

# Space-Time Variation in the Perception and Patronage of Traditional Medicine in Kaduna State, Nigeria

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## ABSTRACT

This paper presents findings on the Space-Time Variation in the Perception and Patronage of Traditional Medicine in Kaduna State Nigeria. The aim of the study is to examine the space-time variation in the perception and patronage of traditional medicine in Kaduna state. Data from the study was derived from the administration of a structured Questionnaire, Focus group discussion, In-depth interview and data from herbal clinic medicine records. Data were collected from a questionnaire survey of a sample of 400 respondents of the study area to determine their space-time variation in perception and patronage of traditional medicine. Time devoted to patronage of traditional medicine vary significantly on different days of the week and different hours of time of the day. One way ANOVA result obtain shows that there is significant space and time variation in the time of the day for patronage of traditional medicine among the sampled LGAs ( $F = 15.147$ ,  $P < 0.05$ ). This means that the time of the day for patronage of traditional medicine varies across space and time. The findings also confirm that patronage of traditional medicine is fixed in time and space.

**Key words:** Space-Time, Traditional Medicine, Patronage and Perception

## INTRODUCTION

### 1.1 Introduction

Traditional medicine consists of medical knowledge systems that developed over centuries within various societies before the era of modern medicine. A spatio-temporal data is a database that manages both space and time information. Spatio-temporal data do not arise just like that, but occur at a specific location and time (Pace, Kelley, Ronald, Gilley, and Sirmans, 2000). Although traditional medical services and the population that patronize it sometimes vary spatially, they are functionally linked together through human patronage, perception, interaction and time. Patronage of traditional medicine is therefore, the connection or relationship between space and time in which the activities of a given population take place. Indeed, there is a strong relationship between traditional medicine and the population that patronizes it over time and space in Kaduna State.

The perception of the people of traditional medicine stems from the fact that the minds of some Africans and for that matter Nigerians have been washed to believe that everything introduced by the white man is better than the local or traditional one (Calixto, 2005). Perception is the process by which people receive information or stimuli from the environment and transform it into psychological awareness (Ishaya and Abaje, 2008). It is interesting to see that people infer a certain situation or phenomenon differently using the same or different sets of information. Knowledge, interest, culture and many social processes seem to shape the behavior of an actor who uses the information and tries to influence that particular situation.

Deressa, Hassan and Ringler, (2011) describe perception as an extremely complex concept and confines 'social perception' which is concerned with the effects of social and cultural factors to cognitive structure of our physical and structural environment. This varies with the individual's past experiences and present sets or attitudes acting through values, needs, memories, moods, social circumstances and expectations.

