Table 1: Geographical distribution of pulmonary and extrapulmonary tuberculous cases and statistical analysis between both types.

TB cases / Locality	Pulmonary TB		Extrapulmonary TB		Total		P	Statistical significance
	No.	%	No.	%	No.	%		
Ashmoun	296	73.27	108	26.73	404	10.01	< 0.0001	Highly significant
Birket El Sabaa	188	63.09	110	36.91	298	7.39	< 0.0001	Highly significant
El Bagour	230	79.04	61	20.96	291	7.21	< 0.0001	Highly significant
Manouf	978	72.93	363	27.07	1341	33.23	< 0.0001	Highly significant
Quesna	273	67.41	132	32.59	405	10.04	< 0.0001	Highly significant
Shibin El Kom	518	61.45	325	38.55	843	20.89	< 0.0001	Highly significant
Shohada	63	64.95	34	35.05	97	2.40	< 0.0001	Highly significant
Tala	176	77.88	50	22.12	226	5.60	< 0.0001	Highly significant
Zawyat El Naoura	104	80.0	26	20.0	130	3.22	< 0.0001	Highly significant
Total	2826	70.04	1209	29.96	4035	100	< 0.0001	Highly significant

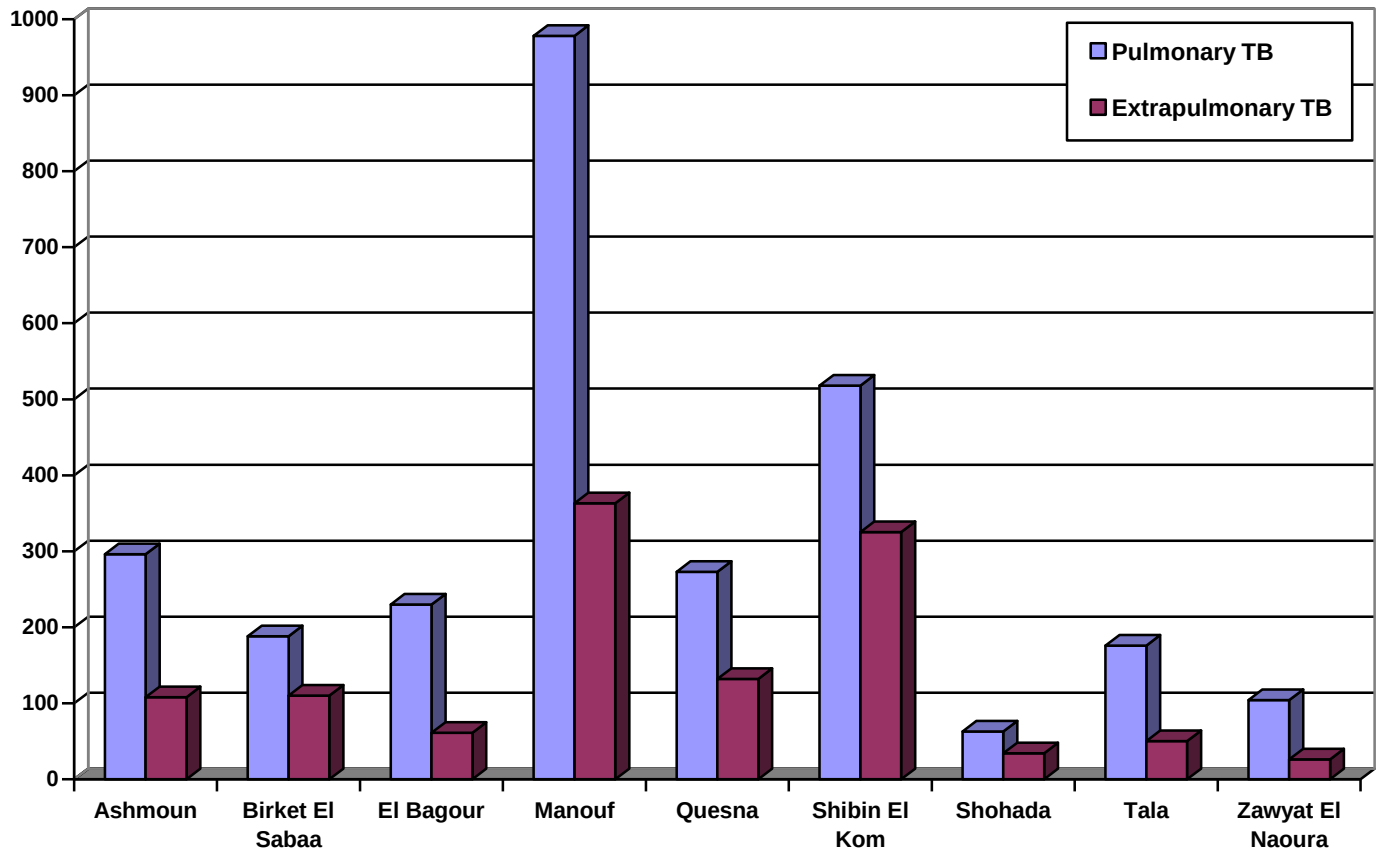

Diagram 1: Geographical distribution of pulmonary and extrapulmonary tuberculous cases.

Table 2: Distribution of total tuberculous cases according to the months of the year during the period of the study.

TB cases / Month	No.	%
January	306	7.58
February	257	6.37
March	381	9.44
April	349	8.65
May	370	9.17
June	434	10.76
July	356	8.82
August	410	10.16
September	294	7.29
October	319	7.91
November	280	6.94
December	279	6.91
Total	4035	100

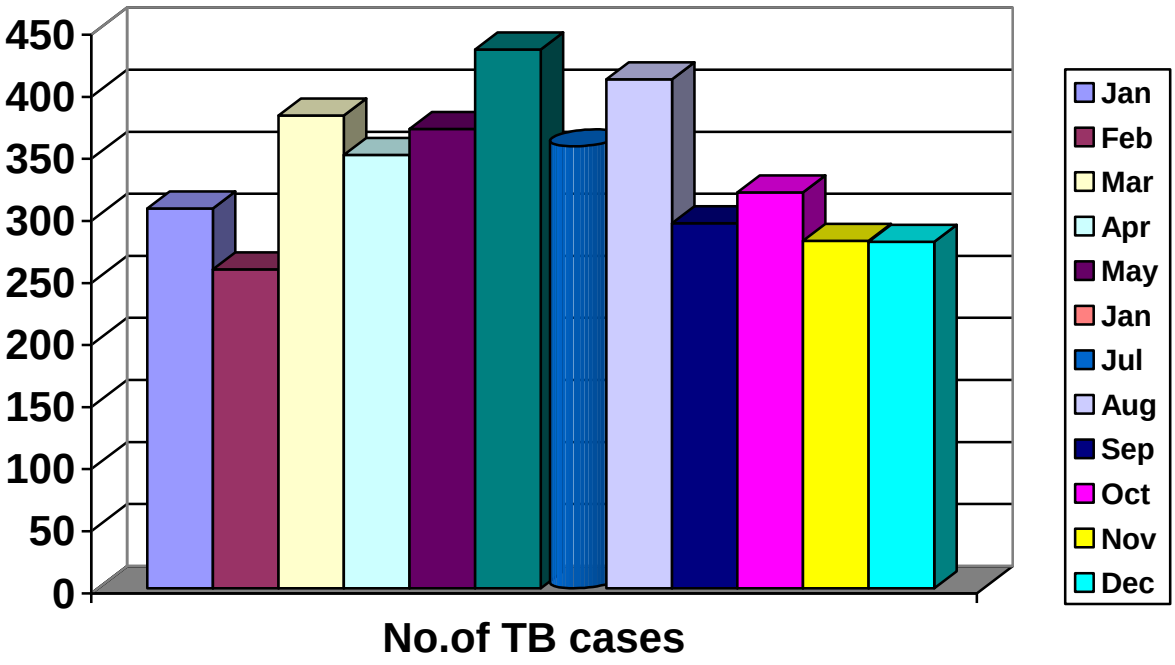

Diagram 2: Distribution of total tuberculous cases according to the months of the year during the period of the study.

Table 3: Distribution of pulmonary and extrapulmonary tuberculous cases according to the months of the year during the period of the study and statistical analysis between both types.

