data such as age, sex were extracted from the laboratory data base.

Culture:

The clinical samples collected were aseptically inoculated on plates of blood agar, Cysteine-Lactose-Electrolyte-Deficient agar, and MacConkey agar; all incubated at 37°C for 24hours. The morphological characteristics of the colonies including size, shape, colour and hemolytic nature were recorded. Suspected Proteus colonies were isolated and identified through biochemical tests according to Cheesbrough,[9] based on whether they were positive for nitrate reduction;H2S gas production: methyl red and urease reactions and negative for lactose fermentation.

Antimicrobial Susceptibility Test

Susceptibility of *Proteus mirabilis* to different antimicrobials was done using the modified Kirby-Baeur disk diffusion method. The following antibiotics Sulbactam, Augumentin, Imipenem, Piperacillin, Gentamicin, Cefuroxime, Ofloxacin, Ceftriaxone, Ceftazidime and Ciprofloxacin were used. The inocula were prepared by growing various Proteus species on separate agar plates and colonies from the plates were transferred with inoculating loop into 3mls of normal saline in a test tube. The density of the suspension was adjusted to 0.5 Mc farland standard. The surface of the sensitivity agar was evenly inoculated with the organisms using a sterile swab, and the antibiotics were applied to the surface of the agar. The plates were incubated over night at 37°C. The zone diameter of growth inhibition was measured and compared with that of NCCLS.[10]

Results

Ninety eight (98) isolates from various clinical specimens were analysed in this study. Table 1 shows the distribution of isolates according to diagnosis. A total of 49(50.0%) of the isolates were from wound infections, followed by urinary tracts infections 20(20.4%) and which was closely followed by otitis media 18(18.3%). Table 2,depicts the source related prevalence, the dominant specimen was wound,56(57.1%),followed mid-stream urine sample 20(20.4%) and the least sample was throat swab 4(4.1%).

Table 3, highlights the age and gender distribution of the isolates. Majority of the specimen came from the 31-40years of age. 23(23.5%), followed by the 21-30years. 19(19.4) %. The least specimen was from 80 years and above 5(5.1%). A total of 52(53.1%) were from males and 46(46.9%) from females.

Table 4, explains the isolates sensitivity in relation to the drugs. All isolates were sensitive to Imipenem 9(100.0%) and Piperacillin 5(100.0%). The isolates were moderately sensitive to the

Table 1. Percentage prevalence of the isolates according to diagnosis

Diagnosis	Frequency	Percentage
Wound infections	49	50.0
Urinary tract infections	20	20.4
Otitis media	18	18.3
Post surgical wound infections	4	4.1
Pharyngitis	4	4.1
Umbilical cord infection	3	3.1
Total	98	100%

Table 2. Source related prevalence of the isolates

Specimens	No tested	Positive for Proteus	Positive percentage
Wound swabs	150	56|98	57.1
Mid stream urine	1200	20|98	20.4
Ear swabs	150	18|98	18.4
Throat swabs	40	4|98	4.1
Total	1540	98|1540	6.4%

Table 3. Age and gender distribution of the isolates

AGE(YRS)	F(%)	M(%)	Total
<1	3(3.1).	7(7.1)	10(10.2)
1-20	10(10.2)	2(2.0)	12(12.2)
21-30	8(8.2)	11(11.2)	19(19.4)
31-40	7(7.1)	16(16.3)	23(23.5)
41-50	2(2.0)	8(8.2)	10(10.2)
51-60	4(4.1)	3(3.1)	7(7.1)
61-70	1(1.0)	5(5.1)	6(6.1)
71-80	6(6.1)	0(0.0)	6(6.1)
>80	5(5.1)	0(0.0)	5(5.1)
Total	46.0(46.9)	52.0(53.1%)	98

Table 4. Isolates sensitivity and resistance in relation to the drugs

Antibiotics	No Tested	No(Sensitive)	No(Resistant)
Sulbactam	30	18(60.0)	12(40.0)
Augumentin	74.	43(58.1).	31(41.9)
Imipenem	9.	9(100.0).	0(0.0)
Piperacillin	5.	5(100.0).	0(0.0)
Gentamicin	55.	35(63.6).	20(36.4)
Cefuroxime	75.	47(62.7).	28(37.3)
Ofloxacin	17.	13(76.5).	4(23.5)
Ceftriaxone	92.	64(69.5).	28(30.4)
Ceftazidime	77.	61(79.2).	16(20.8)
Ciprofloxacin	76.	44(57.9).	32(42.1)
Total	510.	339(66.5).	171(33.5)

cephalosporins, Ceftazidime 61(79.2%),Ceftriaxone 64(69.5%).The isolates of Proteus were more sensitive to Ofloxacin 13(76.5%)than ciprofloxacin 44(57.9%).

Discussion

This study ascertains the antibiotics susceptibility pattern of Proteus species to commonly used antibiotics in our laboratory. Proteus are important pathogenic organisms in the family Enterobacteriaceae. It has some virulence factors that explain their ability to cause infections in human. The isolation rate of Proteus in this study was 6.5 %.This finding correlates with