

# Multi-drug Resistant Tuberculosis and its predictors among patients attending Directly Observed Treatment short-course Clinic in Lagos State University Teaching Hospital, Ikeja, Lagos, Nigeria: A Secondary Data Analysis 2018-2022

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## Main Findings

- Prevalence of DR-TB was 6.5%
- The DR-TB prevalence decreased from 2018 to 2019 and then increased from 2019 to 2022
- DR-TB patients with HIV were 8(23.5%)
- No predictor of DR-TB was found

## BACKGROUND

Nigeria ranked 1<sup>st</sup> in Africa and 6<sup>th</sup> among the high MDR-TB burden. National MDR-TB burden is estimated at 21,000 annually. Untreated or improperly treated patients contribute to the transmission of resistant strains.

## METHODS

**Study design:** A retrospective review of presumptive TB register of patients screened for Mycobacterium tuberculosis (MTB) and MDR-TB using gene Xpert.  
**Study population:** MDR-TB patients attending DOTS clinic in LASUTH, Ikeja.  
**Calculated Sample size:** 275  
**Sample size used for the study:** 520  
**Sampling technique:** Purposive  
**Study period:** 3 months  
**Data collection:** Secondary data from presumptive TB register.  
**Outcome variables:** Prevalence of RR-TB, Trend of the RR-TB over 5 years period, Predictors of RR-TB.  
**Data Analysis:** SPSS version 27 and Microsoft Excel 2016.  
 Univariate analysis was done for categorical variables using frequencies and proportions. Bivariate analysis was done using chi square and Fisher Exact tests to show an association between dependent and independent variables. A P value less than 0.05 was considered to be statistically significant.

## RESULTS

Median age of the patients was 36(22-47)years. About one-quarter of the patients 9(26.5%) were in the age group 30-39years. Majority 19(55.9%) were females. The highest number of cases were from Ikeja LGA 7(20%). The lowest number of cases came from 5LGAs, 1(3%) - Apapa, Badagry, Isolo, Kosofe, Lagos Island. Prevalence of DR-TB was 6.5%. The DR-TB prevalence decreased from 2018 to 2019 and then increased from 2019 to 2022. DR-TB patients with HIV were 8(23.5%). No predictor of DR-TB was found.

Table 1: Association between socio-demographic characteristics of patients and the class of TB in LASUTH, 2018 - 2022

Variable	MDR:REF Negative (n=456) Freq (%)	MDR:REF Positive (n=34) Freq (%)	Chi square	P-value
<b>Age group (years)</b>			11.57	0.7868
0-9	44 (9.0)	1 (2.9)		
10-19	58 (12.1)	2 (5.9)		
20-29	76 (15.6)	7 (20.6)		
30-39	97 (20.0)	9 (26.5)		
40-49	110 (22.6)	7 (20.6)		
50-59	55 (11.3)	5 (14.7)		
60-69	35 (7.3)	2 (5.9)		
70-79	8 (1.7)	1 (2.9)		
80-89	2 (0.4)	0 (0.0)		
Median (IQR)	36 (22-47)			
<b>Gender</b>			49.26	0.295
Male	277 (57.0)	15 (44.1)		
Female	209 (43.0)	19 (55.9)		
<b>Marital status</b>			14.725	0.142
Single	190 (39.0)	13 (38.2)		
Married	290 (59.7)	20 (58.8)		
Divorced	5 (1.0)	1 (2.9)		
Widowed	1 (0.3)	0 (0.0)		
<b>HIV status</b>			2.661	0.850
Positive	76 (15.6)	8 (23.5)		
Negative	410 (84.4)	26 (76.5)		