TB cases / Month	Pulmonary TB		Extrapulmonary TB		Total	P	Statistical significance
	No.	%	No.	%			
January	218	71.24	88	28.76	306	< 0.0001	Highly significant
February	169	65.76	88	34.24	257	< 0.0001	Highly significant
March	251	65.88	130	34.12	381	< 0.0001	Highly significant
April	239	68.48	110	31.52	349	< 0.0001	Highly significant
May	248	67.03	122	32.97	370	< 0.0001	Highly significant
June	292	67.28	142	32.72	434	< 0.0001	Highly significant
July	247	69.38	109	30.62	356	< 0.0001	Highly significant
August	303	73.90	107	26.10	410	< 0.0001	Highly significant
September	220	74.83	74	25.17	294	< 0.0001	Highly significant
October	226	70.85	93	29.15	319	< 0.0001	Highly significant
November	210	75.0	70	25.0	280	< 0.0001	Highly significant
December	203	72.76	76	27.24	279	< 0.0001	Highly significant
Total	2826	70.04	1209	29.96	4035	< 0.0001	Highly significant

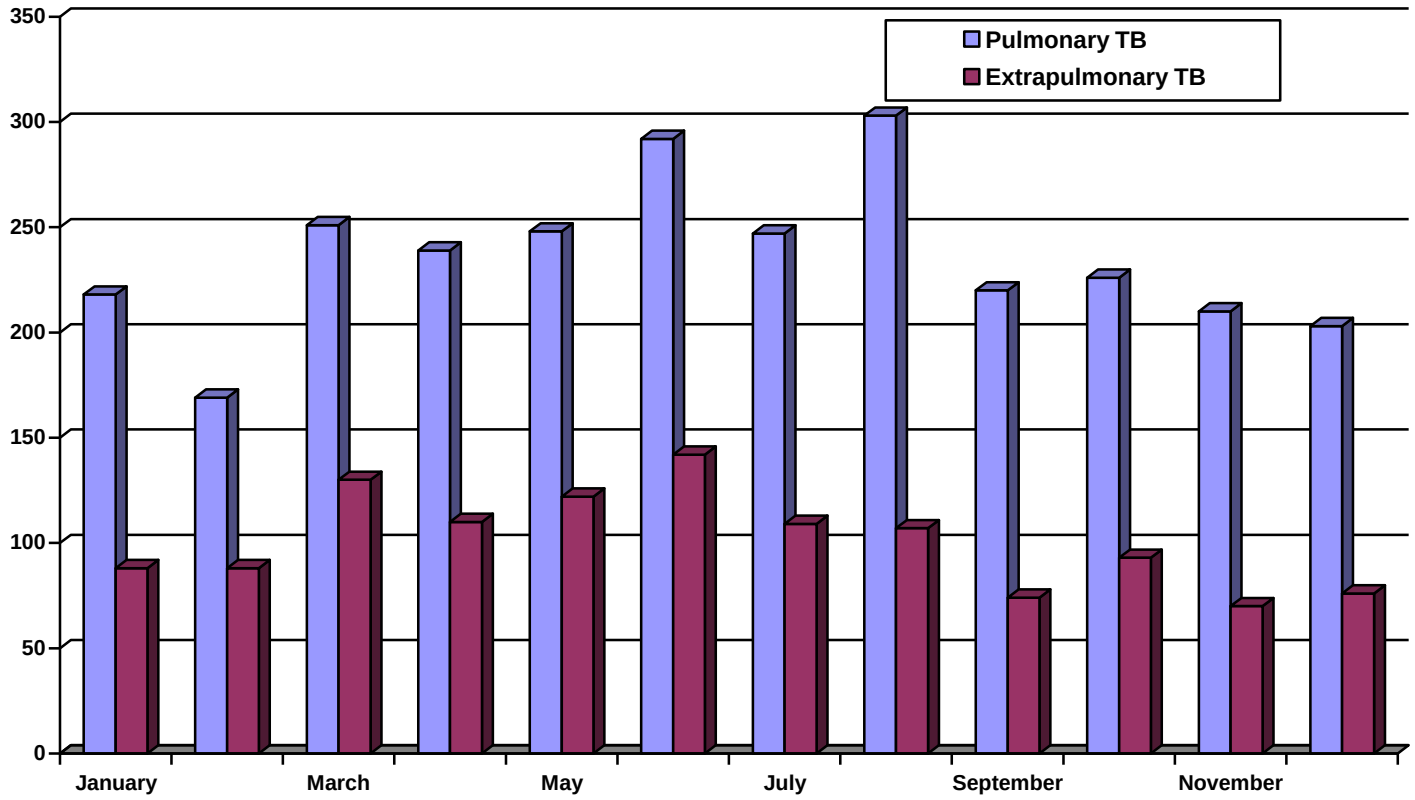

Diagram 3: Distribution of pulmonary and extrapulmonary tuberculous cases according to the months of the year during the period of the study.

Table 4: Distribution of cases according to age group during the period of the study.

Age group / Year	<15		15-29		30-44		45-59		60+		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1992	24	8.54	115	40.93	101	35.94	27	9.61	14	4.98	281	100.0
1993	20	6.21	127	39.44	117	36.34	43	13.35	15	4.66	322	100.0
1994	21	7.32	126	43.9	82	28.57	38	13.24	20	6.97	287	100.0
1995	5	1.82	106	38.69	103	37.59	43	15.69	17	6.2	274	100.0
1996	4	1.81	94	42.53	68	30.77	39	17.65	16	7.24	221	100.0
1997	21	9.25	75	33.04	75	33.04	39	17.18	17	7.49	227	100.0
1998	6	3.17	77	40.74	56	29.63	39	20.63	11	5.82	189	100.0
1999	18	7.03	88	34.38	76	29.69	49	19.14	25	9.77	256	100.0
2000	20	6.83	89	30.38	87	29.69	74	25.26	23	7.85	293	100.0
2001	27	10.8	83	33.2	65	26.0	47	18.8	28	11.2	250	100.0
2002	38	14.29	73	27.44	78	29.32	54	20.3	23	8.65	266	100.0
2003	44	16.6	70	26.42	69	26.04	56	21.13	26	9.81	265	100.0
2004	20	9.95	65	32.34	49	24.38	47	23.38	20	9.95	201	100.0
2005	32	16.84	48	25.26	45	23.68	39	20.53	26	13.68	190	100.0
2006	19	10.56	55	30.56	43	23.89	43	23.89	20	11.11	180	100.0
2007	14	9.27	50	33.11	39	25.83	37	24.5	11	7.28	151	100.0
2008	10	5.49	60	32.97	35	19.23	51	28.02	26	14.29	182	100.0
Total	343	8.5	1401	34.72	1188	29.44	765	18.96	338	8.38	4035	100.0

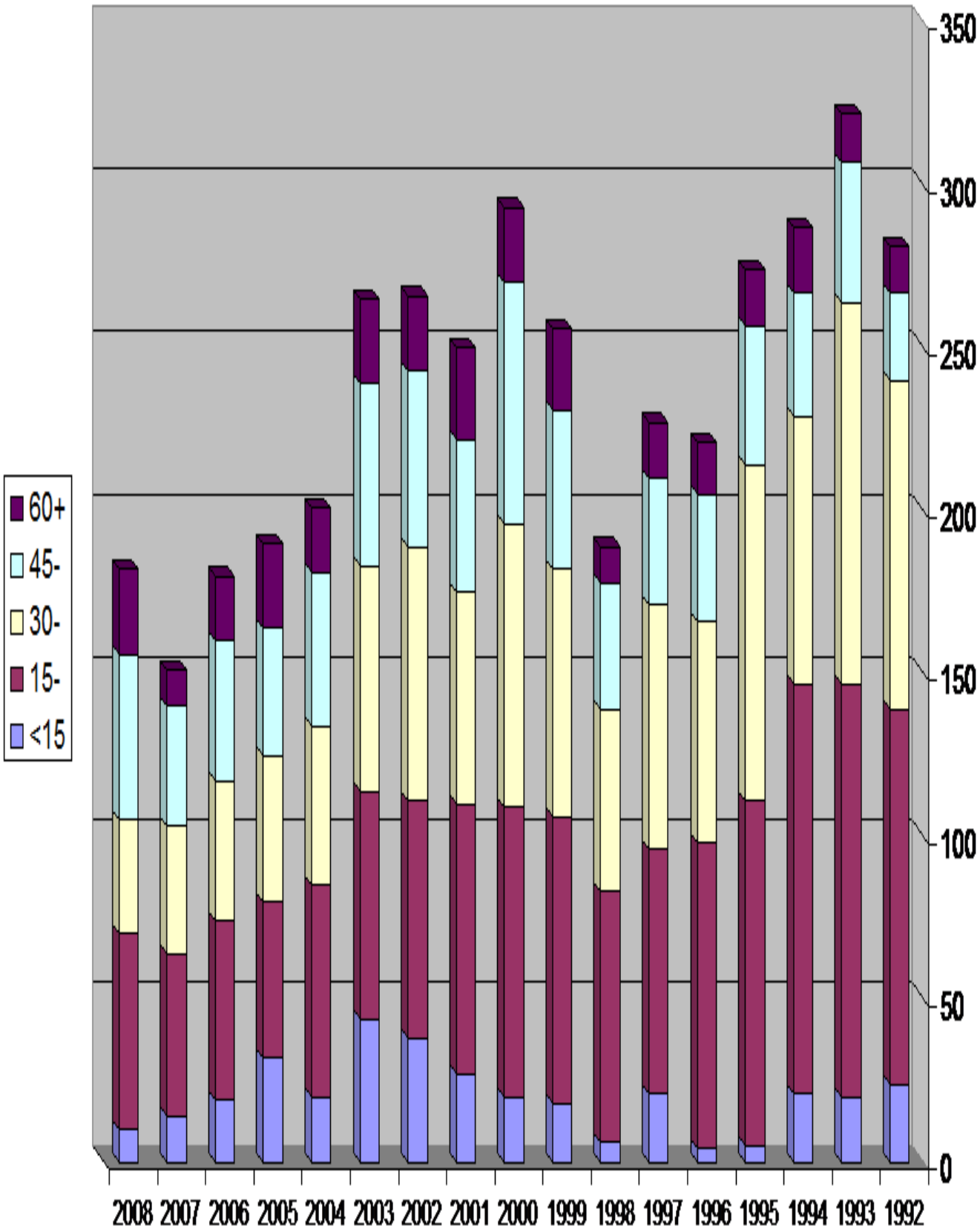

Diagram 4: Distribution of total tuberculous cases according to the age group.

