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Pitout JDD, Church DL, Gregson DB, Chow BL, McCracken M, Mulvey M, Laupland KB (2007). Molecular epidemiology of CTXM-producing Escherichia coli in the Calgary Health Region: emergence of CTX-M-15-producing isolates. Antimicrob. Agents Chemother. 51: 1281-1286.

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Journal of Public Health and Epidemiology

ARTICLES

Full Length Research Paper

Client satisfaction with quality of health care in a rural area in Southern India

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Client satisfaction is an important method to assess the pattern of utilization of health care services amongst all sectors indirectly reflecting on the quality of services. Most of the clients prefer private over government services due to multiple reasons. The aim of this study was to assess the level of satisfaction of patients attending rural government and private health facilities in rural Andhra Pradesh. Ten villages were randomly selected from the field practice area of a teaching medical institution, and all patients who visited any facility during the past three months were interviewed using a semi-structured questionnaire focusing on access to care, competence of the providers, quality and cost of the services and overall satisfaction with the services. Data was analysed using Microsoft Access software. One hundred and eight clients who visited different facilities for common ailments, chronic diseases, maternal and child health services were interviewed. The average time to reach the facility was 52.23 ± 44.52 min. The average waiting time was 34.25 ± 42.47 min. More than 80% were satisfied with the clinic hours, cleanliness and comfort of the facility, and privacy maintained during examinations. 40% were satisfied with the cost of services. The client satisfaction with different health care providers in rural areas of Andhra Pradesh is high. Clients expect the quality of services to be better; nevertheless they continue to use the available services without complaining much.

Key words: Client satisfaction, quality, health care services, private, government, cost.

INTRODUCTION

Quality of health care in developing countries, borrowing mainly from findings in developed countries, has gained increased attention in recent years, wherein outcomes have received special emphasis as a measure of quality. Assessing outcomes has merits as an indicator of the effectiveness of different interventions on one hand, and as part of a monitoring system directed to improving quality of care as well as detecting its deterioration on the other (Aldana et al., 2001; Epstein, 1990). Quality

assessment studies usually measure costs, medical outcomes or client satisfaction. For client satisfaction assessment, clients were not only asked to assess their health status after receiving care, but also their satisfaction with the services received (Fisher, 1971). Characteristics of the health care providers and services that influence patient satisfaction were proposed by Ware et al. (1977), whose dimensions included: art of care (caring attitude); technical quality of care; accessibility

and convenience; finances (ability to pay for services); physical environment; availability; continuity of care; efficacy and outcome of care. A working definition of patient satisfaction is the degree to which the patient's desired expectations, goals or preferences are met by the health care provider or the service (Debono and Travaglia, 2009).

In accordance with the suggestions of international bodies to improve quality of care (De Geydnt, 1995), the National Rural Health Mission in India recommended a thorough organizational restructuring of the entire primary health care sector with the aim of establishing health care services that are more sustainable, cost-effective, and responsive to client needs (Government of India, 2001).

Previous assessments of client satisfaction with services have usually focused on a marginal element in performance appraisals and have mostly been limited to maternal and child health (Kumari et al., 2009; Patro et al., 2008). Published literature reflects the results of exit interviews conducted at the government facilities, and therefore fails to provide a true picture about utilization of facilities depending on their quality. Moreover, there is dearth of studies mentioning the quality and patient satisfaction in the private sector (Ganguly et al., 2008). Therefore, this study was designed with the objective to assess in detail the expectations of quality of care and the level of satisfaction of patients attending rural government and private health facilities. It was envisioned that better understanding of the determinants of client satisfaction would help policy-makers to implement programs suited to patients' needs as perceived by patients.

METHODOLOGY

A cross sectional study was conducted in a rural area (Medchal Mandal) of Rangareddy district in Northern Andhra Pradesh State of India from 1st March through 18th July, 2011. The population of this area, approximately 50,000, is primarily rural, engaged in agriculture, and literate up to the primary level of schooling as per our last household census (2010) findings. Most of the women are housewives. Health care services in the area comprise of several private hospitals and clinics providing allopathic and Ayurvedic treatments, a tertiary care teaching medical institution, two primary health centres and a district hospital (tertiary level) run by the government, and faith healers with no formal medical training. Ethical clearance for conducting the study was obtained from the Institutional Ethical Committee.

The teaching medical institution maintains a computerized data base of family socio-demographic and health information (updated monthly) for every household in the 42 villages in its field practice area. Ten large villages (hamlets having <500 population were merged into nearest large village and selected) were randomly selected using a computer generated random number table from these forty two villages in the sampling frame to cover at least 20% sample for qualitative study. All households were surveyed to identify the participants who visited any health facility within the past three months. The consenting selected participants in these households, or the primary caretaker where participant was a child aged less than 12 years, were interviewed by two trained investigators using a semi-structured questionnaire. One day training for the investigators in administering the questionnaire and

the study protocol was done in the Department of Community Medicine by the authors.

Information was collected using a predesigned and pretested questionnaire. The reliability and validity of the semi-structured questionnaires, as well as the reliability of the entire process of data collection, was tested by the authors outside the study area before the study was carried out. This was done through a pilot study in a nearby village outside the sampling frame upon 20 visitors of any health care facility belonging to different age groups chosen according to feasibility. The questionnaire was translated in local language and then back translated in English for validity testing. Interviews were performed outside the house, and confidentiality of the information gathered was assured. Informed consent was obtained verbally from each included participant.

Services sought by clients were divided into five categories: common diseases, chronic diseases/follow up, maternal care, child care and others. Clients were asked to supply the following information about themselves: age, sex, occupation, time taken to travel to health facilities, means of transport, care-seeking preferences, expectations and level of satisfaction related to waiting and consultation time. They were also asked about various aspects related to providers' technical competence during consultations which included determining whether the service provider had asked why the client had presented for consultation, whether the client had been supplied with a description of the nature of his or her health problem, whether the client's privacy had been respected, whether a physical examination had been conducted, whether advice had been given and overall behavior of the provider.

Level of satisfaction was assessed in two steps. First, users were asked whether or not they were satisfied with the care received, and then they were asked about their level of overall satisfaction or dissatisfaction. During field testing, this method proved to give more reliable and accurate information of four levels of satisfaction (very satisfied, somewhat satisfied, somewhat dissatisfied, and very dissatisfied) than a direct assessment.

The collected data was entered in Microsoft excel and analysed using Microsoft Access software. Descriptive statistics for different variables under study are being reported in the present paper.

RESULTS

A total of 108 participants were interviewed out of 110 who visited a health facility in the preceding three months, giving a response rate of 98.18%, of which 52.78% were female respondents whose mean age was 23.53 ± 6.74 years, whereas 47.22% were males having mean age 25.92 ± 9.67 years. 8.33% were children under 5 years of age. Most of the females were employed in agricultural labor or household work, whereas men mostly worked as industrial laborers or in their own fields (Table 1).

Satisfaction with access to health care

Majority (75.00%) of clients reported living close to the health facilities, and 32.41% reported that they were able to reach the facility within 30 min. The average time to reach the facility was 52.23 ± 44.52 min. About half (54%) of the clients preferred bus as means of transport. The average waiting time at the facilities was 34.25 ± 42.45 min, with about 51% of the clients having to wait 40

Table 1. Background information of the users of different health facilities in rural Medchal Mandal.

Variable		Male	Female	Total N=108
Age (Years)	<5	6 (11.76)	3 (5.26)	9 (8.33)
	5-15	17 (33.33)	12 (21.05)	29 (26.85)
	15-45	19 (37.25)	28 (49.12)	47 (43.52)
	>45	9 (17.65)	14 (24.56)	23 (21.30)
Occupation	Agricultural labourer	6 (11.76)	32 (56.14)	38 (35.18)
	Farmer	7 (13.73)	3 (5.26)	10 (9.26)
	Industrial labourer	22 (43.14)	2 (3.51)	24 (22.22)
	Service	4 (7.84)	-	4 (3.70)
	Household work	-	19 (33.33)	19 (17.59)
	Other	6 (11.76)	1 (1.75)	7 (6.48)

*Figures in parentheses indicate percentages.

min to an hour for seeing a doctor (Table 2). 53.70% of the clients reported visiting the health facilities regularly for their different health problem, the highest preference (91%) being for local registered medical practitioners (RMP) and the least (25%) for government facilities (Figure 1), which was significant (p<0.05). A large proportion of the clients (more than 80%) felt that the clinic hours were adequate for their needs, and that the doctors devoted sufficient time to listen to their health problems, though the users of government facilities fared behind the users of private facilities (Figure 2).