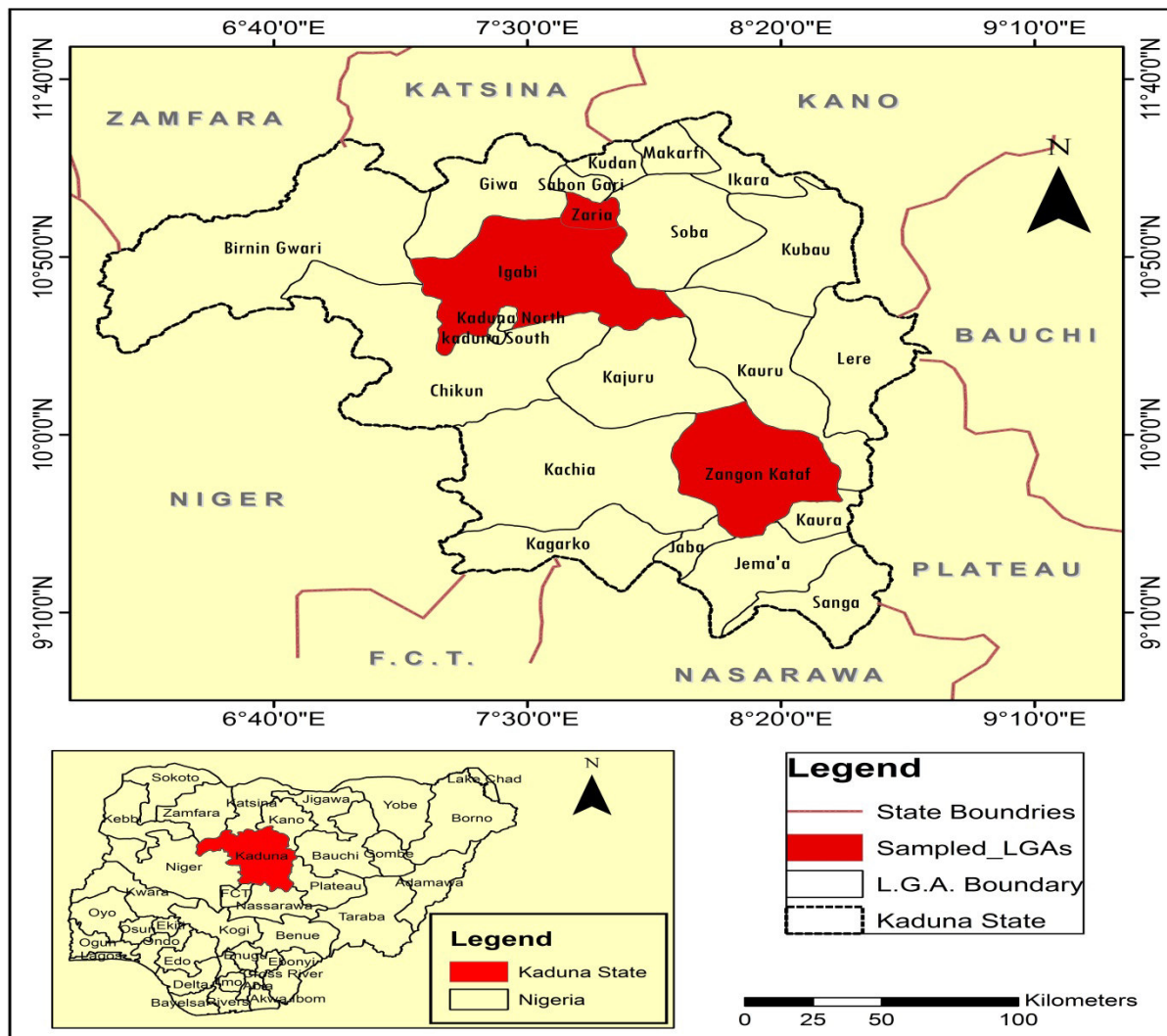
Traditionally, rural communities in Kaduna State have relied upon the spiritual and practical skills of traditional medicinal practitioners (TMPs), whose botanical knowledge of plant species and their ecology and scarcity are invaluable (Laah, 2002). Throughout Nigeria, the gathering of medicinal plants was traditionally restricted to TMPs or their trainees. It is estimated that the number of traditional practitioners in Kaduna State is between 10,000, and 20,000 in comparison with 100 medical doctors (Joshua, 2010). For this reason, there is a need to involve TMPs in state healthcare systems through training and evaluation of effective remedies, as they are a large and influential group in primary healthcare.

Urbanization has increasingly concentrated a large number of people in an environment, where there is stronger competition from western medicine, because it is generally more near than in rural areas. Traditional healing is also flourishing in such urban settings (such as in Zaria, Igabi and Zangon Kataf), however, because it adapts itself to these surroundings. In other words, traditional medicine is more than a static and inflexible institution which has survived the test of time (Vision 2020 Kaduna State, 2010). This study examines the space-time variation in the perception and patronage of traditional medicine in Kaduna State.