Table 5: Distribution of total tuberculous cases according to the sex and statistical analysis between males and females.

Gender / Year	Males		Females		Total	P	Statistical significance
	No.	%	No.	%			
1992	**185**	**65.83**	**96**	**34.16**	**281**	**P<0.0001**	highly significant
1993	**208**	**64.59**	**114**	**35.40**	**322**	**P<0.0001**	highly significant
1994	**192**	**66.89**	**95**	**33.10**	**287**	**P<0.0001**	highly significant
1995	**183**	**6678**	**91**	**33.21**	**274**	**P<0.0001**	highly significant
1996	**133**	**60.18**	**88**	**39.81**	**221**	**P<0.0001**	highly significant
1997	**148**	**65.19**	**79**	**34.80**	**227**	**P<0.0001**	highly significant
1998	**135**	**71.42**	**54**	**28.57**	**189**	**P<0.0001**	highly significant
1999	**171**	**66.79**	**85**	**33.20**	**256**	**P<0.0001**	highly significant
2000	**186**	**63.48**	**107**	**36.51**	**293**	**P<0.0001**	highly significant
2001	**159**	**63.60**	**91**	**36.40**	**250**	**P<0.0001**	highly significant
2002	**168**	**63.15**	**98**	**36.84**	**266**	**P<0.0001**	highly significant
2003	**173**	**65.28**	**92**	**34.71**	**265**	**P<0.0001**	highly significant
2004	**126**	**62.68**	**75**	**37.31**	**201**	**P<0.0001**	highly significant
2005	**116**	**61.05**	**74**	**38.94**	**190**	**P<0.0001**	highly significant
2006	**120**	**66.66**	**60**	**33.33**	**180**	**P<0.0001**	highly significant
2007	**89**	**58.94**	**62**	**41.05**	**151**	**P<0.0001**	highly significant
2008	**122**	**67.03**	**60**	**32.96**	**182**	**P<0.0001**	highly significant
Total	**2614**	**64.78**	**1421**	**35.22**	**4035**	**P<0.0001**	highly significant

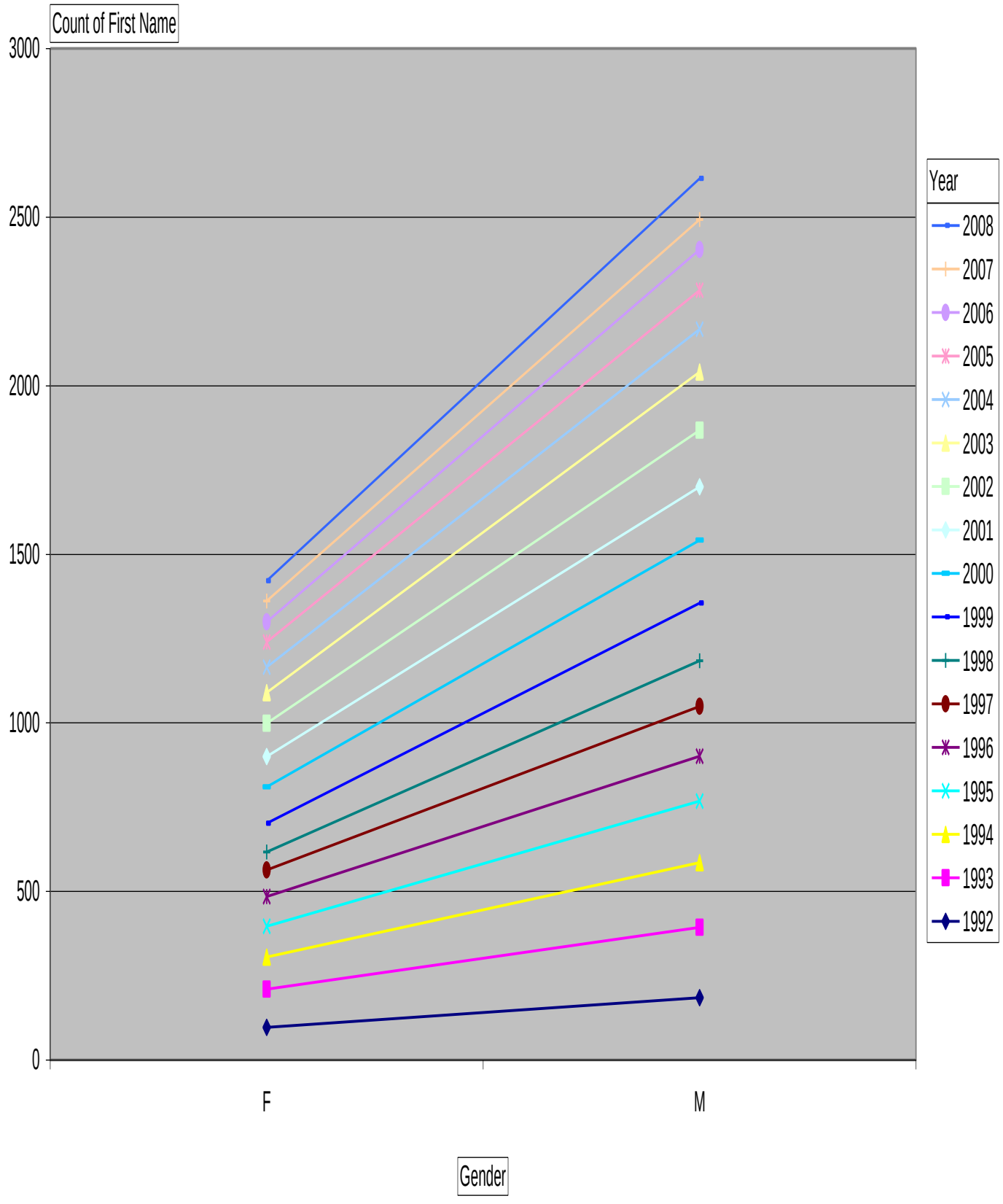

Diagram 5: Distribution of total tuberculous cases according to the sex.

Table 6: Distribution of cases according to residence during the period of the study and statistical analysis between urban and rural cases.

Residence / Year	Urban		Rural		Total	P*	Statistical significance
	No.	%	No.	%			
1992	**67**	**23.48**	**214**	**76.16**	**281**	**< 0.0001**	Highly significant
1993	**62**	**19.25**	**260**	**80.75**	**322**	**< 0.0001**	Highly significant
1994	**58**	**20.21**	**229**	**79.79**	**287**	**< 0.0001**	Highly significant
1995	**64**	**23.36**	**210**	**76.64**	**274**	**< 0.0001**	Highly significant
1996	**31**	**14.03**	**190**	**85.97**	**221**	**< 0.0001**	Highly significant
1997	**75**	**33.04**	**152**	**66.96**	**227**	**< 0.0001**	Highly significant
1998	**43**	**22.75**	**146**	**77.25**	**189**	**< 0.0001**	Highly significant
1999	**48**	**18.75**	**208**	**81.25**	**256**	**< 0.0001**	Highly significant
2000	**50**	**17.06**	**243**	**82.94**	**293**	**< 0.0001**	Highly significant
2001	**34**	**13.6**	**216**	**86.4**	**250**	**< 0.0001**	Highly significant
2002	**56**	**21.05**	**210**	**78.95**	**266**	**< 0.0001**	Highly significant
2003	**48**	**18.11**	**217**	**81.89**	**265**	**< 0.001**	Highly significant
2004	**42**	**20.9**	**159**	**79.1**	**201**	**< 0.001**	Highly significant
2005	**31**	**16.32**	**159**	**83.68**	**190**	**< 0.001**	Highly significant
2006	**32**	**17.78**	**148**	**82.22**	**180**	**< 0.001**	Highly significant
2007	**34**	**22.52**	**117**	**77.48**	**151**	**< 0.0001**	Highly significant
2008	**30**	**16.48**	**152**	**83.52**	**182**	**< 0.0001**	Highly significant
Total	**805**	**19.95**	**3230**	**80.05**	**4035**	**< 0.0001**	Highly significant