Satisfaction with competence of health care providers

The proportion of providers who asked the patients their reasons for attending the facility was relatively high (72.8%), but providers gave advice to only 23.8% of clients, and explained the nature of their health problem only to 12.2%. This was much less (4.34%) for patients attending government facilities. A physical examination was performed on only 37% of all patients. Privacy during physical examination was reported to be maintained for 89.81% of these clients. No significant differences were found among health facilities, but providers were said to have performed physical examinations on 78.46% of patients presenting for antenatal care, compared to 21.54% of clients coming for other health problems. Still 80.55% of the clients expressed satisfaction with the competence of the health care providers that they visited (Figure 2).

Users' satisfaction with the services

A total of 35% of patients expressed satisfaction with the services rendered to them. Most of the clients (more than 80%) were satisfied with the comfort and cleanliness of

the clinics and availability of equipment and services at the facilities (Figure 2). Only a meager 6.48% suggested some improvements in the existing health facilities, like providing all required medicines at the government facility, reimbursing the expenditure incurred for doing tests not available at the government facility, reducing the user charges and increasing the consultation time to suit their needs. About 88% of the clients paid user fees for utilizing the services, the highest proportion comprising of private hospitals and RMPs. 41.67% of the participants felt that the present cost of the services was affordable for most of the families in the villages. However, only 39.81% were happy with cost of the services, and 24% were not happy (Table 3). Only 19% clients expressed the willingness to pay more for the services if the suggested improvements were made.

DISCUSSION

The results of the present study show high levels of client satisfaction with the different available health services in a rural area of Andhra Pradesh. Clientele in different facilities is determined by specific services provided, and hence, the reasons for visiting different facilities among the rural population also determines which facility they visit, e.g. the clients visited government facilities mostly to avail maternal and child health care, whereas private facilities were sought for common ailments. The difference between the number of users of government and private facilities was found to be significant in our study. Similar findings have been reported from other Indian states (Kumari et al., 2009; Patro et al., 2008; Das et al., 2010) and neighbouring countries (Aldana et al., 2001; Fisher, 1971) as well where the use of government facilities is limited to maternal and child health services with low levels of satisfaction.

When looking at the clients' perception of satisfaction with competence of the health care providers in the present

Table 2. Client satisfaction with access to health care in rural Medchal Mandal.

Variable		Type of facility					Total
		Government clinic/hospital (n=20)	Private clinic/hospital (n=26)	Medical college (n=27)	Local Registered Medical Practitioner (n=24)	Other faith healers (n=11)	N=108
Reason for visiting facility last time	Common disease	10 (50.00)	7 (26.92)	5 (18.51)	15 (62.5)	10 (90.90)	47 (43.52)
	Chronic disease	1 (5.00)	7 (26.92)	9 (33.33)	2 (8.33)	-	19 (17.59)
	Maternal health	3 (15.00)	2 (7.69)	2 (7.40)	1 (4.16)	-	8 (7.40)
	Child health	1 (5.00)	2 (7.69)	2 (7.40)	4 (16.66)	-	9 (8.33)
	Others	5 (25.00)	8 (30.76)	9 (33.33)	2(8.33)	1 (9.09)	25 (23.14)
Distance from house hold	<30 min	7 (35.00)	3 (11.53)	5 (18.51)	17 (70.83)	3 27.27)	35 (32.40)
	30 min-1 h	8 (40.00)	14 (53.84)	16 (59.25)	7 (29.16)	8(72.72)	53 (49.07)
	>1 h	5 (25.00)	9 (34.61)	6 (22.22)	-	-	20 (18.50)
Facility visited regularly		5 (25.00)	13 (50.00)	17 (62.96)	22 (91.66)	1 (9.09)	58 (53.70)
Ability to reach facility easily		13 (65.00)	20(76.92)	20(74.07)	24 (100.00)	4 (36.36)	81 (75.00)
Time taken to reach facility	5-20 min	7 (35.00)	3 (11.53)	5 (18.51)	17 (70.83)	3 (27.27)	35 (32.40)
	30 min-1 h	8 (40.00)	14 (53.84)	16 (59.25)	7 (29.16)	8 (72.72)	53 (49.07)
	>1 h	5 (25.00)	9 (34.61)	6 (22.22)	-	-	20 (18.50)
Mode of transport used to reach facility	Ambulance	-	-	1 (3.70)	-	-	1 (0.93)
	Auto rickshaw	3 (15.00)	2 (7.69)	3 (11.11)	-	1 (9.09)	9 (8.33)
	Bus	14 (70.00)	16(61.53)	12 (44.44)	5 (20.83)	8 (72.72)	55 (50.90)
	Other vehicle	2 (10.00)	6 (23.07)	11 (40.74)	2 (8.33)	-	21 (19.44)
	Walk	1 (5.00)	-	-	17 (70.83)	1 (9.09)	19 (17.59)
Waiting time	<30 min	12 (60.00)	8 (30.76)	7 (25.92)	19 (79.16)	1 (9.09)	47 (43.52)
	30 min-1 h	7 (35.00)	14 (53.84)	19 (17.37)	5 (20.83)	10 (90.9)	55 (50.93)
	1-2 h	1 (5.00)	4 (15.38)	1 (3.70)	-	-	6 (5.55)

*Figures in parentheses indicate percentages.

study, it was found that most of the parameters of competence were not complied with by providers in both government and private institutions. These parameters were: asking for main presenting complaints or reason of visit to clinic, taking proper history, thorough examination of the patients, writing a prescription, explaining the prescription, providing preventive advice and providing follow up dates. Similar findings have been reported from other states as well (Kumari et al., 2009; Patro et al., 2008; Ganguly et al., 2008; Das et al., 2010), indicating the need to improve
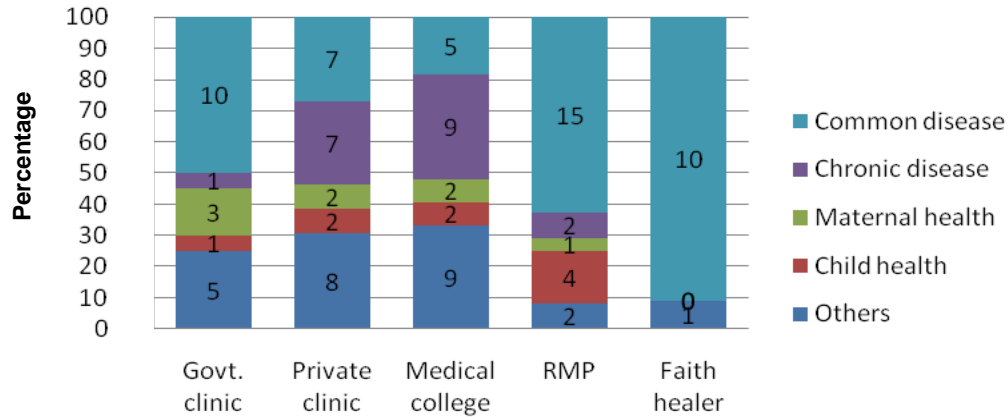
Figure 1. Proportion of clients visiting different health facilities categorized by health problem in rural Medchal Mandal.
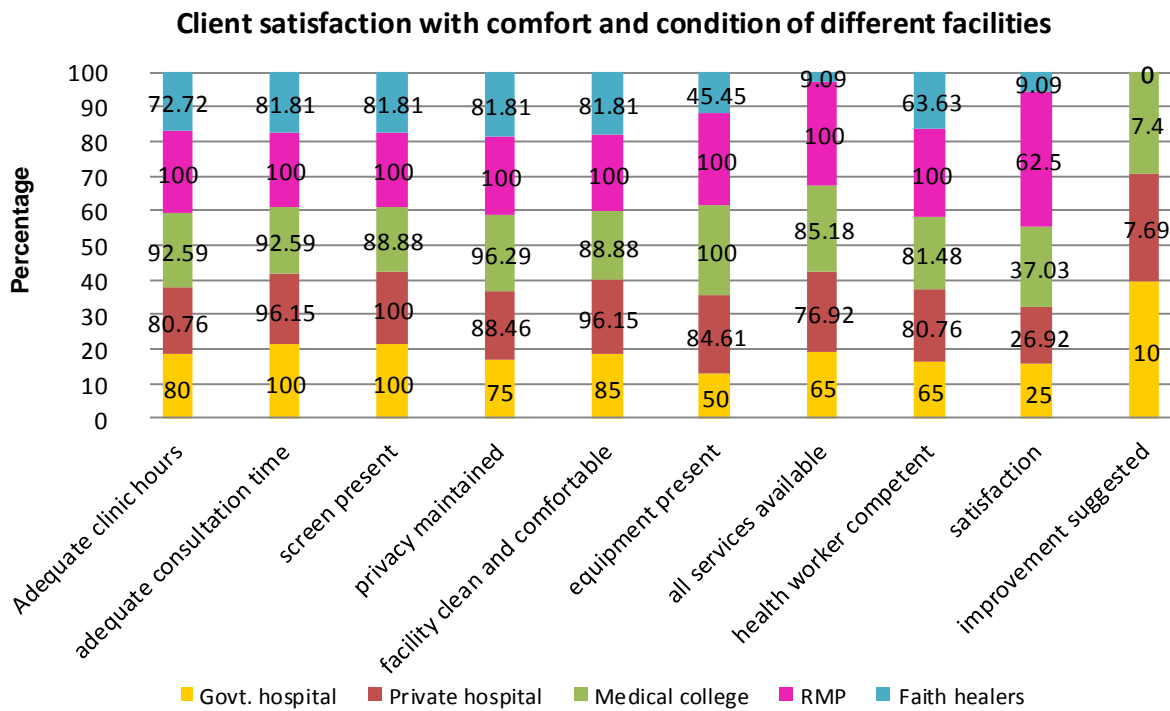
Figure 2. Client satisfaction with comfort and services present at different facilities in rural Medchal mandal.