## 1.2. Study Area

### 1.2.1 Location

Kaduna State is located on the southern end of the high plains of northern Nigeria, bounded by parallels of latitude  $9^{\circ}02'N$  and  $11^{\circ}32'N$ , and extends from the upper River Mariga on longitude  $6^{\circ}15'E$  to  $8^{\circ}38'E$  of the Greenwich meridian on the foot slopes of the scarp of Jos Plateau (Udo, 1970). The state is divided into three senatorial zones, namely; Kaduna North, Central and South and it comprises twenty three (23) Local Government Areas, 46 Local Development Areas (LDAs), and there are 255 political wards (NPC, 2009). Kaduna State shares its boundary with Katsina State to the North, Niger State and Abuja to the west, Plateau State to the South and Kano State to the east. The State occupies an area of approximately  $45,711.2\text{km}^2$  and had a population of 6,113,503 people with an annual growth rate of 3% during the 2006 census (FRN, 2010).



**Fig. 1.1: Kaduna State Showing the Study Area**  
 Source: Adapted from Administrative Map of Kaduna State

## **1.3 Materials and Methods**

### **1.3.1 Reconnaissance Survey**

The first phase of the research involved a reconnaissance survey as part of an initial exploration of how the spatio-temporal variation in the perception and patronage of traditional medicine in Kaduna State was being experienced, viewed, understood and patronized. The content and framework of the questionnaire were evaluated and pre-tested in a group of 30 purposively selected people (10 each) from the three study sites.

The second phase of the reconnaissance survey involved visits to healing centres/points and people that patronize them. This afforded the opportunity of on-the-spot assessment of how traditional healers administer treatment to their patients and whether such patients receive any improvement in the healing process.

### **1.3.2 Types of Data**

The types of data include socio-economic data, place or layout of resident data, demographic data; cultural data and perceive distance such as distance from the health care service provision is used.

### **1.3.3 Sources of Data**

The data that was used for this study were obtained from both primary and secondary sources. The primary source involves the use of structured questionnaires, in-depth interview, and Focus Group Discussions (FGDs), while the secondary source involves the use of textbooks, magazines, journals, articles, gazettes and other relevant materials were used for the review of related literature.

#### *1.3.3.1 Primary sources*

Primary source data are the information obtained through first hand, collated by the researcher. It involves the use of semi-structured questionnaire, in-depth interview (IDIs), and Focus Group Discussions (FGDs).

The actual respondents include traditional medical practitioners, patrons of traditional medicine, community leaders, NGO's, Institutions and Agencies in Kaduna State. The respondents were selected at the point of administering traditional medicine. The research assistants were at the healing point to administer the questionnaires to willing clients/ patients on a daily basis until the required sample size was obtained.

The questionnaire is designed to obtain relevant demographic and socio-economic characteristics of the respondents reflecting ages, occupations, marital status, education, income, types of accommodation, residence, the guidelines are approved and adopted for the perception and practice of traditional medicine in Kaduna State, the variation in space and time of patronage of traditional medicine in the study area, the factors that influence the perception and patronage of traditional medicine, and the variation in the perception and patronage of traditional medicine in Kaduna State.

Questionnaire was administered by the research assistants to the respondents and the purpose of the questionnaire was to collect factual and/or attitudinal data for measurement. It was designed to obtain accurate and valid responses regarding the spatio-temporal variation in the perception and patronage of traditional medicine in Kaduna State, Nigeria.

#### *1.3.3.2 Secondary Sources*

As part of the secondary data, existing official and unofficial statistics from both national and international publications, including articles, journals, books, conference papers, theses and dissertations were used. Some of the publications from WHO/UNICEF were used as guides. Data from Federal and State Ministries of Health/Planning and the National Bureau of Statistics (NBS) were required for background information on distribution of healthcare facilities. Data were also obtained from the National Population Commission (NPC) publications, analytical reports and other commissioned papers.

