (41.4)	
Secondary	25 (16.7)	21 (14.0)	
Post secondary	11 (7.3)	11 (7.3)	
Ethnicity			
Yoruba	124 (82.7)	135 (90.0)	$\chi^2 = 3.42$ df = 2 $p = 0.1804$
Fulani	17 (11.3)	10 (6.7)	
Others	9 (6.0)	5 (3.3)	
Religion			
Christianity	24 (16.0)	12 (8.0)	$\chi^2 = 3.82$ $p = 0.0507$
Islam	126 (84.0)	138 (92.0)	
Marital status			
Single	5 (3.3)	9 (6.0)	$\chi^2 = 0.67$ $p = 0.4115$
Married	145 (96.7)	141 (94.0)	

control group (80%), but there was a significant increase in proportion of those that felt information was adequate only in the study group ($p < 0.05$) at post intervention (Tab. III).

In the study group, less than 50% of respondents received all immunization due for that visit while more than 80% received all vaccines due for visit in the control group. There was no significant increase in both study and control groups at post intervention. About 62.7% and 60.8% of respondents in the study and control groups had correct knowledge of number of visits left to complete the immunization schedule at pre intervention but there was a significant increase in those that had correct knowledge of number of visits left to complete the schedule in the study group ($p < 0.05$) at post-intervention. There was no significant increase in those that had correct knowledge of immunization visits left to complete the schedule in the control group at post-intervention (Tab. IV).

Also, all respondents 150 (100%) in the study and control groups had injection site cleaned before injection was administered at pre intervention and post intervention. About 90% of respondents in the study group and 85% of the control group had paid for the service at pre intervention and the proportion did not increase significantly at post intervention in both study and control groups ($p > 0.05$). More than 80% of respondents in both study and control groups felt the amount paid was not too much and there was no significant difference in their perception at post intervention in both study and control groups ($p > 0.05$) (Tab. V).

At pre-intervention more than 80% of respondents (in both study and control groups) had rated the health workers as treating them with respect, polite and approachable. Only 0.7% of respondents in both groups had rated the health workers as rude. There was however a significant increase in the proportion of respondents that rated health workers as approachable in the study group only

Tab. II. Distribution of respondents by their estimated waiting time and perception of waiting time.

	STUDY GROUP		CONTROL GROUP	
	Pre -intervention N = 150 (%)	Post-intervention N = 150 (%)	Pre-intervention N = 150 (%)	Post -intervention N = 150 (%)
Waiting time (minutes)				
< 31	15 (10.0)	21 (14.0)	22 (14.7)	20 (13.4)
31-60	54 (36.0)	74 (49.3)	48 (32.0)	54 (36.0)
61-90	38 (25.4)	49 (32.7)	38 (25.3)	32 (21.3)
> 90	43 (28.6)	6 (4.0)	42 (28.0)	44 (29.3)
	P = 0.0000, $\chi^2 = 33.45$, df = 3		P = 0.7991, $\chi^2 = 1.01$, df = 3	
Time too Long				
Yes	60 (40.0)	12 (8.0)	49 (32.7)	46 (30.7)
No	90 (60.0)	138 (92.0)	101 (67.3)	104 (69.3)
	$\chi^2 = 40.37$, df = 1, p = 0.0000		$\chi^2 = 0.06$, df = 1, p = 0.8040	

Tab. III. Distribution of respondents' by those that received information on immunization.