upon these competencies, the absence of which might be a major deterrent to availing the facilities. These studies, concordant to our findings, have reported high client satisfaction with asking chief complaints and the degree of privacy maintained during physical examination. A recent study (Kumar et al., 2012) reported 94.9% clients to be satisfied with physicians and 88.2% satisfied with cleanliness services in private facilities in North India, which is similar to the present study findings. Another study (Sodani et al., 2010) of 561 clients attending the government facilities in a Central Indian State reported

higher proportion of clients (91%) to be satisfied with the public health care services, against 65% in the present study from rural Andhra Pradesh.

The overall patient satisfaction from services in rural areas appears to be high. The Government of India studied three states of Haryana, Orissa and Uttar Pradesh and found 51.22% of the beneficiaries to be dissatisfied with the functioning of Primary Health Centres (PHCs) with reasons for dissatisfaction being similar to the present findings of non availability of clean infrastructure, medicines, laboratory services, and not being properly

Table 3. Client satisfaction with cost of services at different facilities in rural Medchal Mandal.

Variable		Type of facility					Total (N=108)
		Government clinic/hospital (n=20)	Private clinic/hospital (n=26)	Medical college (n=27)	Local Registered Medical Practitioners (n=24)	Other faith healers (n=11)	
Paying for services		9 (45.00)	26 (100.00)	27 (100.00)	24 (100.00)	9 (81.81)	95 (87.96)
Happiness with cost of service	Extremely happy	-	-	-	1 (4.16)	1 (9.09)	2 (1.55)
	Happy	5 (25.00)	4 (15.38)	14 (51.85)	20 (83.33)	-	43 (39.81)
	Manageable	9 (45.00)	13 (50.00)	7 (25.92)	3 (12.50)	3 (27.27)	35 (32.40)
	Not Happy	4 (20.00)	9 (34.61)	6 (22.22)	-	7 (63.63)	26 (24.07)
	Can't say	2 (10.00)	-	-	-	-	2 (1.85)
Affordability for Families in villages	Yes	5 (25.00)	4 (15.38)	16 (59.25)	19 (79.16)	9 (81.81)	45 (41.67)
	No	7 (35.00)	8 (30.76)	5 (18.51)	-	1 (9.09)	21 (19.44)
	Don't know	8 (40.00)	14 (53.85)	6 (22.22)	5 (20.83)	1 (9.09)	34 (31.40)
Willingness to pay more if suggested improvements are made	Yes	5 (25.00)	6 (23.08)	7 (25.93)	6 (25.00)	5 (45.45)	29 (26.85)
	No	7 (35.00)	8 (30.76)	13 (48.14)	12 (50.00)	4 (36.36)	44 (4.07)
	Don't know	8 (40.00)	12 (46.15)	7 (25.92)	6 (25.00)	2 (18.18)	35 (32.40)

*Figures in parentheses indicate percentages.

examined by the doctors (Government of India, 2001).

It was found that only about 40% of the clients were happy with cost of the services, and of them, about 19% clients were willing to pay more for the services provided the suggested improvements were included. This is much lower compared with study findings from three northern states of Haryana, Orissa and Uttar Pradesh (Government of India, 2001), whereas many as 68.2% were willing to pay more for services that were provided at the Primary Health Centres if the suggested improvements were made. Other studies (Prasanna et al., 2009) have reported 94% of the clients attending medical colleges for services being satisfied with the cost of services compared to

78% in this study. They have also reported high satisfaction levels with the physicians' competence which is comparable to these findings.

Conclusion

The overall client satisfaction with the available health care services in rural areas of Andhra Pradesh is high. A detailed analyses of individual components of quality highlights that competence of the health care providers and cost of the services are two major areas of dissatisfaction, which is more in case of government providers than private. Clients however, continue to use these facilities without much complaining due to the

affordability of these services, and lack of access to better quality health care.

RECOMMENDATIONS

More studies of this kind are needed to bring out the cross cultural differences and patterns of utilization of different health services across the country. Based on findings of the present study, the government hospitals, private hospitals and medical colleges need to improve specific parameters which encourage the clients for visiting untrained local practitioners such as waiting time, accessibility, approach to the health problem and cost, in order to improve their clientele and

satisfaction with services and reduce the health related risks among them.

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Conflict of Interests

The author(s) have not declared any conflict of interests.

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Full Length Research Paper

Prevalence of common childhood illnesses and immunization status in infants and young children in two districts of Zambia

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Scaling-up the Integrated Management of Childhood Illnesses (IMCI) strategy, Expanded Programme of Immunization (EPI) and improved infant feeding practices have contributed to a decline in child mortality in Zambia. Despite this progress, documentation on EPI and common childhood illnesses that are addressed in IMCI in the two districts where the study was conducted are scanty. The report below highlights findings on immunization and health status of children aged from birth-23 in two districts of Zambia, Kafue and Mazabuka. A cross-sectional study was conducted among 634 caretakers of children. Proportions were compared using the Chi-squared test at the 5% significance level. A total of 634 caretakers of children less than 2 years (from birth 23 months) were interviewed: 270 from Mazabuka and 364 from Kafue. The commonest symptoms reported in Mazabuka and Kafue were diarrhoea (50.6 vs. 37.7%), fever (48.2 vs. 33.1%), and cough (45.0 vs. 48.2%), respectively. Majority (95.4% in Mazabuka and 91.0% in Kafue) were reported sleeping with the children under the ITNs. From the cards, 70.9% of the children had received all the vaccines. Majority of children were not malnourished. Thirty percent were exclusively breastfed up to six months. This study showed a high prevalence of diarrhoea, fever and pneumonia. These common causes of illnesses in children in the two districts are those addressed in the IMCI strategy. Access to at least one vaccine was found to be optimal, but continuous utilisation for the national immunization schedule fell below the national targets and this gap needs to be addressed.

Key words: Diarrhoea, pneumonia, malaria, Integrated Management of Childhood Illnesses (IMCI) strategy, immunization.