* P < 0.0001 means highly significant

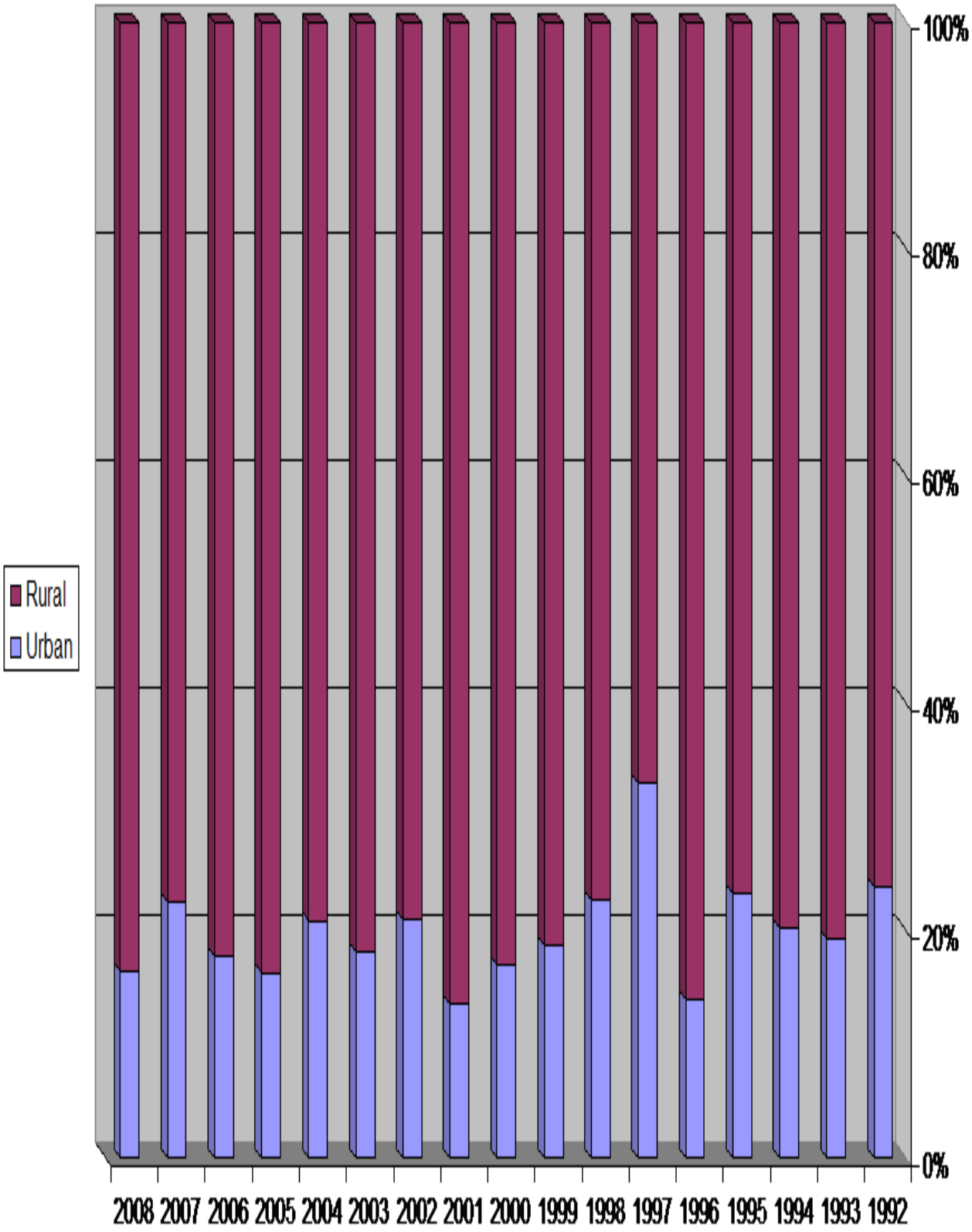

Diagram 6: Distribution of cases according to residence during the period of the study.

Table 7: Distribution of total tuberculous cases according to the type of patient based on history of previous treatment before DOTS.

Type / Year	New		Failure		Relapse		Other*		Transfer in		Default		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
1992	**247**	**87.90**	**7**	**2.49**	**20**	**7.11**	**7**	**2.49**	**-**	**-**	**-**	**-**	**281**
1993	**261**	**81.05**	**8**	**2.48**	**34**	**10.55**	**19**	**5.90**	**-**	**-**	**-**	**-**	**322**
1994	**236**	**82.22**	**12**	**4.18**	**27**	**9.40**	**12**	**4.18**	**-**	**-**	**-**	**-**	**287**
1995	**199**	**72.62**	**17**	**6.20**	**46**	**16.78**	**11**	**4.10**	**-**	**-**	**1**	**0.36**	**274**
1996	**193**	**87.33**	**9**	**4.07**	**13**	**5.88**	**6**	**2.71**	**-**	**-**	**-**	**-**	**221**
1997	**205**	**90.30**	**3**	**1.32**	**12**	**5.28**	**7**	**3.08**	**-**	**-**	**-**	**-**	**227**
1998	**171**	**90.47**	**4**	**2.11**	**11**	**5.82**	**3**	**1.58**	**-**	**-**	**-**	**-**	**189**
1999	**224**	**87.5**	**10**	**3.90**	**14**	**5.46**	**7**	**2.73**	**1**	**0.39**	**-**	**-**	**256**
2000	**266**	**90.78**	**10**	**3.41**	**11**	**3.75**	**5**	**1.70**	**1**	**0.34**	**-**	**-**	**293**
2001	**230**	**92**	**3**	**1.2**	**13**	**5.2**	**4**	**1.60**	**-**	**-**	**-**	**-**	**250**
Total	**2232**	**85.84**	**83**	**3.19**	**201**	**7.73**	**81**	**3.11**	**2**	**0.08**	**1**	**0.04**	**2600**

*** The others group included chronic cases, patients who are sputum positive at the end of a re-treatment regimen.**

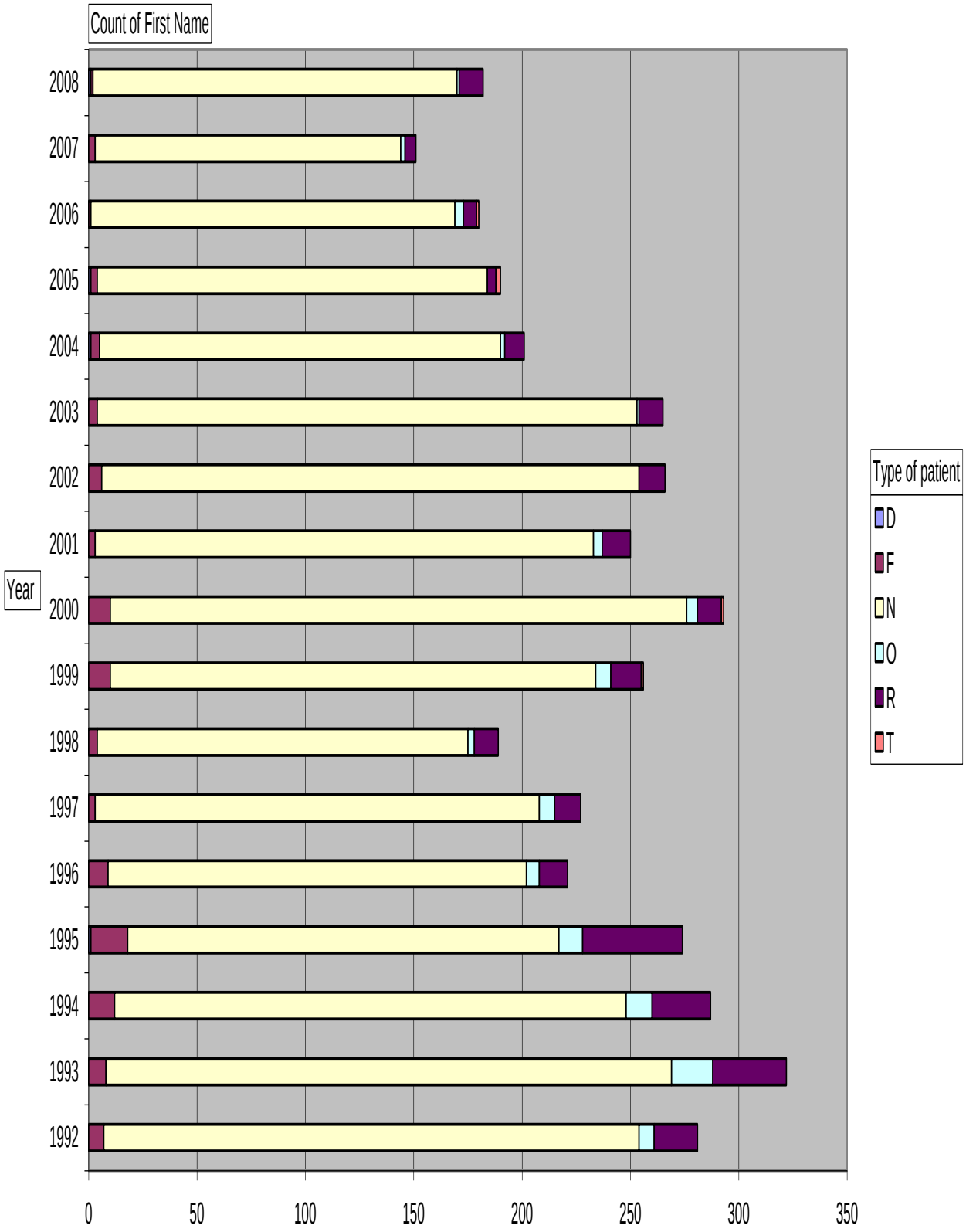

Diagram 7: Distribution of total tuberculous cases according to the type of patient based on history of previous treatment before DOTS.