Variable	STUDY GROUP		CONTROL GROUP	
	Pre -intervention N = 150 (%)	Post-intervention N = 150 (%)	Pre -intervention N = 150 (%)	Post-intervention N = 150 (%)
Told immunization due for today				
Yes	85 (56.7)	143 (95.3)	95 (61.3)	109 (72.7)
No	65 (43.3)	7 (4.7)	55 (36.7)	41 (27.3)
	$\chi^2 = 59.38$, df = 1, p = 0.0000		$\chi^2 = 2.59$, df = 1, p = 0.1076	
Told when to return for next immunization				
Yes	125 (83.3)	145 (96.7)	110 (73.3)	109 (72.7)
No	25 (16.7)	5 (3.3)	40 (26.7)	41 (27.3)
	$\chi^2 = 13.37$, df = 1, p = 0.0002		$\chi^2 = 0.00$, df = 1, p = 1.0000	
Need more information on immunization				
Yes	39 (26.0)	17 (11.3)	45 (30.0)	41 (27.3)
No	111 (74.0)	133 (88.7)	105 (70.0)	109 (72.7)
	$\chi^2 = 9.68$ df = 1 p = 0.0019		$\chi^2 = 0.15$ df = 1 p = 0.7017	
Received enough information on other services				
Yes	87 (58.0)	116 (77.3)	120 (80.0)	133 (88.7)
No	63 (42.0)	34 (22.7)	30 (20.0)	17 (11.3)
	$\chi^2 = 11.94$ df = 1 p = 0.0005		$\chi^2 = 3.63$ df = 1 p = 0.0566	

at post intervention ($p < 0.05$). Seats were available for majority of the respondents in the study group (97.3%) and all respondents in the control group (100%) had seats available to them at the pre-intervention stage. At the post intervention stage all respondents in both study and control groups were offered seats (Tab. VI).

Discussion

Previous studies assessing patients' perception of quality of health care have reported long waiting time (occasionally some researchers described the long waiting time as unacceptable) and this study is in agreement with such studies [8, 16-18]. The waiting time ranged between 20mins – 3hrs for the study group (mean = 82.7 ± 32.5 mins) and 20 mins – 3½ hrs for the control group (mean = 90.4 ± 41.7 mins) at the pre-in-

tervention stage. At post intervention, there was a significant reduction in waiting time for the study group ($p < 0.05$) while there was no significant difference in waiting time of the control group ($p < 0.05$). Akande et al in a study in Ilorin, Nigeria, documented estimated mean waiting time by patients to be 49.1 mins [17]. In other developing countries as Trinidad and Tobago, estimated waiting time to see doctors by patients ranged from 1-6 hours with a mean of 2 hours 40 minutes [8]. Studies carried out in rural Bangladesh indicated an estimated waiting time of 30 ± 2.5 mins [16]. The waiting time would be different in various situations since the patients have come to access different services. At the pre-intervention stage, only 40% and 32.7% of the study and control group respectively felt the waiting time was too long. Ademola-Popoola et al reported a higher figure, stating 89.4% of respondents at the eye clinic perceiving the waiting time to be too long [18].

Tab. IV. Distribution of respondents by those that received all immunization due for that visit.

Child received all immunization due	STUDY GROUP		CONTROL GROUP	
	Pre -intervention N = 150 (%)	Post-intervention N = 150 (%)	Pre -intervention N = 150 (%)	Post-intervention N = 150 (%)
Yes	73 (48.7)	90 (60.0)	121 (80.7)	128 (85.3)
No	77 (51.3)	60 (40.0)	29 (19.3)	22 (14.7)
	$\chi^2 = 3.44, df = 1, p = 0.0637$		$\chi^2 = 0.85, df = 1, p = 0.3564$	
Knowledge of visits left to complete the schedule	94 (62.7)	130 (86.7)	91 (60.6)	102 (68.0)
Correct	35 (23.3)	11 (7.3)	22 (14.7)	18 (12.0)
Incorrect	21 (14.0)	9 (6.0)	37 (24.7)	30 (20.0)
I don't know	$\chi^2 = 23.11, df = 2, p = 0.0000$		$\chi^2 = 1.76, df = 2, p = 0.4151$	

Tab. V. Distribution of respondents' by those that paid for the service and perception of amount paid.

	STUDY GROUP		CONTROL GROUP	
	Pre -intervention N = 150 (%)	Post-intervention N = 150 (%)	Pre -intervention N = 150 (%)	Post-intervention N = 150 (%)
Paid for the service received	136 (90.7)	137 (91.3)	128 (85.3)	131 (87.3)
Yes	14 (9.3)	13 (8.7)	22 (14.7)	19 (12.7)
No	$\chi^2 = 0.0, df = 1, p = 1.0$		$\chi^2 = 0.11, df = 1, p = 0.7367$	
Amount Too Much	23 (16.4)	21 (14.0)	20 (15.2)	21 (14.0)
Yes	117 (83.6)	129 (86.0)	112 (84.8)	129 (86.0)
No	$\chi^2 = 0.17, df = 1, p = 0.6801$		$\chi^2 = 0.01, df = 1, p = 0.9163$	

Report from Trinidad and Tobago states 48% of patients perceived the waiting time to be too long [8]. In Bangladesh, the patients reported that they would be satisfied with the waiting time if it is between 10-11 minutes.