In addition, records and documents from Kaduna State health and revenue departments, general hospitals, NAFDAC centers, dispensaries and clinics were used. Downloaded online articles and reports of conferences of national and international agencies from several web sites were used and some of these pieces of information provided answers to several questions in this research.

### **1.3.4 Sampling Design and Sample Size**

Kaduna State has a population of 6,113,503 (FGN, 2007). It comprises of twenty three (23) Local Government Areas, grouped into three senatorial districts. Three Local Government Areas were selected for the study. The selection of these three LGAs was based on certain criteria.

One Local Government Area was chosen from each of the three senatorial districts. The LGA chosen was the one with the highest population in each of the senatorial districts in Kaduna State. Therefore, the LGAs chosen are Zaria, Igabi and Zangon Kataf.

**Table 1: Distribution of LGAs by Senatorial Zones**

<b>NORTH Zone 1</b>		<b>CENTRAL Zone 2</b>		<b>SOUTH Zone 3</b>	
<b>LGA</b>	<b>POP</b>	<b>LGA</b>	<b>POP</b>	<b>LGA</b>	<b>POP</b>
Ikara	194,723	Birningwari	258,581	Jaba	155,973
Kubau	280,704	Chikun	372,272	Jema,a	278,202
Kudan	138,956	Giwa	292,384	Kachia	252,568
Lere	339,740	Igabi	430,753	Kagarko	239,058
Makarfi	146,574	Kaduna north	364,575	Kaura	174,626
Sabongari	291,358	Kaduna South	402,731	Kauru	221,276
Soba	291,173	Kajuru	109,810	Sanga	151,485
Zaria	406,990			ZangonKataf	318,991
<b>8</b>		<b>7</b>		<b>8</b>	

Source: National Population Commission, 2009

The systematic random sampling was employed to select the wards from each LGA, for the administration of questionnaire. All the wards in the selected Local Government Areas were arranged alphabetically and every other third ward was selected as samples for questionnaire administration. Tables 2 present the details.

<b>Wards in Igabi LGA</b>		
1.Afaka	6.Kerewa	11.Turunku
2.Birnin Yero	7.Kwarau	12.Zangon Aya
3.Gadan Gaya	8.Riga Chikun	
4.Gwaraji	9.Rigasa	
5.Igabi	10.Sabon Birni	
<b>Wards in ZangonKataf LGA</b>		
1.Gidan Jatau	6.Unguwan Gaya	11.Zonzon
2.Gora	7.Unguwan Rimi	
3.Kamuru Ikulu	8.Zaman Dabo	
4.Kamanton	9.Zango Urban	
5.Madakiya	10.Zonkwa	
<b>Wards in Zaria LGA</b>		
1.Angwan Fatika	6.Kauran Limanci	11.Tudun Wada
2.Angwan Juma	7.Kufena	12.Tukurtukur
3.Dambo	8.Kwarbai A	13.Wuciciri
4.Dutsen Abba	9.Kwarbai B	
5.Gyallesu	10.Kona	
<b>Selected wards in Kaduna</b>		
<b>Igabi LGA</b>	<b>ZangonKataf LGA</b>	<b>Zaria LGA</b>
Gadan Gaya	Kamuru Ikulu	Dambo,
Kerewa,	Unguwan Gaiya	Kauran Limanci
Rigasa	Zango Urban	Kwarbai B
Zangon Aya		Tukurtukur

Source: National Population Commission, 2009

Yamane, (1961), sample size of a given population determination formulae is used to calculate the number of questionnaire to be administered. The formula is as follows:

$$\text{Finite population } (n_2) = \frac{N}{1 + N (e_i)^2}$$

Where: n= Sample size

$e_i$  = Level of precision or Earlier constant (0.05 degree of freedom)

N= Population Size = 1,156,734

$$\begin{aligned} (n_2) &= \frac{1,156,734}{1 + 1,156,734(0.05)^2} \\ &= \frac{1,156,734}{2892.835} \\ &= 400 \end{aligned}$$

Therefore, the copies of questionnaire administered were 400 distributed as revealed in Table 3.