Table 8: Distribution of total tuberculous cases according to the type of patients based on history of previous treatment after DOTS.

Type / Year	New		Failure		Relapse		Other*		Transfer in		Default		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
2002	248	93.23	6	2.25	12	4.51							266
2003	249	93.96	4	1.50	11	4.15	1	0.37					265
2004	185	92.03	4	1.99	9	4.47	2	0.99			1	0.49	201
2005	180	94.73	3	1.57	4	0.02			2	1.05	1	0.52	190
2006	168	93.33	1	0.55	6	3.33	4	2.22	1	0.55			180
2007	141	93.37	3	1.98	5	3.31	2	1.32					151
2008	168	92.30	1	0.54	11	6.04	1	0.54			1	0.54	182
Total	1339	93.31%	22	1.53%	58	4.04%	10	0.38%	3	0.20%	3	0.20%	1435

*** The others group included chronic cases, patients who are sputum positive at the end of a re-treatment regimen.**

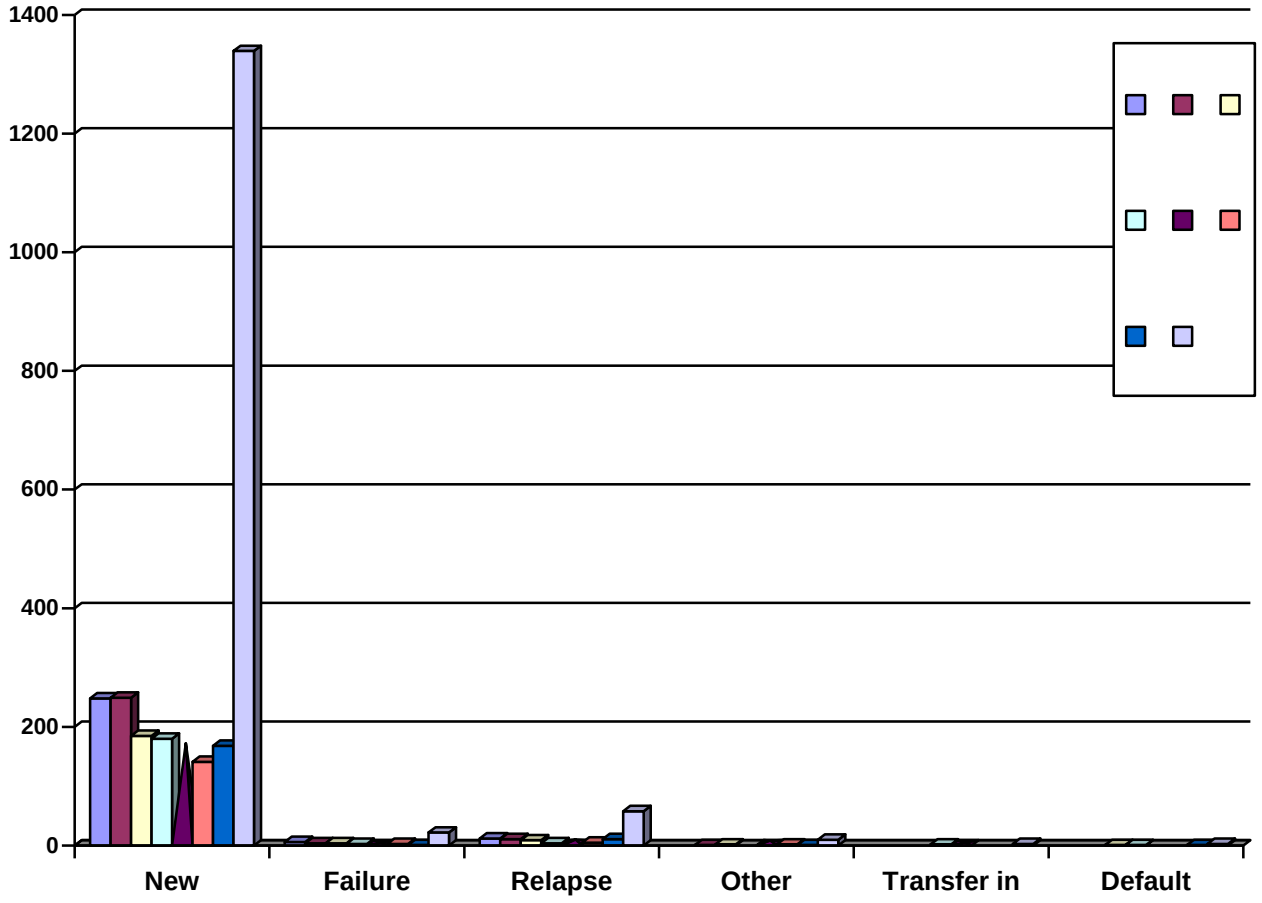

Diagram 8: Distribution of total tuberculous cases according to the type of patients based on history of previous treatment after DOTS.

Table 9: Comparison of the study cases according to history of previous treatment before and after DOTS and statistical analysis between cases before and after DOTS.

type	Before DOTS		After DOTS		p	Statistical significance
	No.	%	No.	%		
New	**2232**	**85.84**	**1339**	**93.31**	**0.0001**	Highly significant
Failure	**83**	**3.19**	**22**	**1.53**	**0.0022**	significant
Relapse	**201**	**7.73**	**58**	**4.04**	**0.0001**	Highly significant
Other	**81**	**3.11**	**10**	**0.38**	**0.0001**	Highly significant
Transfer in	**2**	**0.08**	**3**	**0.20**	**0.5118**	Non significant
Default	**1**	**0.04**	**3**	**0.20**	**0.2627**	Non significant
Total	**2600**	**100**	**1435**	**100**	**0.0001**	Highly significant