At post intervention stage, there was a significant difference in their perception of the waiting time ($p < 0.05$) as majority of them felt the waiting time was not too long. There was no significant difference observed in the control group. Patient wait times are inevitable but their reduction or elimination is an important marketing tool. Patients feel increased time demands and if waiting is too long, they may not come back. However if waiting times are reasonable and handled well, patients are more likely to have a positive perception of services and return to the practice. Timely health care service is very important in the provision of quality care which in turn will most likely improve the utilization of health services [19, 20].

Scientists especially in the field of medicine have been described as being deficient in communication and effective dissemination of information [5, 21]. In this study, less than 85% of mothers in both study and control groups received information on immunization at the pre-intervention stage. This also reflected in those that knew the number of visits left to complete their immunization schedule (pre-intervention). As less than 65% of both study and control groups knew exactly how many visits were left to complete the immunization schedule. This is similar to previous finding in Ilorin where 62.9% of mothers knew they were required to attend five times to get their children fully immunized but knowledge on when to return was low [22].

Despite the fact that less than 65% of respondents (both study and control at pre-intervention) knew exactly the number of visits left to complete schedule, majority of them (at least 70% in both study and control groups) felt the information they received on immunization was adequate. This may suggest that they are not likely to complete the immunization schedule, thereby increasing drop-out rates.

Ademola-Popoola et al reported that 83.6% of patients reported information on their ailment to be adequate [18]. An Istanbul study on antenatal care reported greater than 70% of respondents indicating they had received information on pregnancy [23]. Akande reported contrary findings in a study where 42.2% of respondents felt they received adequate information on the nature of their ailment from the health workers [24]. The nature of services a client demands to an extent may seem to affect this since those coming for immunization and antenatal are not primarily ill.

At post intervention stage, 88.7% and 72.7% of study and control groups respectively felt the information they received on that visit was adequate. This increase in the study group was statistically significant $p < 0.05$ but the increase was not significant in the control group. This may suggest that patients may at times conclude that whatever care they receive is adequate when it is the norm but that an improvement on the care can also be perceived by patients.

If clients attending a particular facility do not know the services available, they are not likely to access all the services being rendered. In this study, only 58.0% of the study group (at pre-intervention) felt they received ad-

Tab. VI. Distribution of respondents by the perceived way they were treated by the health workers.

Assessment of treatment by health worker	STUDY GROUP		CONTROL GROUP	
	Pre-intervention N = 150 (%)	Post-intervention N = 150 (%)	Pre-intervention N = 150 (%)	Post-intervention N = 150 (%)
Treated with respect				
Yes	131(87.3)	141(94.0)	127(84.7)	131(87.3)
No	19(12.7)	9(6.0)	23(15.3)	19(12.7)
	$\chi^2 = 3.19$ df = 1 $p = 0.0741$		$\chi^2 = 0.25$ df = 1 $p = 0.6177$	
Staff polite				
Yes	143(95.3)	149(99.3)	148(98.7)	148(98.7)
No	7(4.7)	*1(0.7)	*2(1.3)	*2(1.3)
	$\chi^2 = 3.21$ df = 1 $p = 0.0732$		$\chi^2 = 0.25$ df = 1 $p = 1.0000$	
Staff approachable				
Yes	135(90.0)	146(97.3)	141(94.0)	147(98.0)
No	15(10.0)	*4(2.3)	9(6.0)	*3(2.0)
	$\chi^2 = 5.62$ df = 1 $p = 0.0178$		$\chi^2 = 2.17$ df = 1 $p = 0.1407$	
Staff rude				
Yes	*1(0.7)	*0	*1(0.7)	*0
No	149(99.3)	150(100)	149(99.3)	150(100)
	$\chi^2 = 0.0000$ df = 1 $p = 1.0000$		$\chi^2 = 0.0000$ df = 1 $p = 1.0000$	
Staff indifferent				
Yes	13(8.7)	15(10.0)	7(4.7)	*3(2.0)
No	137(91.3)	135(90.0)	143(95.3)	147(98.0)
	$\chi^2 = 0.04$ df = 1 $p = 0.8427$		$\chi^2 = 0.93$ df = 1 $p = 0.3346$	
Seats Available				
Yes	146(97.3)	150(100)	150(100)	150(100)
No	4(2.7)	0(0)	0(0)	0(0)