INTRODUCTION

Common childhood illnesses

1.   Diarrhoea, pneumonia and malaria, are the most

common childhood illnesses in Zambia. They are the leading causes of morbidity and mortality in children less than 5 years of age in the country including Kafue district

(Lusaka Province) and Mazabuka district (Southern Province) where the study was undertaken (Central Statistics Office 2003; CSO 2009). In general, prevalence of diarrhoea in Zambia is higher in urban areas than in rural areas, and conversely, higher in areas with improved water (18%) than those with unimproved water source (14%) (Central Statistics Office 2003).Both districts are predominantly rural. Among the under-five years, the rate of diarrhoea in Lusaka and Southern Provinces was 25 and 24%, respectively (Central Statistics Office 2003). Fever prevalence was 35 and 41.2% in Lusaka and Southern Provinces, respectively. Acute respiratory tract infection accounted for 15.8 and 14.6% in Lusaka and Southern Provinces, respectively. Effective and integrated case management of childhood illnesses (diarrhoea, dysentery, pneumonia, malaria, and neonatal sepsis) saves 3.2 million children each year (33% of total deaths) (Jones et al., 2003). Case management is part of the Integrated Management of Childhood Illness (IMCI) strategy and includes preventive interventions such as breastfeeding promotion and immunizations. The IMCI strategy was adopted in 1995 in Zambia, and has contributed towards the reduction of morbidity and mortality of children under-five years of age. The three components of the IMCI strategy should be implemented simultaneously, for the most effective result. The most promising interventions may be delivered at household level, with limited need for external material inputs. These include promotion of breastfeeding, oral rehydration therapy, education on complementary feeding, use of insecticide-treated nets (ITNs), growth monitoring and promotion with other added services like improved hygiene and family planning. They have shown a positive effect on some health indicators in the intervention areas as compared to the non-intervention areas (JICA 2007).

It is worth noting that in some societies there is emphasis on feeding a child who has diarrhoea and special efforts are made to feed a child with diarrhoea even at community level (Almroth et al., 1997).

Immunization

Zambia was certified Polio-free in 2004. The country received the 2003 Task Force on Immunization (TFI) award for the nation-wide under 15 measles campaign, and has maintained high immunization coverage. Despite all this achievement, there are pockets of unreached children in both the urban and rural areas. The fully immunized coverage for Lusaka and Southern Provinces were 78.3 and 77.4%, respectively when compared with

the national figure of 70% (Central Statistics Office 2003). Immunization coverage increased with the mother's level of education from 58% among children whose mothers' had no education to 76% for mothers with secondary education (Central Statistics Office 2003). Shortage of staff and heavy workload at health centres constrains de-livery of health services, including immunization (Ministry of Health Zambia Annual Report 2012; Annual Report 2013). In addition to limited funding, seasonal, and geographical barriers have resulted in a decrease in the outreach activities (Annual Report 2013; Alleviating System Wide Barriers to Immunization 2004). Other prob-lems identified mainly surrounded introduction of new technology such as the use of auto-disabled syringes, open vial policy and the change from a "supermarket" approach to scheduled vaccination days and outreach services (Annual Report 2013).

To further understand the problems highlighted earlier, the baseline study was conducted in the two districts of Zambia to primarily collect information on the feeding practices, nutritional status and in addition, evaluate the health and immunization status of children from birth, 23 months. This paper focused its discussions on the prevalence of common childhood illnesses and the immunization status of the children included in the study.

METHODOLOGY

Study design

The study was conducted between January and March, 2006 in Kafue and Mazabuka districts which are predominantly rural. It was a cross-section study. A questionnaire was administered to the mothers and closest caregivers of children aged from birth 23 months by 22 trained and locally recruited research assistants who were supervised by 11 health workers experienced in the IMCI and EPI programmes. The questionnaire was pre-tested a week prior to the study. It collected information on the general characteristics of the participants and their children, knowledge, attitude and practices on early initiation of breastfeeding, colostrum, exclusive breastfeeding for up to 6 months, introduction of complementary foods and types of complementary feeds, breastfeeding problems and how they are addressed and support for breastfeeding.

Inclusion criteria

For this study, all sampled households with a child less than 2 years were present at the time of the study.

Exclusion criteria

Sampled households with a child more than 2 years or households with no child were present at the time of visit by research assistants.

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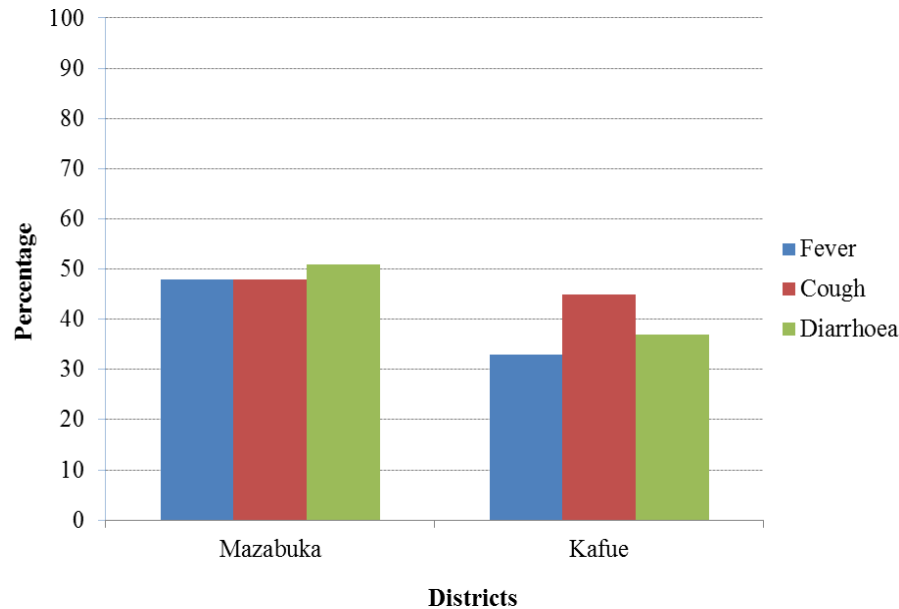
Figure 1. Distribution of common symptoms in preceding 2 weeks.

Sample size and sampling

The sample size was determined using the national prevalence of exclusive breastfeeding rate of 40% (Central Statistics Office 2003). at a confidence level of 95%, and considering a response rate of 90%, the minimum required sample size was 450, but the questionnaire was administered to 634 caretakers (270 from Mazabuka and 364 from Kafue). Participants were conveniently sampled in rural areas and randomly selected in the urban areas. This was because rural areas had scattered households over large hard-to-reach geographical areas.

Data management and analysis

Microsoft Excel and SPSS were used for data entry and analysis. Quality control audits of all data in the database were made after entering data from each field exercise. The outcomes on prevalence of diarrhoea, cough, fever and immunization status were assessed. Chi-square test was used to compare proportions between districts at the 5% significance level.

Ethics

The study received clearance from the University of Zambia Research Ethics Committee and the Ministry of Health through the district health management teams in Kafue and Mazabuka. Individual informed consent was obtained from all participants of the study before any instrument was administered to them.

RESULTS

Demographic information

Majority of interviewees (634) were the mothers of the children assessed (98.2% in Mazabuka and 98.9% in

Kafue). Of the respondents, 81.8% in Mazabuka and 86.3% in Kafue were married. In both districts, majority of the caretakers attained primary education level (55.8% in Mazabuka and 77.2% in Kafue). Educational level of the caretaker was significantly higher in Mazabuka than Kafue (p<0.001). About half (54.6%) of the children seen in Mazabuka and 60.9% of the children seen in Kafue were infants. There was a slight male predominance (53.5% in Mazabuka and 51.2% in Kafue) amongst the children in both districts.

Common childhood illnesses

There were significantly more children with reported illness in the preceding two weeks in Mazabuka as compared with Kafue (p=0.054). Majority (more than 94.5% in both districts) of the respondents with a sick child sought help from health workers. In Mazabuka, the commonest symptom reported was diarrhoea, followed by fever and cough. In Kafue on the other hand, cough was the most common symptom reported followed by diarrhoea and fever (Figure 1).

There were significantly more people in Kafue who had insecticide treated nets (ITNs) for protection against malaria than in Mazabuka (p<0.001). Of those who had ITNs, at least 90% in each of the districts were reported sleeping under them with the children.