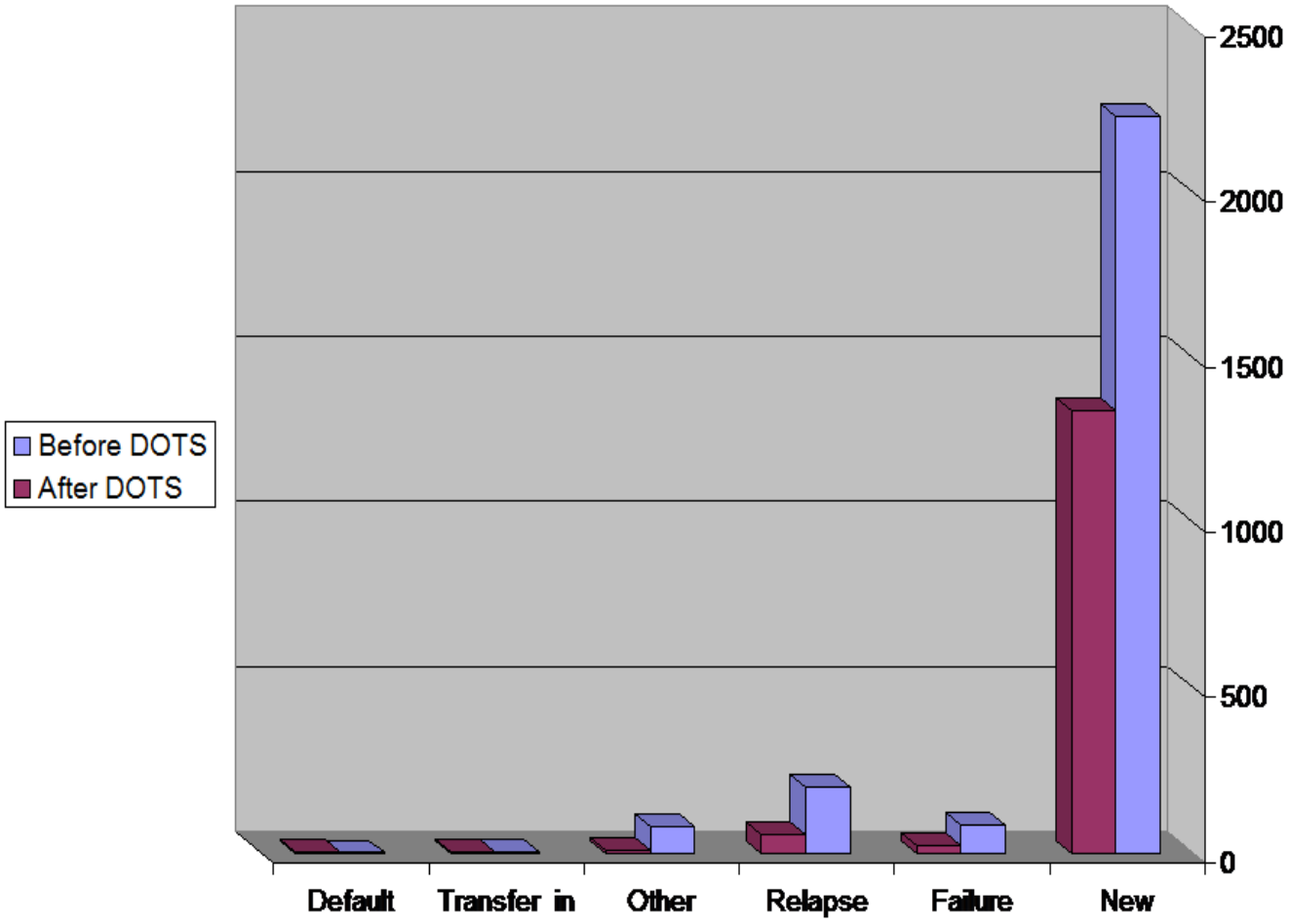

Diagram 9: Comparison of the study cases according to history of previous treatment before and after DOTS and statistical analysis between cases according to history of previous treatment before and after DOTS.

Table 10: Distribution of pulmonary and extrapulmonary cases during the period of the study and statistical analysis between pulmonary and extrapulmonary cases.

Site of TB / Year	Pulmonary		Extrapulmonary		Total	P	Statistical significance
	No.	%	No.	%			
1992	197	70.1	84	29.9	281	0.0001	Highly significant
1993	219	68.01	103	31.98	322	0.0001	Highly significant
1994	186	64.81	101	35.2	287	0.0001	Highly significant
1995	197	71.89	77	28.08	274	0.0001	Highly significant
1996	141	63.8	80	36.19	221	0.0001	Highly significant
1997	156	68.73	71	31.27	227	0.0001	Highly significant
1998	141	74.6	48	25.4	189	0.0001	Highly significant
1999	204	79.69	52	20.31	256	0.0001	Highly significant
2000	214	73.04	79	26.97	293	0.0001	Highly significant
2001	176	70.4	74	29.6	250	0.0001	Highly significant
2002	183	68.79	83	31.2	266	0.0001	Highly significant
2003	189	71.32	76	28.68	265	0.0001	Highly significant
2004	132	65.67	69	34.33	201	0.0001	Highly significant
2005	137	72.1	53	27.9	190	0.0001	Highly significant
2006	122	67.78	58	32.24	180	0.0001	Highly significant
2007	98	64.24	53	35.75	151	0.0001	Highly significant
2008	134	73.63	48	26.38	182	0.0001	Highly significant
Total	2826	70.01	1209	29.99	4035	0.0001	Highly significant

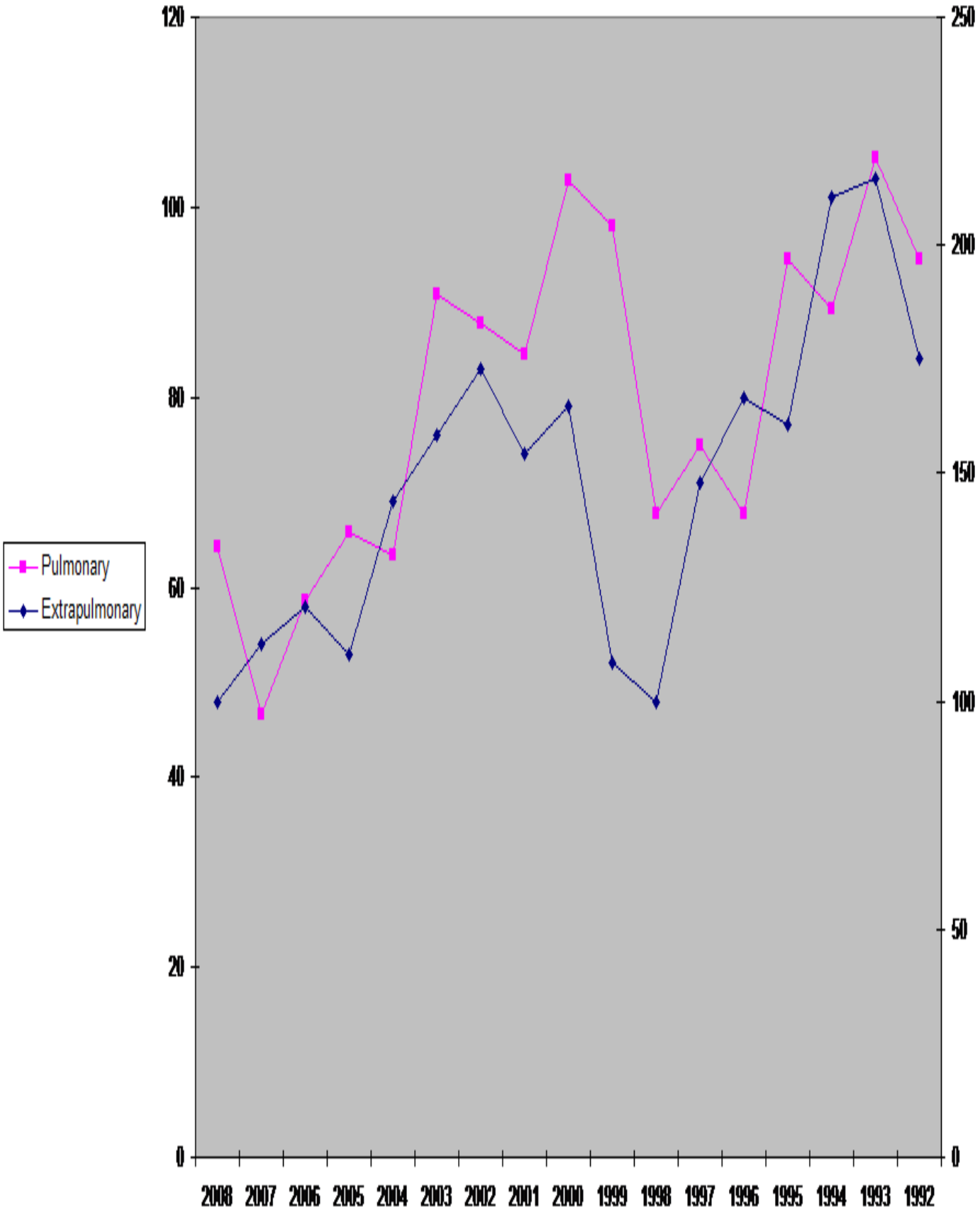

Diagram 10: Distribution of pulmonary and extrapulmonary cases during the period of the study.

Table 11: Results of sputum smear microscopy for pulmonary cases during the period of the study and statistical analysis between sputum positive cases and sputum negative cases.

Sputum result / Year	Sputum positive		Sputum negative		Total	P	Statistical significance
	No.	%	No.	%			
1992	151	76.85	46	23.35	197	0.0001	Highly significant
1993	179	81.74	40	18.26	219	0.0001	Highly significant
1994	155	83.33	31	16.67	186	0.0001	Highly significant
1995	164	83.25	33	16.75	197	0.0001	Highly significant
1996	126	89.63	15	١٠,٦٤	141	0.0001	Highly significant
1997	126	80.77	30	19.23	156	0.0001	Highly significant
1998	119	84.4	22	15.6	141	0.0001	Highly significant
1999	170	83.33	34	16.67	204	0.0001	Highly significant
2000	178	83.18	36	16.82	214	0.0001	Highly significant
2001	131	74.43	45	25.57	176	0.0001	Highly significant
2002	130	71.04	53	28.96	183	0.0001	Highly significant
2003	134	70.9	55	29.1	189	0.0001	Highly significant
2004	101	76.52	31	23.48	132	0.0001	Highly significant
2005	94	68.61	43	31.39	137	0.0001	Highly significant
2006	93	76.23	29	23.77	122	0.0001	Highly significant
2007	81	83.51	17	16.49	98	0.0001	Highly significant
2008	112	83.58	22	16.42	134	0.0001	Highly significant
Total	2244	79.43	582	20.57	2826	0.0001	Highly significant