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

equate information on other services while 80% of the control group (at pre-intervention) felt they received adequate information on other services that are provided in the facility. However, at post-intervention, there was a significant increase in proportion of mothers who felt information on other services was adequate ($p < 0.05$) in the study group compared to the control group where there was no statistically significant increase $p > 0.05$. Generally, a high number of patients (51.3 and 40%) in the study group did not receive all vaccines due for the visit at the pre and post intervention respectively. Greater proportion (80.7 and 85.3%) of children received all vaccines due for the visit in the control group at pre and post intervention respectively. The reason may not be far fetched as health workers in the study group had reported shortages in supply of some vaccines and the two health facilities got their supply of vaccines from different cold store since they were situated in different LGAs. There was however no significant increase in the proportion of those that received all vaccines at post intervention. Unavailability of vaccines will in no doubt increase missed opportunities. The sensitization did not have remarkable change in the availability of vaccines because the supply of vaccines as a factor in quality

of care is beyond what the health workers in the study group facility could achieve on their own. Distribution of vaccine is through the Federal /state / Local Government cold stores to public and private health facilities and provision is through partnerships with international community and voluntary organizations [25]. In this study, 97.3% of mothers had seats available for them at the pre-intervention stage while 100% of those in control group had seats available to them. At post intervention, 100% of the mothers in study group had seats. This confirms reports from the health workers in Alanamu health centre that seats were inadequate. Mothers were also of the opinion that sitting was inconvenient as there were insufficient seats. This finding is higher than findings in Tanzania where only 89% of patients attending Antenatal care in public health facilities had seats available to them while 93% of those attending private hospitals had seats available for them [26]. This may suggest that facilities available at health facilities are inadequate for clients that patronize the services or that there are deficiencies in organization of such services. In this study, greater than 80% of both the study and control groups felt the health workers treated them with respect, were polite and approachable at both the pre-intervention

and post intervention stage. At post intervention however, there was a significant increase ($p < 0.05$) in the study group of mothers who felt the health workers were approachable. There was no significant increase in the control group. This finding is not in agreement with an earlier finding where health workers confirmed that patients perceived the service they received as uncaring and sometimes punitive [27].

About 85% of respondents (in both study and control groups) had paid for the service they had received at pre and post intervention with no significant difference in proportion of those that paid. Immunization services according to the National Programme for Immunization is free in public health facilities but health workers have reported shortages in supply of some of the consumables for which they have to take a token amount from the mothers in order for the children to have their immunization up to date [25].

Majority of the mothers (80%) felt the amount paid was affordable. Affordability is relatively high for this service because it is a preventive service for which a lot of input into the service is provided by government and donor agencies. A recent study in an eye clinic also indi-

cated that 77.2% of patients felt the cost of eye treatment was affordable [18]. Affordability of cost of service will therefore depend on the kind of service that is sought by the patient. The eye clinic study may also share the same opinion, as 48% of those who considered the service unaffordable felt the surgical operations were unaffordable [18].

There was a significant increase in the proportion of mothers that perceived the information they have received both on immunization and other services to be adequate ($p < 0.05$). A significant proportion of the mothers perceived the health workers to be approachable ($p < 0.05$) at post-intervention.

Based on these findings, it can be concluded that sensitization of health workers affected mothers' perception of waiting time and adequacy of information received. Waiting time in health facilities by clients should be reduced as this may give clients a positive perception of the service they have come to access. Information dissemination to clients should be encouraged among health workers as this would affect clients' knowledge and also quality of health care delivery.