**Table 3: Distribution of Questionnaires in the Selected LGA's**

Selected LGA	Population	No. of questionnaires administered per LGA.
Zaria	406,990	141
Igabi	430,753	149
Zangon-Kataf	318,991	110
Total	1,156,734	400

**Source: National Population Commission, 2009 / Field Survey, 2014**

The purposive sampling technique was used to administer the questionnaire at the healing point to willing client on daily basis until the required sample size was obtained. Kerlinger (1999) describes purposive sampling as being characterized by the use of personal judgment and a deliberate attempt to obtain representative samples by including presumable typical areas or groups in the sample.

### 1.3.5 METHOD OF DATA ANALYSIS

Both descriptive and inferential statistics were used in the analysis. The descriptive statistical analysis was adopted for summarization of data, tables, percentages, pie chart and bar chart and to analyze the data collected, relating it to the population of the study area.

## 1.4 Results and Discussions

### 1.4.1 Space-Time Variation in the Day of Patronage of Traditional Medicine

#### 1.4.2 Traditional Medicine Facility Visited

Table 4 presents results of the analysis on the traditional medicine facility visited, From the result, a greater percentage (29.0%) visited traditional birth attendants for delivery related cases; 27.0% visited bonesetter for fracture resulting from accidents among other causes of broken bones; 20.5% utilized traditional barber/tooth puller, while 15.0% visited herbalist for infectious disease such as malaria, typhoid and cholera among others.

**Table 4: Distribution of Respondent by Traditional Medicine Facility Visited**

Healthcare Facility Visited	Frequency	Percentage
Traditional Birth Attendant	116	29.0
Tooth puller/Traditional barber	82	20.5
Bone setter	108	27.0
Spiritualist	32	8.0
Herbalist	60	15.0
Others	2	0.5
<b>Total</b>	<b>400</b>	<b>100.0</b>

F = 3.425; Sig = 0.034; df = 2/347

Source: Field Survey, 2014

### 1.4.3 Days of Visitation of Traditional Medicine

Visit to these traditional medicine providers were done on different days. Thus, information on the days of the week respondents visited the respective traditional medicine facilities across the three selected Local Government Areas (LGAs) is shown in Table 5 In Igabi LGA, 10.25% of the respondents visit traditional medicine provider on Mondays, 8.75% make their visit on Sundays followed by 5.5% of the respondents who made visit on Tuesday while 5.25% visits traditional medicine on Saturdays. However, the reason why Monday and Sundays dominate in patronage may be due special treatment days set aside by healers for antenatal, post-natal and children related ailments and so on, which often attract high patronage by the respondents. Thus, there are no specific days of visit to healthcare centres, visits are made when the need arises, however, the most suitable days were Mondays, followed by Sundays, and then Tuesdays/Saturdays. Visits were seldom made on Fridays probably because of the nature of the study area which is dominated by Muslims and Hausas in particular whom observes Fridays as special day for Jumat prayers.

**Table 5: Distribution of Respondent According to Days of Visitation of Traditional Medicine**

Days of Visiting TM	Igabi		Zangon Kataf		Zaria		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Sunday	35	8.75	13	3.25	12	3	60	15.0
Monday	41	10.25	13	3.25	71	17.75	125	31.3
Tuesday	22	5.5	29	7.25	34	8.5	85	21.3
Wednesday	10	2.5	18	4.5	2	0.5	30	7.5
Thursday	11	2.75	8	2	1	0.25	20	5.0
Friday	3	0.75	8	2	0	0	11	2.8
Saturday	21	5.25	12	3	21	5.25	54	13.5
Others	6	1.5	8	2	0	0	14	3.5
Total	149	37.25	110	27.5	141	35.25	400	100