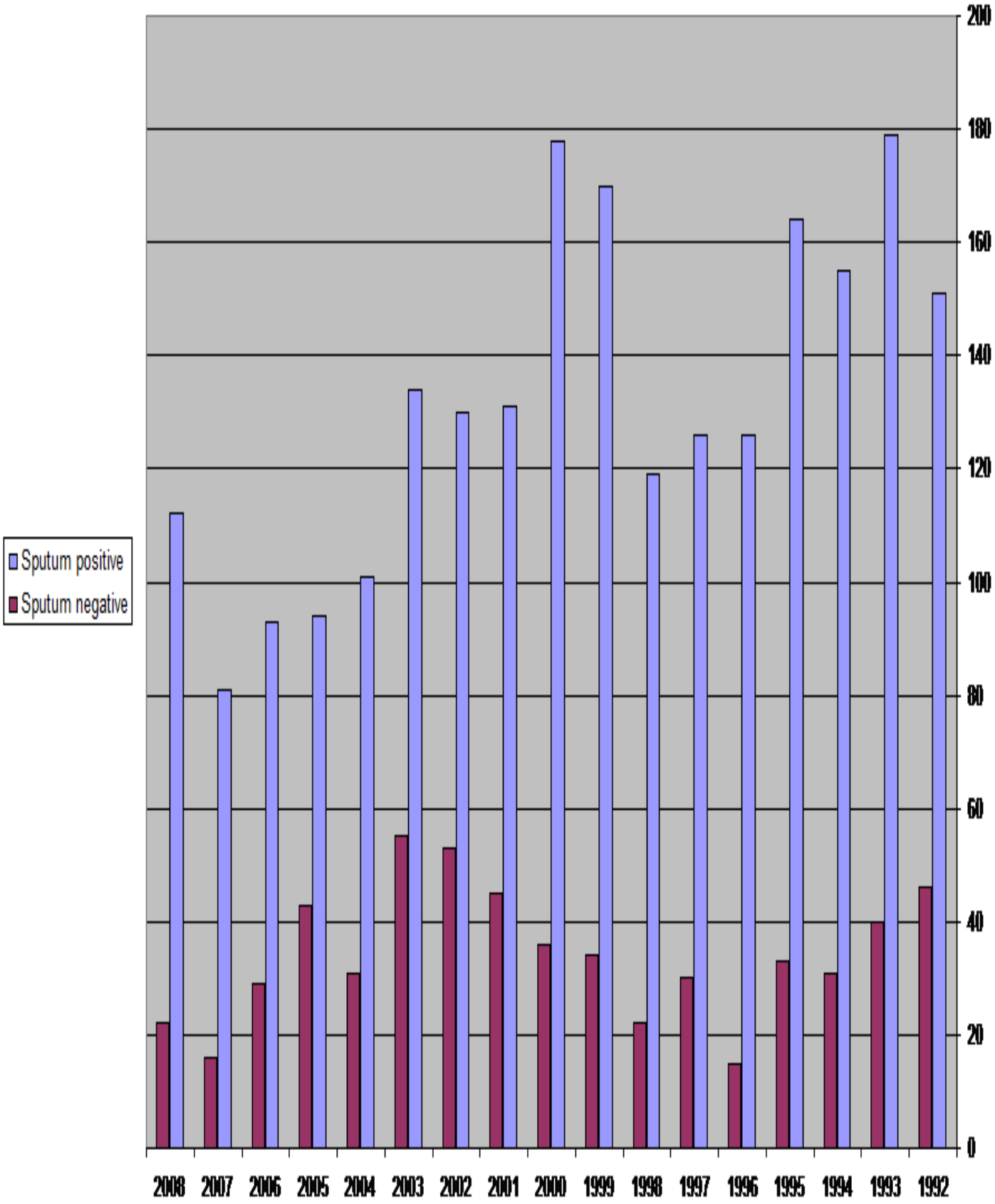

Diagram 11: Results of sputum smear microscopy for pulmonary cases during the period of the study.

Table 12: Sites of extrapulmonary tuberculosis.

Sites of TB / Year	Pleural		Bone		L. node		Urinary T.		GNT		skin		Other*		Total	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	NO.	**%**
1992	53	63.1	7	8.33	12	14.29	1	1.19	5	5.95	1	1.19	5	5.95	**84**	100
1993	68	66.02	5	4.85	18	17.48	6	5.83	3	2.91	1	0.97	2	1.94	**103**	100
1994	65	64.36	13	12.87	13	12.87	1	0.99	2	1.98	2	1.98	5	4.95	**101**	100
1995	35	45.45	10	12.99	17	22.08	3	3.9	2	2.6	1	1.3	9	11.6	**77**	100
1996	37	46.25	15	18.75	17	21.25	6	7.5	2	2.5	-	-	3	3.75	**80**	100
1997	32	45.07	9	12.68	17	23.94	2	2.82	4	5.63	1	1.41	6	8.45	**71**	100
1998	22	45.83	8	16.67	9	18.75	2	4.17	3	6.25	2	4.17	2	4.17	**48**	100
1999	18	34.62	12	23.08	10	19.23	4	7.69	3	5.77	2	3.85	3	5.77	**52**	100
2000	33	41.77	12	15.19	16	20.25	7	8.86	4	5.06	3	3.8	4	5.06	**79**	100
2001	25	33.78	15	20.27	10	13.51	7	9.46	4	5.41	4	5.41	9	12.1	**74**	100
2002	26	31.33	14	16.87	18	21.69	3	3.61	4	4.82	2	2.41	15	19.2	**83**	100
2003	19	25.0	12	15.79	26	34.21	7	9.21	8	10.53	3	3.95	1	1.32	**76**	100
2004	29	42.03	8	11.59	19	27.54	3	4.35	3	4.35	2	2.9	5	7.25	**69**	100
2005	21	39.62	6	11.32	12	22.64	4	7.55	2	3.77	1	1.89	7	13.2	**53**	100
2006	20	34.48	10	17.24	21	36.21	1	1.72	-	-	1	1.72	5	8.62	**58**	100
2007	17	31.48	6	11.11	19	35.19	5	9.26	2	3.7	2	3.7	2	5.56	**53**	100
2008	18	37.5	5	10.42	21	43.75	-	-	1	2.08	1	2.08	2	4.17	**48**	100
Total	537	44.46	167	13.8	277	22.73	62	5.12	52	4.3	29	2.4	85	7.19	**1209**	100

* Other: cases with tuberculosis in other sites as CNS, Eye, and Larynx.

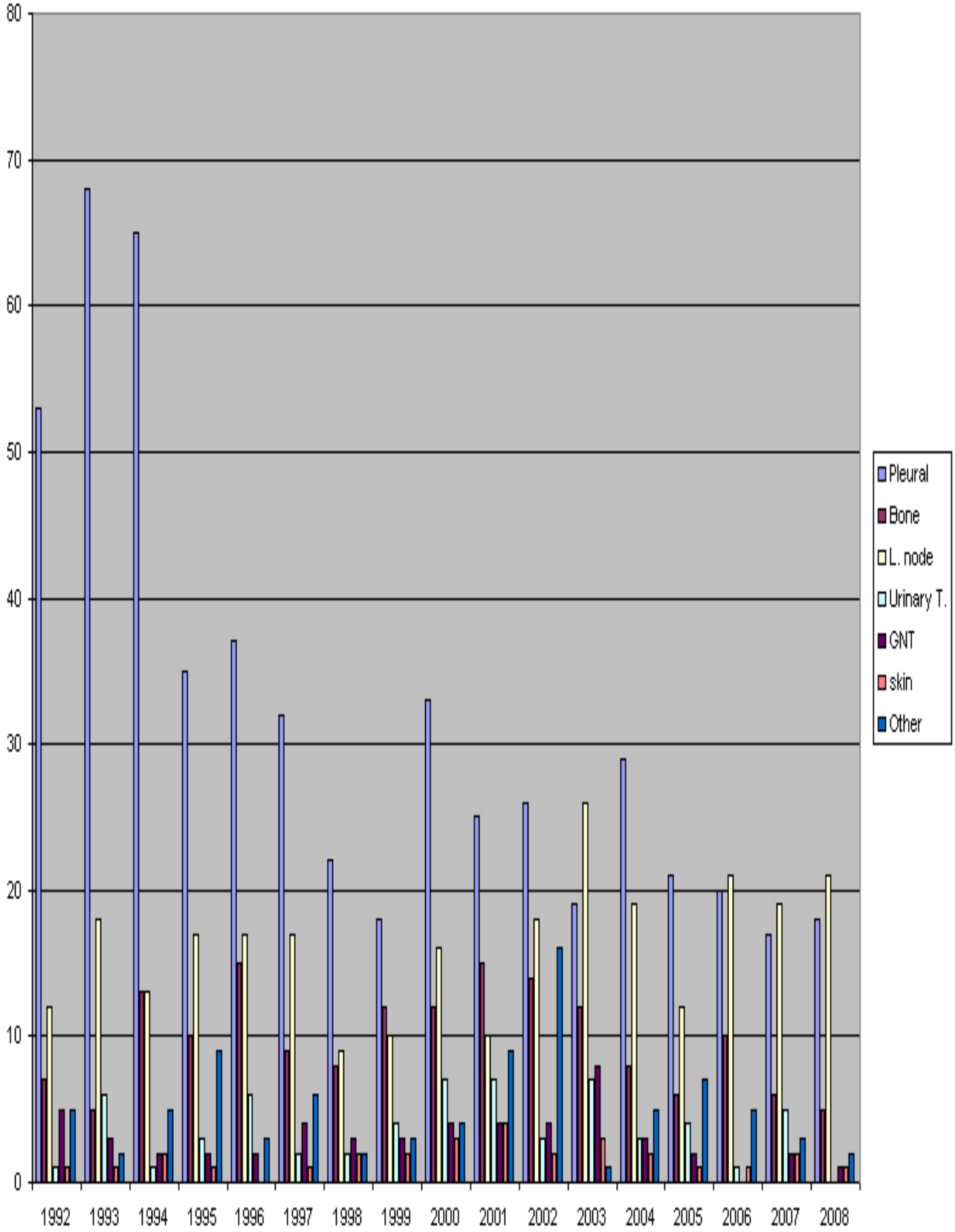

Diagram 12: Distribution of total tuberculous cases according to the sites of extrapulmonary tuberculosis.