The households visited in Mazabuka had significantly higher (p<0.001) safe water supply as compared to their compatriots in Kafue. Majority (59%) in Mazabuka had protected water source from a tap outside their home and paid for it on a regular basis. In Kafue, a significant
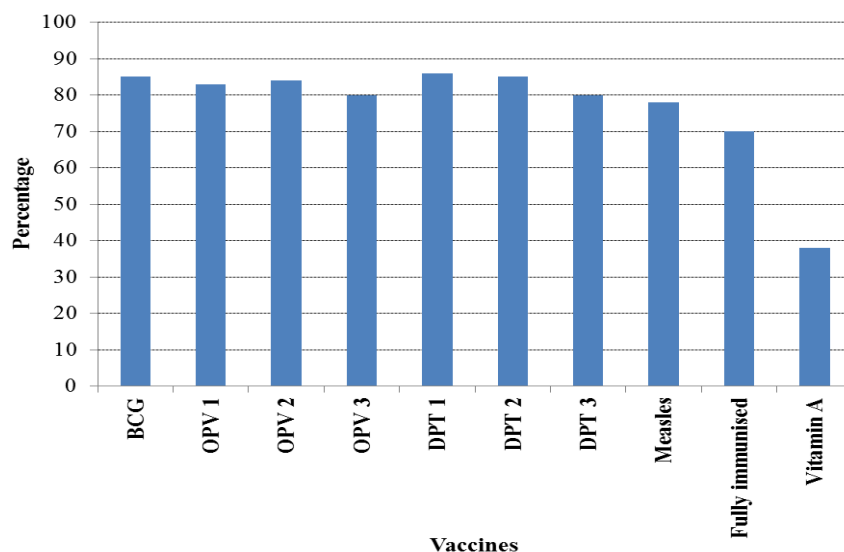
Figure 2. Vaccination coverage rates for the different antigens.

proportion (36%) of households used pump or borehole water.

Most (69%) of the household visited in both districts used pit latrines to dispose of their excreta. Most of the toilets were found to be clean: with no visible faeces when visited by the interviewers.

Immunization status

There was no significant difference between the two districts in terms of the immunization status of the children (p=0.793) (Figure 2). About 83% of caretakers in both districts availed their children's under-five cards to the researchers. Only 68% in both districts had birth weights recorded on the under five card. Of the cards seen, 97% had at least one vaccine recorded. Ninety percent of eligible children had Diphtheria Pertussis Tetanus – Haemophilus influenza b 1 (DPT-Hib 1) vaccine while 78.7% had DPT-Hib 3 recorded on the cards. Likewise 76.9% of the eligible children had measles vaccine indicated on the cards. The drop-out rate between DPT-Hib-1 and DPT-Hib-3 was 11.7%. Seventy-one percent of the children had received all the vaccines on the EPI schedule. The cards reviewed did not indicate OPV0.

DISCUSSION

Common childhood illnesses

This study demonstrates a high prevalence of diarrhoea, fever and pneumonia. Majority of the caretakers sought

care from a health worker. These findings corroborate with the national health statistics on incidence of common diseases in children less than five years: malaria (1,108 per 1,000 population); respiratory infection non-pneumonia (469 per 1000 population); diarrhoea: non bloody (258 per 1,000 population); and respiratory infection: pneumonia (132 per 1,000 population) (Central Board of Health 2003). The high prevalence of diarrhoea, pneumonia and fever underscores the continued need for expanding the coverage and saturation of the IMCI strategy, which addresses the management of common childhood illnesses (World Health Organization 1997). For improved quality of health care of the sick child it is important to invest in building capacities at community and health facility level to implement the IMCI strategy optimally (WHO 2012; WHO 2010; Bryce et al., 2003).

It has been estimated that the use of ITNs can prevent seven percent of under-five mortality (Gareth et al., 2003). In this study, the ITN utilisation was higher than the national target of 90%. Although the ITN coverage was below the national target of universal coverage (100%), it is encouraging that the reported ownership is close to the national target (National Malaria Strategic Plan 2005-2010 2005; National Malaria Strategic Plan 2011-2015 2011). The efforts by these two districts should be sustained to assure impact on malaria, which afflicts populations particularly in rural areas.

The fact that most respondents had protected water source and toilet facilities within the compounds and clean housing compounds, the high prevalence of diarrhoea and pneumonia points to the need to conduct further studies to gain insight into specific causes of diarrhoea and pneumonia in these communities. The treatment interventions that have sufficient evidence on

the causal relationship with cause-specific mortality among children less than five years are: oral rehydration therapy for treating diarrhoea, antibiotics in the treatment of pneumonia, anti-malarial in the treatment of malaria, and vitamin A as an integral part of managing patients with measles.

The districts studied here are predominantly rural with challenges in accessing health care services. In the Lancet series on childhood survival, it was highlighted that despite the available evidence, knowledge and instruments to deliver these life-saving interventions, children continue to die because these interventions are not reaching them, especially in resource-poor settings (Black et al., 2003).Poor children are far less likely to receive these interventions as compared to their counter-parts who live in communities or countries with more resources (Victora et al., 2003; Bellagio Study Group on Child Survival 2003). The finding is not unique to the two districts as it has been previously reported in the country (Central Statistics Office 2003; CSO 2009).

Immunization status

The coverage of fully immunised children in both districts was below the national target of 80% with a significant drop-out rate (12%) which was higher than the recommended less than 10% (Zambia Programme on Immunization Multiyear Plan, 2006-2010 2005). The 'dropout' rate is the difference between number of chil-dren who received DPT1 and those that received DPT3 and is a measure of utilisation of health care services. The major contributing factor was the abandonment in 2005 of the "supermarket" approach and adoption of scheduled immunization days to minimize wastage of the more expensive penta-valent vaccines (DPT-Hib-Hep) which came in vials of 10 doses. The high rate of DPT1 (>90%) in the two districts is an indication that access to immunization services is not a challenge. In addition, access to health services in general is not a challenge as attested by the fact that the first antenatal care (ANC) visit is over 90% (Central Statistics Office 2003; CSO 2009). The challenge remains on the timely and continued utilisation of health services including immunization. Some of the barriers identified in this study include the following: sessions are held at a time not convenient for caretakers, lack of accurate information about immunization services, long waiting time, and competing priorities such as seasonal farming. Social, cultural or political barriers especially among migrants or refugees or illegal settlers who try to avoid the public authority also contribute to an increase in the drop-out rate. Knowledge also plays a role in making use of the appropriate health-care services like immunization as demonstrated by a study in India where 30% of the mothers who had not immunized their children did not know that immunization was important for the children

and a further 33%, did not know where to go for the vaccination (Schellenberg et al., 2003). The Reaching Every District (RED) strategy that was adopted by the country in 2003 as an effective approach to reach the un-reached and the missed opportunities. Evidence from ten pilot districts showed that the RED strategy improved coverage and reduced dropout and therefore was scaled-up nationally (Zambia Programme on Immunization Multiyear Plan, 2006-2010 2005).

The majority interviewed, in this study, were able to show their under-five card (UFC) or mother's delivery card or book with details about the child's birth and immunizations received. Of those who did not have a card, majority had their cards kept at the health facilities where they use the UFC. The card provides an opportunity for storage of vital health information. The health facility kept the children's cards until the child had received all vaccines before handing it over to the mother, usually when the child was 9 months. Most of the children whose under five cards were seen (92.4% in Mazabuka and 90.6% in Kafue) had received BCG vaccination and this was above the national average. The high BCG coverage is due to the fact that the vaccine is given to the newborn before the mother and baby are discharged from the maternity facilities. The national policy for administration of OPV0 is at birth up to 13 days of life and is commonly given at birth together with BCG. From this practice one would expect that the coverage for these two antigens would be the same, yet this has not been the case. The national OPV0 coverage is less than the BCG coverage. At the time of the study, OPV0 was not reflected on the children's card and as such we cannot make comparison between BCG and OPV0 coverages.

Conclusion

This study showed a high prevalence of diarrhoea, fever and pneumonia. These common causes of illnesses in children in the two districts are those addressed in the IMCI strategy. Access to at least one vaccine was found to be optimal, but continuous utilisation for the national immunization schedule fell below the national targets and this gap needs to be addressed.

LIMITATIONS OF THE STUDY

Health workers do not always record vaccines given in the under-five card, especially those given during the child health week. For the study purpose, we only included documented vaccinations from the UFC. Some health facilities kept the UFC and as such they were not seen during the survey. The cards were kept at the health centre until the children had received all the immune-zation. The card is then handed back to the caretaker.