Source: Field Survey, 2014

In Zangon-Kataf, 7.25% respondents visit traditional medicine centre on Tuesdays, followed by 4.5% who made visit on Wednesdays, 3.25% made visit both on Sunday and Mondays, while the days of the week that was considered unsuitable for such visit are Thursday and Friday with 2.0%. This may be due to the fact that Mondays Tuesdays and Wednesdays are special days set aside by traditional healers for special treatment or it may be due to the fact that these days are often taken very serious by respondents/workers in all sphere of life as

such those days often record high patronage. However, even in the orthodox hospital Mondays, Tuesdays and Wednesdays often have high patronage compare to other days of the week.

In Zaria LGA, 17.75% of the respondent pay visit on Mondays, followed by 8.5% who visit on Tuesday and 5.25% made visit on Saturday, while the most unsuitable day for visitation was Thursday with 0.25%. In the three LGAs, Mondays and Tuesdays are identified as the suitable days of the week for visitation, while Fridays are the most unsuitable days for such visits.

#### 1.4.4 Space-Time Variation in the Hour and Time of Visitation of Traditional Medicine

Across the three selected LGAs, visitation to the identified traditional medicine facilities in Table 6 is made at different hours and times of the day. In Igabi LGA, 13.5% visit traditional medicine facility between 7 – 11a.m, followed by 10.0% who made visit by 12 midnight and 4.0% visit at 1 – 6a.m, while 2.25% made visit at 1 – 6p.m. In Zangon-Kataf, 12 mid-day is considered most suitable for visitation; this was followed by 1 – 6p.m and then 12 midnight, while the most unsuitable hour of the day for visitation is 7 – 11p.m. In addition, in Zaria LGA, 12 midday is most suitable, followed by 1 – 6a.m and then 7 – 11p.m, 12 mid-day is consider the most unsuitable hour of the day for visitation. The result in the table shows that the hour of the day suitable and unsuitable for visitation varies significantly among the selected LGAs ( $F = 18.364, p < 0.05$ ) as shown in the ANOVA result in table 8. In concise, 12 midnight and 7 – 11a.m are identified by the analysis as the most suitable hours of the day for visitation/consultation, while 1 – 6p.m is mostly unsuitable. Visitations done at 12 midnight are usually related to spiritual cleansing and incantations related to fruit of the womb, to make peace with aggrieved persons who are dead and tranquility that makes it possible to invoke certain spirits among other reasons.

**Table 6: Distribution of Respondent by Hourly and Time of Visitation of Traditional Healing Centres**

Days of Visiting TM	Igabi		Zangon Kataf		Zaria		Total	
	Frequen cy	Percenta ge	Frequen cy	Percenta ge	Frequen cy	Percenta ge	Frequen cy	Percenta ge
12Midnight	40	10	14	3.5	74	18.5	128	32
1-6 a.m.	16	4	13	3.25	30	7.5	59	14.75
7-11 a.m.	54	13.5	11	2.75	14	3.5	79	19.75
12 Midday	16	4	43	10.75	5	1.25	64	16
1-6 p.m.	9	2.25	19	4.75	18	4.5	46	11.5
7-11 p.m.	13	3.25	10	2.5	0	0	23	5.75
Others	1	0.25	0	0	0	0	1	0.25
Total	149	37.25	110	27.5	141	35.25	400	100

Source: Field Survey, 2014

On the time of the day that is suitable for visitation, different responses were given across the selected LGAs. For instance, in Igabi, morning is considered absolutely suitable for visitation, followed by afternoon and then evening. In Zangon-Kataf, afternoon and midday are suitable time for consultation, while in Zaria, morning and afternoon were suitable time of the day for visitation. In all, the results identify morning and afternoon as most suitable time of the day to make visit to the respective healthcare facility.