References

- [1] Jencks SF, Welensky GR. *The health care quality improvement initiative: A new approach to quality assurance in medical.* JAMA 1992;268:900-3.
- [2] Blumenthal D. *Quality of care-what is it?* N Engl J Med 1996;335:891-3.
- [3] Tangcharoensathien V, Benett S, Khongswatter S, et al. *Patient satisfaction in Bangkok; the impact of hospital ownership and payment status.* Int J Qual Health Care 1999;11:309-17.
- [4] Mully AG jr. *Industrial quality management science and outcomes research; responses to unwanted variation in health outcomes.* In: Blumenthal D, Scheck AC, eds. *Total Quality Management and the Physician.* San Francisco: Jossey-Bass Publishers 1995, pp. 73-100.
- [5] Veenstra M, Hofoss D. *Patient experience with information in a hospital setting: A multi level approach.* Medcare 2003;41:490-9.
- [6] Daniels N, Bryant J, Castano RA, et al. *Bench Marks of fairness for health car reform: a policy tool for developing countries.* Bull World Health Organ 2000;78:740-50.
- [7] Gottlieb JB. *Understanding the effects of Nurses patients' hospital rooms and patients' perception of control on the perceived quality of a hospital.* Health Mark Q 2000;18:1-14.
- [8] Singh H, Haqq ED, Mustapha N. *Patients perception and satisfaction with health care professionals at primary care facilities in Trinidad and Tobago.* Bull World Health Organ 1999;72:356-60.
- [9] Nolan Y. *Promote effective communication and relationships.* Care NVQ level 1998;2:36-63.
- [10] Donabedian A. *Explorations in quality assessment and monitoring. Vol 1. The definition of quality and approaches to its assessment.* Chicago: Health Administration Press 1980.
- [11] Council on medical service. *Quality of Care.* JAMA 1986;266:1032-4.
- [12] Donabedian A. *The quality of care, how can it be assessed.* JAMA 1988;260:1743-8.
- [13] Fitzpatrick R. *Surveys of patient satisfaction: I--Important general considerations.* BMJ 1991;302 887-9.
- [14] USAID/UNFPA. *The 1999 Nigeria Demographic and Health Survey policy and programme implication central zone.* National population commission 1999.
- [15] Kwara State Ministry of Health, unpublished.
- [16] Aldana JM, Piecholek H, Alsabir A. *Client satisfaction and Quality of Health Care in rural Bangladesh,* Bull World Health Organ 2001;79:512-6.
- [17] Akande TM, Musa IO, Hussain N. *Perception of patients on quality of health care service at a Teaching hospital in Ilorin Nigeria.* Euro J Sci Res 2005;11:86-95.
- [18] Ademola-Popoola, Akande TM, Idris A. *Patients' assessment of quality of Eye care in a Nigerian Teaching hospital,* Niger Postgrad Med J 2005;12(3):145-8.
- [19] Blender R, Maxey C. *Are your patients patiently waiting? What to do about patient wait times.* J Med Pract Manage 2000;16:66-9.
- [20] Okolo SN, Ogbonna C, Bode-Thomas F. *Health care service auditing and intervention in an Emergency Paediatric unit,* Niger J Paediatr 2002;29:71-4.
- [21] Ling JCS, Barefield P. *Building bridges between doctors and patients.* World Health Forum 1989;10:28-9.
- [22] Akande TM. *Knowledge of mothers attending EPI clinics in Ilorin about childhood immunization.* J Comm Med Prim Health Care 1996;5:10-9.
- [23] Turan JM, Bulut A, Ortayali N, et al. *The quality of hospital based antenatal care in Instabul.* Stud Fam Plann 2006;37:49-60.
- [24] Akande TM. *Patient's perception on communication between patients and doctors in a teaching hospital.* Sahel Med J. 2002;178-181.
- [25] Federal Ministry of Health Lagos. *National Immunization Policy and Standard of Practice.* 1995.
- [26] Boller C, Wyss K, Mtasiwa D, et al. *Quality and comparison of antenatal care in public and private providers in the united republic of Tanzania.* Bull World Health Organ 2003;81:116-22.
- [27] Fonn S, Xaba M. *Health workers for change: developing the initiative.* Health Policy Plan 2001;16(Suppl 1):13-8.

■ Received on October 11, 2012. Accepted on May 5, 2013.

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