RECOMMENDATIONS

Investing in scaling up the IMCI strategy will contribute significantly to addressing the common childhood illnesses in the two districts. There is need for further documenting or conducting an operational research to find the reason behind the high drop-out rate and decline in utilisation of immunization services so that appropriate interventions can be implemented.

COMPETING INTERESTS

The authors have no competing interests.

ACKNOWLEDGEMENTS

Abbreviations

ANC, Antenatal care; **CSO,** central statistics office; **EPI,** expanded programme on immunization; **FGD,** focus group discussion; **IMCI,** integrated management of childhood illnesses; **ITNs,** insecticide-treated nets; **RED,** reaching every district; **TFI,** task force on immunization; **UFC,** under-five card.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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Full Length Research Paper

Traditional birth attendants and women's health practices: A case study of Patani in Southern Nigeria

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According to the World Health Organization (WHO), current estimate of maternal mortality ratios is at more than 1000 per 100,000 live births in most African countries. Despite the existence of modern health facilities in Nigeria, over 58% of deliveries take place at home whereas only 37% take place in hospitals. As outcomes of pregnancy and their sequelae are purely left to the providence of women in many rural communities, the place of delivery is a great determinant of maternal and child morbidity and mortality. With the shortage of skilled birth attendants and uneven geographical distribution of the few available ones; traditional birth attendants tend to fill in the gap. This study employed a cross sectional design and using a simple random sampling technique, 420 women within the reproductive age (18 - 45 years) meeting the inclusion criteria for the study were selected. Results from the study indicated a high (88.8%) knowledge of Traditional Birth Attendants (TBAs) but a poor (51.1%) perception about their practices. A significant relationship was shown between age (P<0.05), education status (P<0.05) and the frequency of patronage of TBAs Services. Although, perception about TBAs practices was poor, the role of TBAs in the improvement of women's health (maternal and child health) in rural Nigeria cannot be ignored. TBAs remain major health resources in rural communities in developing countries as well as some parts of urban areas. Efforts need to be harnessed for training of TBAs through the Ministry of Health and Primary Health Care facilities close to their area of practices.

Key words: Knowledge, perception, traditional birth attendants, maternal mortality, Southern Nigeria.

INTRODUCTION

According to the World Health Organization (WHO), the current estimate of maternal mortality ratios is more than 1000 per 100,000 live births in most African countries (WHO, 2005). In developing countries, specifically in Sub-Saharan African, many women do not have access to skilled personnel during childbirth (WHO, 2005). The

lack of skilled attendants is one of the major factors responsible for the rising maternal and infant mortality (WHO, 2005). Pregnancy and the events surrounding it are generally viewed as feminine issues exclusively for women and the outcome of pregnancies and their sequelae are purely left to the providence of these

women especially in many rural communities (Nwakwuo, and Oshonwoh, 2013). Nigeria, a country with more than 160 million people has about 70% of its population residing in the rural areas. These areas lack the basic amenities of life; good road networks, portable drinking water, and adequate health facilities. The inadequacy of health care facilities and services propagates the existence of Traditional Birth Attendants (TBAs).

Despite the existence of modern health facilities in Nigeria, over 58% of deliveries still take place at home whereas only 37% take place in hospitals (United Nations Children's Fund, 2001). It is estimated that between 60 to 80% of all deliveries in developing countries occur outside modern health care facilities, with a significant proportion of these attended by TBAs (Tsui et al., 1996). TBAs deliver the majority of women in Nigeria as in other developing countries (Tsui et al., 1996). An Eastern Nigerian study showed that although 93% of rural women registered for prenatal care, 49% delivered at home under the care of TBAs (Imogie, 2000).

Similarly, a study of 377 women who delivered before arrival at the hospital in Ogbomosho, South-Western Nigeria revealed that 65% of the mothers had been delivered by a TBA, while 73.7% had sought help from them for retained placenta with bleeding (Fajemilehin, 1991). In Chanchaga LGA of Niger State in North-Central Nigeria, 84% of households interviewed utilized the services of a TBA or village health worker (Itina, 1997).

The place of delivery is one of the determinants of maternal and child morbidity and mortality. With shortage of skilled birth attendants particularly, who are also unevenly distributed geographically (United Nations Children's Fund, 2001), Traditional Birth Attendants tend to fill in the gap (Inem et al., 2008). Traditional birth attendants have also been shown to exist in urban areas (Itina, 1997).

Statistics have shown that approximately 630,000 maternal deaths occur annually of which over 99% occurred in low and middle income countries (Ronsmans and Graham, 2006; Lawn et al., 2005; Martines et al., 2005), mostly Sub-Saharan Africa. Over half of these deaths occur at home without skilled care (Lawn et al., 2005; Martines et al., 2005) and are shown to concentrate around labour, delivery and the immediate post partum period. It suffice to note that up to two-thirds of these deaths are preventable with low-cost, low-tech community based interventions which extends pregnancy through childbirth and could be handled by community health workers (Martines et al., 2005; Darmstadt et al., 2005). Skilled personnel plus an enabling environment to provide essential obstetrics and neonatal care are necessary to achieve a significant reduction in maternal and infant mortality (Ebuehi and Akintujoye, 2012).

Maternal mortality rate in Nigeria is estimated to be approximately 630 deaths/100,000 live births in 2010; and the main causes identified include; haemorrhage, infection, obstructed labour and hypertension (Khan et al., 2006). Nigeria accounts for 40% of the global burden of vesico-vaginal fistula, which translates to an estimated 800,000 women suffering from a condition arising from prolonged labour and complicated deliveries.

Access in its various dimensions is a critical determinant of maternal mortality. These dimensions include; physical access, cost, cultural factors and appropriate information which are significant in attaining good maternal indices (Ahmed et al., 2007).

The impact of TBAs practice on maternal outcomes remains inconclusive for years. Efforts to formalize the role of TBAs in maternal and neonatal health programs have had limited success. TBAs continued attendance at home deliveries suggests, however, their potential in influencing maternal and neonatal outcomes (Imogie et al., 2002; Falle et al., 2009). Although, the assumption that training of TBAs would contribute greatly to reduce maternal mortality has been disproved in recent years (World Bank, 2003), interventions to prevent maternal deaths are more or less complex and many are feasible for a wide range of community health workers (Campbell and Graham, 2006) and also the TBAs.

In recent years, there has been increasing debate over the usefulness of TBAs in maternal health care (Sibley and Sipe, 2011). Opponents of TBA care are of the view that TBAs have done little to improve maternal health. They opine that TBAs have frustrated laudable efforts made by governments in Sub-Saharan Africa to reduce maternal mortality, while proponents have expressed the need for a sustained partnership with TBAs as a strategy to improve access to basic maternity care in rural areas to achieve significant reductions in maternal mortality (Ebuehi and Akintujoye, 2012).

Despite the World Health Organization's recommendation for skilled attendance at delivery excludes TBAs (WHO, 2004a), some studies have shown the role of TBAs in improving the health outcomes of mothers and newborns. About 30% (95% CI: 18 to 41%) significant reduction in perinatal mortality and 29% (95% CI: 17 to 43%) reduction in neonatal mortality in a cluster randomized trial conducted in Pakistan was associated with TBAs practice (Jokhio et al., 2005). Additional studies have shown reduction in the incidence of postpartum complications (Bailey et al., 2002) and increased referral to health facilities (Eades et al., 1993; Akpala, 1994; Ahmed et al., 2007) with TBAs interventions. Also, a study carried out in India on TBAs training in the management of pneumonia was shown to reduce neonatal pneumonia by 44% (Bang et al., 1994). This is contrary to the joint declaration of WHO/UNFPA/UNICEF that 'Training of TBAs alone, in the absence of back-up from a functioning referral system and support from professionally trained health workers is not effective in reducing maternal mortality" and the assertion that "there is no evidence that such training of TBAs alone leads to reductions in maternal mortality. Although TBAs can provide culturally appropriate nurturing in the community

Table 1. Socio-demographic characteristics of respondents.

Variable	Frequency	Percentage (%)
Age group (years)		
15 – 19	80	19.0
20 – 24	56	13.3.
25 – 29	142	33.8
30 – 34	84	20.0
Above 35	58 Mean 26.8 ±1.29	13.8
Marital status		
Single	46	11.0
Married	256	61.0
Divorced	28	6.7
Separated	17	4.0
Widowed	73	17.4
Educational status		
No formal education	39	9.3
Primary	121	28.8
Secondary	186	44.3
Tertiary	74	17.6
Religion		
Christianity	245	58.3
Islam	17	4.0
Traditional	97	23.1
Others	61	14.5

N=420

setting, offer a first-line link with the formal healthcare system and provide some simple services such as the distribution of nutrition supplements" (World Health Organization, 1999).