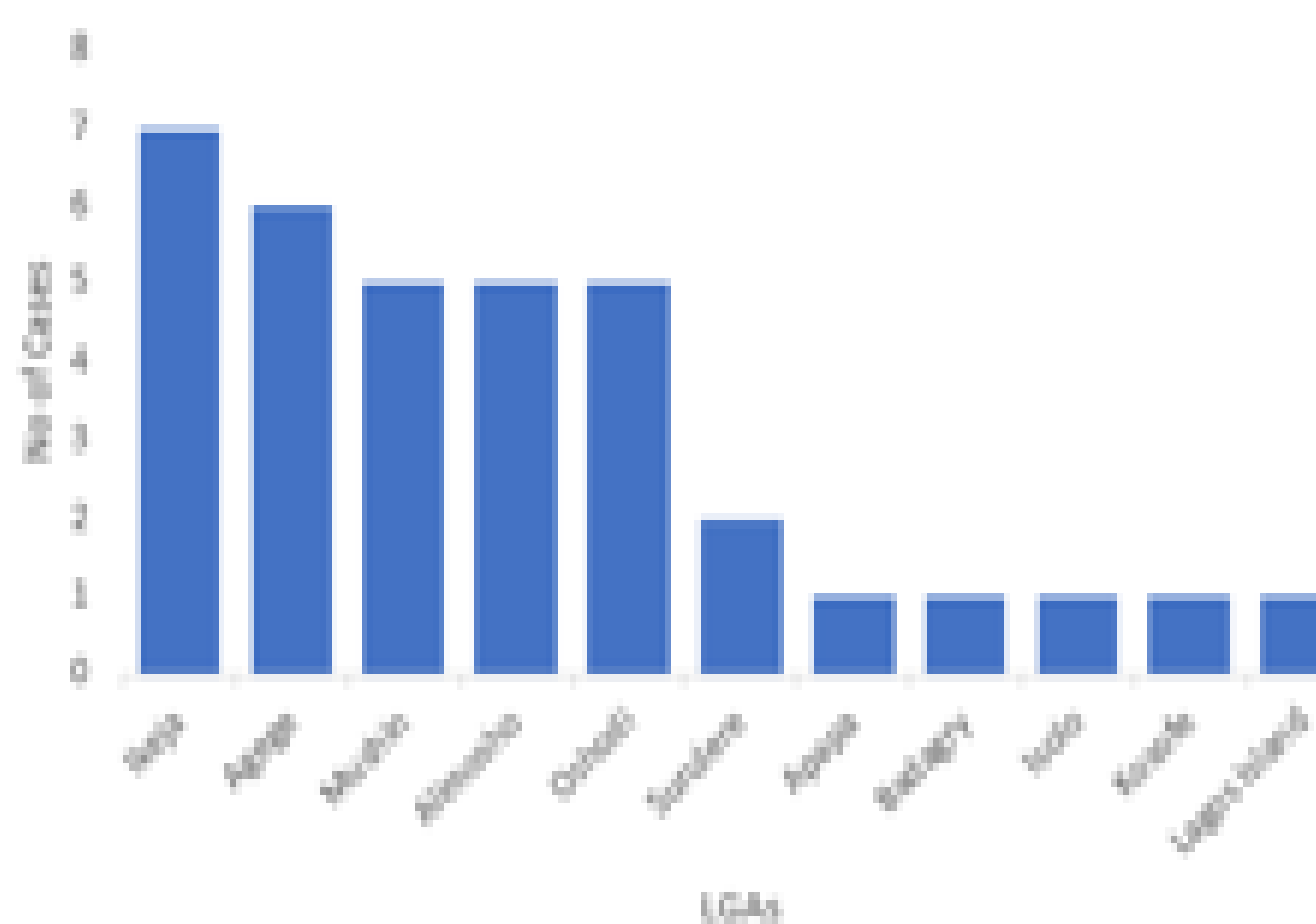
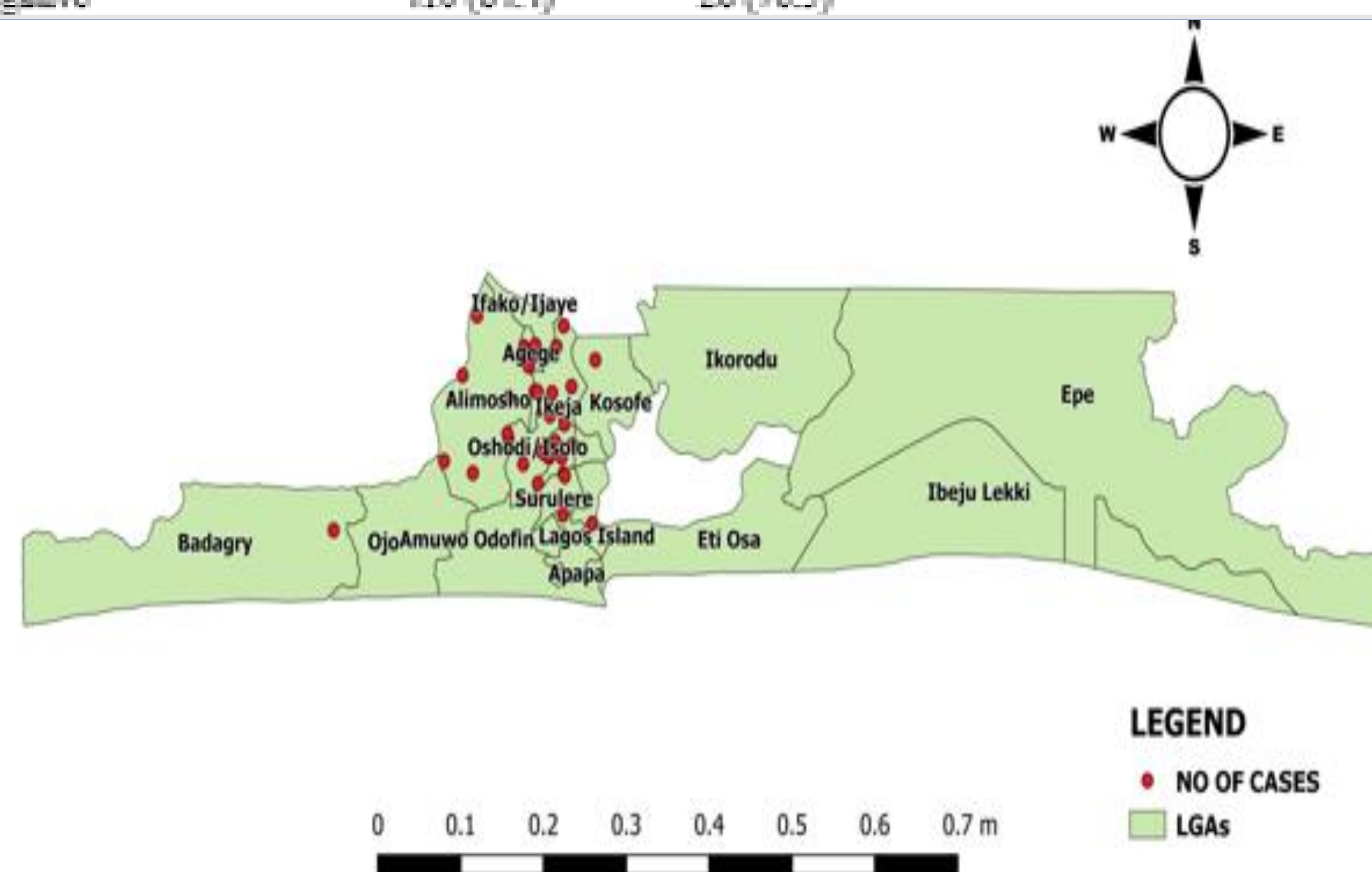
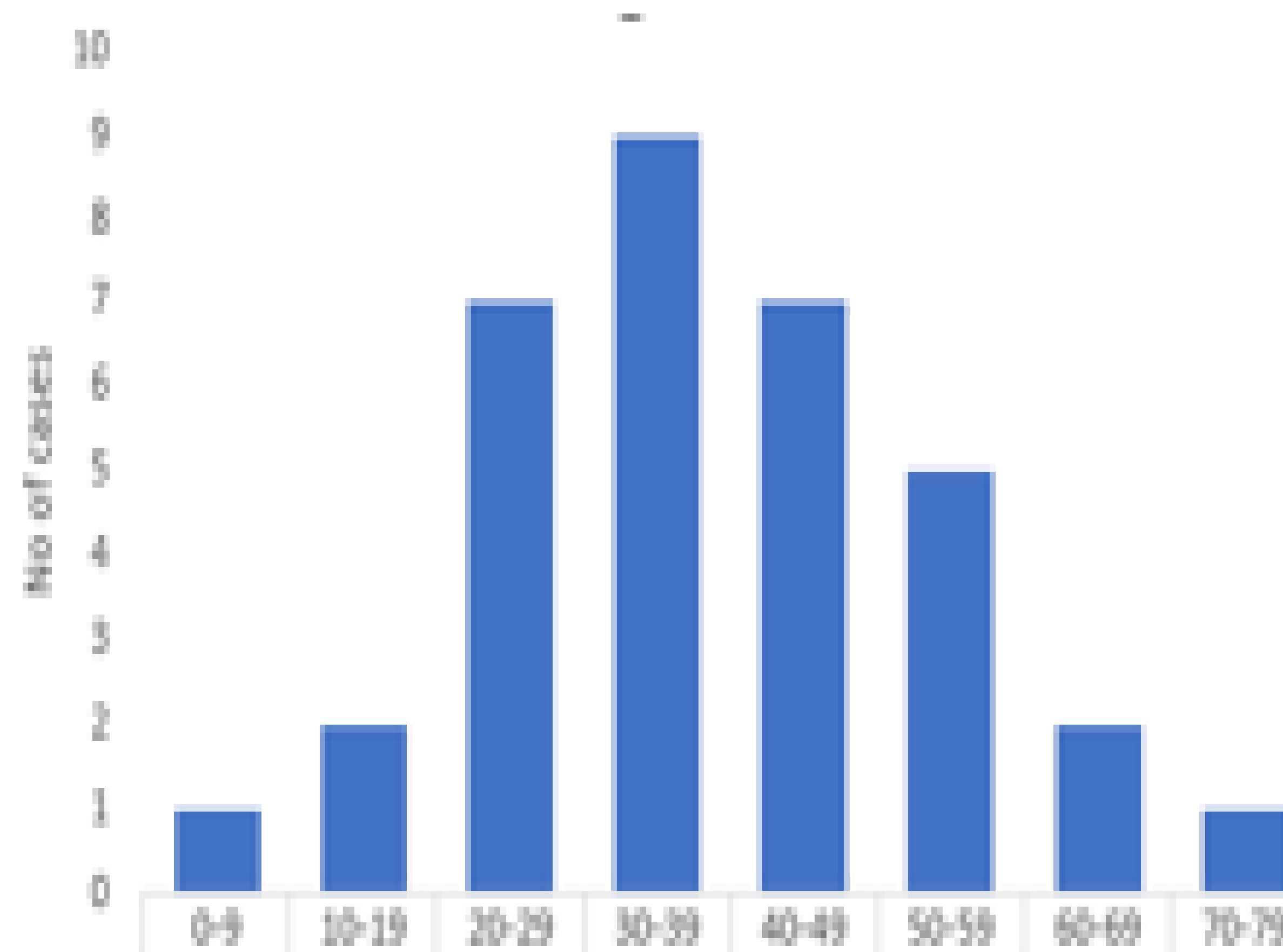


Fig 2. Distribution of RR-TB cases across the LGAs in Lagos State, 2018-2022



## CONCLUSIONS

Prevalence of DR-TB was relatively low. The overall prevalence showed upward trend in the last four years under review. The finding from this study supports the fact that the prevalence of drug-resistant TB is still relatively lower compared to that of drug-susceptible TB. The study shows the increase in trend of the prevalence in the last four years under review due to COVID-19 pandemic which was prioritized over TB management. Adequate surveillance and preventive/control measures should be put in place during any pandemic so as to prevent increase in prevalence of MTB/MDR TB and other priority diseases.

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**Conflict of interest statement**  
 The authors declare no competing interests.

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