**Table 7: Distribution of Respondent According to Time of the Day Suitable for Visit to Healing Centres**

Hours Suitable for Visitation	Igabi		Zangon Kataf		Zaria		Total	
	Frequenc y	Percent age	Freque ncy	Percent age	Freque ncy	Percent age	Freque ncy	Percent age
Morning (7-11am)	73	18.25	20	5	90	22.5	183	45.75
Afternoon (1-6pm)	33	8.25	48	12	28	7	109	27.25
Evening (7-11pm)	17	4.55	6	1.5	12	3	35	8.75
Midnight(12mid night)	11	2.75	9	2.25	11	2.75	31	7.75
Midday (12 midday)	14	3.5	27	6.75	0	0	41	10.25
Others	1	0.25	0	0	0	0	1	0.25
Total	149	37.25	110	27.5	141	35.25	400	100

Source: Field Survey, 2014

Likewise, One-Way ANOVA is performed to find out if there is space-time variation in the time of day for visitation to traditional medicine facility. The result obtain shows that there is a significant spatial and temporal variation in the time of the day for visitation among the selected LGAs ( $F = 15.147, p < 0.05$ ). This therefore means that the time of the day for visitation to a particular traditional medicine facility varies across space and time.

**Table 8: Distribution of Respondent by ANOVA result on the space-time variation in hour and time of visitation of traditional medicine facility**

Variables	Sum of Squares	Df	MeanSqu are	F	Sig.
<b>Variation in the hour of visitation</b>	98.194	2	49.097	18.364*	0.000
	927.695	347	2.673		
	1025.889	349			
<b>Variation in the time of the day suitable for of visitation</b>	62.293	2	31.147	15.147*	.000
	713.547	347	2.056		
	775.840	349			

**\*Significant at 5% alpha level**

Source: Field Survey, 2014



**Table 9: Distribution of Respondents by Distance Travelled to Nearest Traditional Medicine Centre**

Distance Travelled to TM Centre	Igabi		Zangon Kataf		Zaria		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1-2Km	76	19.0	104	26.0	122	30.5	302	75.5
3-4Km	54	13.5	5	1.25	19	4.75	78	19.5
5-6Km	12	3.0	1	0.25	0	0.0	13	3.25
7-8Km	3	0.75	0	0.0	0	0.0	3	0.75
Others	4	1.0	0	0.0	0	0.0	4	1.0
Total	149	37.25	110	27.5	141	35.25	400	100.0

Source: Field Survey, 2014

#### 1.4.5 Space- Time Variation in Distance Travelled to nearest Traditional Medicine Centre

Respondents in the three selected LGAs travelled for varying distance to the nearest traditional medicine centre for treatment (Table 9). In Igabi LGA, majority of the respondents travelled 1 – 2km to the nearest traditional medicine centre, this is followed by health facility that is 3 – 4km, while traditional medicine facility more than 6km is seldom travelled to seek treatment.

In Zangon-Kataf and Zaria LGAs, majority of the respondents also travelled 1 – 2km to the nearest traditional medicine centre. This may imply that the traditional medicine facilities are closer to the people. Thus, in the three LGAs, 1 – 2km is usually travelled in order to access the nearest traditional medicine centre. The result in Table 9 shows that there is a significant spatial and temporal variation in the distance travelled by respondents in the three LGAs to the nearest traditional medicine centre ( $F = 34.228, p < 0.05$ ). This therefore means that the distance travelled to the nearest traditional medicine centre varies significantly across space and time. In concise, the information in Table 5.6 indicates that a greater percentage of the people in Igabi, Zangon-Kataf and Zaria LGAs travel 1 – 2km to the nearest traditional medicine centre.

#### 1.5 CONCLUSION

From the research findings, it became obvious that traditional medicine varies across space and time and the time of the day and hour of the day respondents patronize it services also varies across space and time. The potential of traditional medicine in treating diseases was acknowledged by patrons and practitioners of traditional medicine. As such, traditional medicine undoubtedly occupies so much space in the healthcare delivery system in the country.

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