Despite, there is few evidence of the practice of TBAs in urban areas, their roles in rural community health especially in developing nations can never be over emphasized. With the rising patronage of TBA services by pregnant women who also utilize modern maternity services (Ebuehi and Akintujoye, 2012), there is need to train, incorporate and equip TBAs with necessary assistance to practice and improve maternal and child health. This study intends to ascertain the knowledge and perception of TBAs' practices by women of child-bearing age in Southern Nigeria.

MATERIALS AND METHODS

The study was carried out in Patani, in the South-South part of Nigeria using a cross-sectional descriptive design. A simple random sampling technique was used to select 420 women within the reproductive age (18 - 45 years) from the study population living in the area, for more than 12 months. Responses were collected using a structured questionnaire distributed to selected respondents at

the community, primary health care centres and the General Hospital. Permission was taken from the hospital's ethical committee before the study was conducted in the health facility and questionnaires distributed to patients attending health care services in the hospital. Also consent was sorted from the community leader and women leader to reach out to women in the community.

Focal group discussions and key informant interviews were held with selected TBAs to ascertain the depth of their knowledge as it relates to pregnancy, labour, delivery and complications arising thereof. It was also used to evaluate their level of training and preparedness to recognize danger signs, manage them and ensuring appropriate referral in case of complications for both mother and child before and during delivery and after birth. The discussion was conducted in English, precisely "Pidgin English" and the local language for easy understanding of the TBAs.

Data collected were sorted based on responses, collated and then analyzed using SPSS version 20. Quantitative data were presented in tables. Chi-square and Fisher's exact were used to establish relationships between variables and make inferential conclusion and necessary suggestions.

RESULTS

Table 1, shows the age groups of the respondents and the most represented age group of the respondents was 25 - 29 years (33.8%), followed by 30 - 34 years (20%) and

Table 2. Knowledge and use of services by Traditional Birth Attendants (TBAs).

Variable	Frequency	Percentage (%)
Have you heard of TBAs		
Yes	373	88.8
No	47	11.2
Do you use the services of the TBAs		
Yes	147	35.0
No	273	65.0
How often the services of TBAs is used		
Always	53	12.6
Not often	94	22.4
Not at all	273	65.0

15 – 19 years (19%) with a mean age of 29.6±1.29. Majority of the women (256) were married 73 were widowed and 46 separated from their family. About 44.3% of the respondents had secondary education with only 17.6% attaining the tertiary education level. 58.3% of the respondents were Christians. 4.0% were Muslims and 23.1% are practicing African traditional religion.

Table 2 shows the responses on whether the respondents have heard of Traditional Birth Attendants (TBAs) and aware of or use their services. It shows that, majority (373) accepted to having prior information about TBAs but only 147 of the respondents agreed to having used the services of the TBAs of which 94 do not use the services often and 53 often patronize them.

Table 3 indicates that about 96.4% of the participants agreed that the services of the TBAs are not expensive but only 34.5% patronize them because their services are cheap whereas 30.5% said that they patronize them because there are no alternatives. About 91.4% agreed that TBAs are located or more common in villages (rural area) than in urban areas. It also shows that 73.1% of the TBAs use facilities located in their area of practices but only 30% of these facilities are said to be standard. Although only 8.8% indicated that TBAs have the required training and skill to practice, 22.1% of the services provided are up to required standard, majority (83.8%) of the provided services are mostly unhygienic. Only 4% used any form of personal protective devices or equipments in the course of their duties.

Despite the contributions of TBAs to community healthcare practices as first point of call for deliveries, about 60.7% of their services are still shown to be ineffective, with only a few (60; 14.3%) still wanting the TBAs to continue providing their services to women whereas majority (310; 73.8%) of the respondents indicated that the TBAs should be trained and assisted to help equip them with reliable skills to perform to expectation and standards.

Table 4 shows the perception of TBAs management practices and about 63.1% of the TBAs were shown to be helpful to pregnant women with majority coping with likely birth injuries (26.4%) and complications but only few render prenatal care (5.7%) and family planning services (2.4%) to their client/patient while only 45.7% of complicated cases are referred to hospitals for proper management. Table 5 shows a poor perception (58.1%) of TBAs' services by women of child-bearing age despite patronage by about 35% of the respondent as well as high awareness (88.8%) about TBAs services.

Table 6 shows a significant relationship (P<0.05) between age and the frequency of usage or patronage of TBAs services. Older women (above 35 year) are more likely to use their services more often. It also indicates a significant relationship (P<0.05) between education and frequency of usage of TBAs' services. The more educated the woman the more likely she would not use the services at all. Those with no formal education or with only a primary education are more likely to use the services often.

Table 7 shows no significant relationship (χ^2 = 1.177, P<0.05) between the skill of the TBAs and their ability to cope with birth complications and indicated that only few of the skilled TBAs can cope with birth complications. From the focal group discussion, it was discovered that the TBAs, although less equipped to handle serious complications of pregnancy and childbirth, are willing to undertake any necessary training if provided to them. According to a TBA

"*The government is not ready to train us as they think it is a waste of resources. They prefer training their workers but still want to control our practice. This will be difficult because asides from being our source of living, some of us inherited these practices from our parents*".

An elderly and popular TBA in the area also has this to

Table 3. Women's perception of Traditional Birth Attendants (TBAs) practice.

Variable	Frequency	Percentage (%)
TBA services is expensive		
Yes	165	39.3
No	255	60.7
TBAs patronized because its cheap		
Yes	345	82.1
No	75	17.9
Patronized because of no alternatives		
Yes	245	58.3
No.	175	41.7
TBAs exist in rural area		
Yes	384	91.4
No.	36	8.6
TBA use facilities		
Yes	307	73.1
No	113	26.9
TBAs use standard facilities		
Yes	126	30.0
No	294	70.0
TBAs are skilled		
Yes	37	8.8
No.	383	91.2
TBAs services are standard		
Yes	93	22.1
No.	327	77.9
TBAs services are Hygienic		
Yes	68	16.2
No.	352	83.8
TBAs uses PPE		
Yes	17	4.0
No.	403	96.0
TBAs services are effective		
Yes	165	39.3
No.	255	60.7
TBAs should be trained and assisted		
Yes	310	73.8
No.	110	26.2
TBAs should continue to offer service		
Yes	60	14.3
No.	360	85.7

Table 4. Women' perception of management practice of Traditional Birth Attendants (TBAs).

Variable	Frequency	Percentage (%)
Helpful to pregnant women		
Yes	265	63.1
No	155	36.9
Cope with birth injuries		
Yes	111	26.4
No	309	73.6
TBAs render parental services		
Yes	24	5.7
No.	396	94.3
Offers abortion services		
Yes	111	26.4
No.	309	73.6
Recognizes birth complication		
Yes	376	89.5
No.	44	10.5
Case referral		
Yes	192	45.7
No.	228	54.3
Uses Spiritism		
Yes	37	8.8
No.	383	91.2
TBAs involves in drug description		
Yes	30	7.1
No	390	92.9
TBAs offer family planning services		
Yes	10	2.4
No.	410	97.6
Intend to continue using services		
Yes	49	11.7
No.	371	88.3

Table 5. Level of perception of TBAs by women of child bearing age.

Classification of Level of perception	Ranking/scores (points)	Frequency (%)
Very good	≥ 6	37 (8.8)
Good	5	66 (15.7)
Fair	4	73 (17.4)
Poor	≤ 3	244 (58.1)

Table 6. Age of respondents and frequency of usage.

Variable	Frequency of usage			
	Frequency (%)			
	Often	Not often	Not at all	Total
Age of respondents				
15 – 19	4 (5.0)	51 (63.8)	25 (31.2)	80
20 – 24	6 (10.7)	0 (0.0)	50 (89.3)	56
25 - 29	18 (12.7)	7 (4.9)	117(82.4)	142
30 – 34	6 (7.1)	16 (19.1)	62 (73.8)	84
Above 35	19 (32.8)	20 (34.5)	19 (32.8)	58
	χ^2=157.711, df= 8; p value= 0.000			
Educational status				
No formal education	39 (100)	0 (0.0)	0 (0.0)	39
Primary	14 (11.6)	89 (73.6)	18 (14.8)	121
Secondary	0 (0.0)	5 (2.7)	181(97.3)	186
Tertiary	0 (0.0)	0 (0.0)	74 (100)	74
	χ^2=331.262, df= 3; p value= 0.000			

N=420.

Table 7. TBAs' skills and coping with birth complication.

Variable	Coping with birth complications		
	Frequency (%)		
	Yes	No	Total
TBAs are skilled			
Yes	7 (18.9)	30 (81.1)	37
No	104 (27.2)	279 (72.8)	383
Total	309 (73.6)	111 (26.4)	420

N=420, χ^2 = 1.177, df=1, p-value = 0.278.

say:

I don't know what this hospital staff feels like, moreover, they don't do the job more than us and yet, they treat us like dirt.

This confirms the tip from a key informant that TBAs and health workers in the clinics and health centres are 'cat and dog' that is, not in terms with each other due to the assertion that TBAs complicate issues and leave the trouble of management to them.

DISCUSSION

The contribution of traditional birth attendants in the improvement of maternal and child health especially in the rural areas cannot be underrated. Traditional birth attendants have remained one of the alternative health resources for women of child bearing age in Patani Local Government Area and most local communities in Nigeria.

Although, 88.8% of the respondents are actually aware of the services of TBAs, only few (39.3%) of the users and non-use are convinced of the opinion that the measures used by TBAs are effective. This resulted to poor perception (58.1%) on the practices of TBAs on improving maternal and child health by women of childbearing age. Reasons have been advanced by the focus group discussion (FGD) as to why some women still default attending maternity clinics for antenatal, perinatal and postnatal services. To some of them, cultural affinity remains as one of the stronghold of why people will continue to patronize TBAs.

Other reasons may include the high and "illegal" hospital fees, the distance of the hospitals and maternity homes to the people, lack of good roads and lack of qualified personnel in such public facilities as well as truancy/inability of some health personnel relocated to

local communities to settle there. These views are in line with the study carried out by Stock (1983), who in a similar group (FGD) revealed that rudeness of staff, persistence shortage of drugs and time wastage were found to be responsible for the non-utilization of health services.

In another study, it was noted that some of the inhibiting factors to usage of modern health services include prohibitive hospital fees, illegal fee and bribes, lack of drugs and essential supplies, negative staff attitude among others (Martey et al., 1998). According to Okafor and Rizzuto (1994) superstition and misinformation among practicing TBAs has dramatically increased maternal morbidity in the rural areas but from this study, only 8.8% of such superstition have been shown to still exist in the study area.

Nigeria is a nation with a population of over 160 million with the majority living in the rural area. Despite the existence of modern health facilities in Nigeria, over 58% of deliveries take place at home whereas only 37% take place in hospitals (United Nations Children's Fund, 2001). With inadequate facilities and lack of skilled attendants, Traditional Birth Attendants tend to fill in the gap in the delivery of health care services locally (Inem et al., 2008).

TBAs services are not only common in rural areas. Traditional birth attendants have also been shown to exist in urban areas (Itina, 1997) and according to this study, 8.6% though very few of TBAs services still exist in urban areas. However, it has been observed that the war being waged between trado-medical practitioners and orthodox medical professionals remains unabated as the TBAs are known to suffer a lot of disrespect from local health officials in rural areas and could be worse in urban settings (Owigar, 2000).

In rural areas, health care system is poorly orthodox and some people due to socioeconomic, educational level and poor relationship with health care facilitators prefer to patronize the services of the Traditional Birth Attendants (TBAs). A significant relationship was shown between educational status of the respondents and the frequency of patronage (use) of the services of TBAs (P<0.05). Those with no formal education use the services more often than their counterparts.

There exist people who would not for cultural and ethnographic reasons go to TBAs to have their babies. This might be an indication that the facilities used by TBAs are not standard (70%), and the need for training and development of the practices since there are women (14.3%) who still wish to continue using the services of the TBAs.

The training of TBAs has been associated with moderate-to-large improvement in their behaviour to postnatal practices and small but significant decrease in perinatal mortality and neonatal mortality due to birth complications such as asphyxia and pneumonia (Sibley and Sipe, 2006).

Although, this study showed no relationship between the skill of the TBAs and their ability to cope with birth complication ($\chi^2 = 1.177$, p>0.05), the weak relationship could be an indication that more requisite training and skills are required by the TBAs to tackle more critical problems or a referral made for proper management. However, due to incomplete data reporting and recording, there have been poor database for association between the training of TBAs and the effectiveness of the services provided.

Throughout history, TBAs have been the main human resource for women during childbirth. Their role varies across cultures and times however, today they attend to the majority of deliveries in rural areas of developing countries (Bergström and Goodburn, 2001; Jemal et al., 2010). There is little doubt that they have a significant role when it comes to cultural competence, consolation, empathy and psychosocial support at birth, all of which are important benefits for the mother and also for the newborn child. Despite WHO recommendation for skilled attendants during delivery excluded TBAs, it observed that TBAs can potentially improve maternal and newborn health at community level. While the role of TBAs in caring for pregnant women and conducting deliveries is acknowledged, it is noted that they are generally not trained to deal with complications (WHO, 2004b). TBAs and village midwives have been employed in many interventions to reduce maternal mortality and improve pregnancy outcomes in developing countries with mixed results (Gloyd et al., 2001; Ray and Salihu, 2004).

According to the result of this study, about 63.1% of the TBAs have been shown to be of assistance to pregnant women. In another study, 57 traditional birth attendants were identified by the Danfa Project in Ghana in an effort to improve maternal and child health practice and promote family planning (Ampofo et al., 1977).

Owigar noted that to help reduce the maternal mortality rate; there is need for purposeful utilization of the wealth of experience of traditional birth attendants in the efforts to complement the good health status of the women during prenatal, ante- and post-natal services (Owigar, 2000). However, from this study only 8.8% of the TBAs in this study had the required skilled training and Akpala (1994) disclosed in a study on the evaluation of the knowledge and practices of trained TBAs in Bodinga, Sokoto State of Nigeria that out of 74 TBAs, only 43 trained ones where able to recognize high risk pregnancies and deliveries for referrals to higher health institutions than the 31 untrained TBAs.

Therefore to help improve maternal heath especially in the rural areas of Nigeria, something has to be done in areas where TBAs are lacking adequate facilities and training. Although, the wealth of experiences of TBAs have been acknowledged (Owigar, 2000), there is need to encourage them through training and support because TBAs are very much in short supply of standard facilities and mostly compelled to use what they have available which from this study 70% are known to be substandard to offer the required services.

Conclusion

The perception and knowledge of women of child-bearing age on the role of Traditional Birth Attendants (TBAs) in the improvement of women health (Maternal and child health) in Nigeria according to this study is poor but TBAs remain a major health resources in rural communities in developing countries. Previous study recognized that training and providing materials to local village midwives (Geurts, 1997) resulted in the reduction in the incidence of postpartum complications (Bailey et al., 2002), and showed increased referral to health facilities (Eades et al., 1993; Akpala, 1994; Ahmed et al., 2007) with TBAs interventions. The knowledge and practice of traditional birth attendants need to be addressed by policy makers and planners and a positive effort made through research, based on a firm understanding of what TBAs can and cannot do (Imogie, 2011). This will help fathom their strengths and limitations and develop baseline for their training and retraining.

RECOMMENDATION

Finally, from the findings of this study, the following recommendations have been made toward improving the knowledge and practice of the TBAs:

1. TBAs should be supported both financially and materially by equipping them with the necessities for their practice;
2. Their operations should be recognized and record keeping for both birth and mortality encouraged;
3. Policy to limit the extent of the service and practice will help phase out untrained and inexperienced practices rather than not recognizing the essence of TBAs especially in rural communities;
4. The co-existence of orthodox and transitional maternal and child care services should be encouraged as to create avenue for proper referral of complicated and critical problems;
5. Non-Governmental Organizations involved in primary health care services should be encouraged to get involved in the education and training of TBAs.

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Conflict of Interests

There is no conflict of interest declared.

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