Table 13: Distribution of total tuberculous cases according to the culture results and statistical analysis between positive cases and negative cases.

Year	Not done		Positive		Negative		Total	P	Statistical significance
	No.	%	No.	%	No.	%			
1992	**279**	٩٩,٢٩	**2**	٠,٧١	-	-	**281**	**0.0001**	highly significant
1993	**312**	٩٦,٨٩	**8**	٢,٤٨	2	٠,٦٢	**322**	**0.0001**	highly significant
1994	**287**	١٠٠	-	-	-	-	**287**	-	
1995	**271**	٩٨,٩١	-	-	3	١,٠٩	**274**	**0.0001**	highly significant
1996	**219**	٩٩,١	**2**	٠,٩	-	-	**221**	**0.0001**	highly significant
1997	**227**	١٠٠	-	-	-	-	**227**	-	
1998	**189**	١٠٠	-	-	-	-	**189**	-	
1999	**256**	١٠٠	-	-	-	-	**256**	-	
2000	**293**	١٠٠	-	-	-	-	**293**	-	
2001	**250**	١٠٠	-	-	-	-	**250**	-	
2002	**266**	١٠٠	-	-	-	-	**266**	-	
2003	**265**	١٠٠	-	-	-	-	**265**	-	
2004	**188**	٩٣,٥٣	**13**	٦,٤٧	-	-	**201**	**0.0001**	highly significant
2005	**182**	٩٥,٧٩	**8**	٤,٢١	-	-	**190**	**0.0001**	highly significant
2006	**155**	٨٦,١١	**20**	١١,١١	5	٢,٧٨	**180**	**0.0001**	highly significant
2007	**138**	٩١,٣٩	**12**	٧,٩٥	1	٠,٦٦	**151**	**0.0001**	highly significant
2008	**174**	٩٥,٦	**7**	٣,٨٥	1	٠,٥٥	**182**	**0.0001**	highly significant
Total	**3951**	**97**	**72**	**1.78**	**12**	**0.29**	**4035**	**0.0001**	highly significant

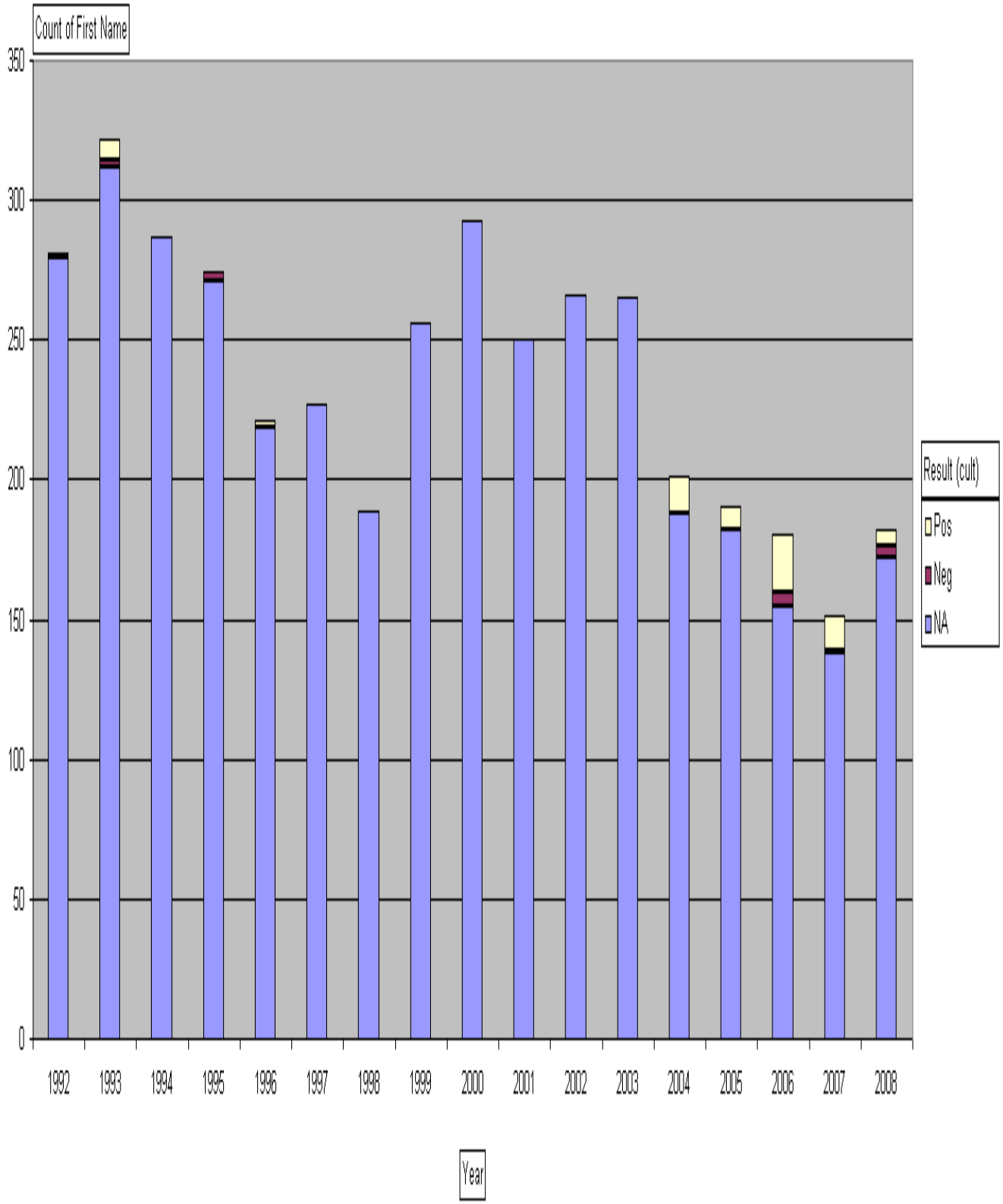

Diagram 13: Distribution of total tuberculous cases according to the culture results.

Table 14: Distribution of total tuberculous cases according to the regimen of treatment.

Category / Year	CAT I		CAT II		CAT III		Total
	No.	%	No.	%	No.	%	
1992	**131**	٤٦,٦٢	**121**	٤٣,٠٦	**29**	١٠,٣٢	**281**
1993	**143**	٤٤,٤١	**126**	٣٩,١٣	**53**	١٦,٤٦	**322**
1994	**132**	٤٥,٩٩	**109**	٣٧,٩٨	**46**	١٦,٠٣	**287**
1995	**110**	٤٠,١٥	**100**	٣٦,٥	**64**	٢٣,٣٦	**274**
1996	**97**	٤٣,٨٩	**96**	٤٣,٤٤	**28**	١٢,٦٧	**221**
1997	**101**	٤٤,٤٩	**106**	٤٦,٧	**20**	٨,٨١	**227**
1998	**70**	٣٧,٠٤	**103**	٥٤,٥	**16**	٨,٤٧	**189**
1999	**86**	٣٣,٥٩	**139**	٥٤,٣	**31**	١٢,١١	**256**
2000	**113**	٣٨,٥٧	**159**	٥٤,٢٧	**21**	٧,١٧	**293**
2001	**119**	٤٧,٦	**113**	٤٥,٢	**18**	٧,٢	**250**
2002	**131**	٤٩,٢٥	**18**	٦,٧٧	**117**	٤٣,٩٨	**266**
2003	**126**	٤٧,٥٥	**15**	٥,٦٦	**124**	٤٦,٧٩	**265**
2004	**96**	٤٧,٧٦	**22**	١٠,٩٥	**83**	٤١,٢٩	**201**
2005	**151**	٧٩,٤٧	**10**	٥,٢٦	**29**	١٥,٢٦	**190**
2006	**168**	٩٣,٣٣	**12**	٦,٦٧	**-**	**-**	**180**
2007	**141**	٩٣,٣٨	**10**	٦,٦٢	**-**	**-**	**151**
2008	**170**	٩٣,٤١	**12**	٦,٥٩	**-**	**-**	**182**
Total	**2085**	٥١,٦٧	**1271**	٣١,٥	**679**	١٦,٨٣	**4035**

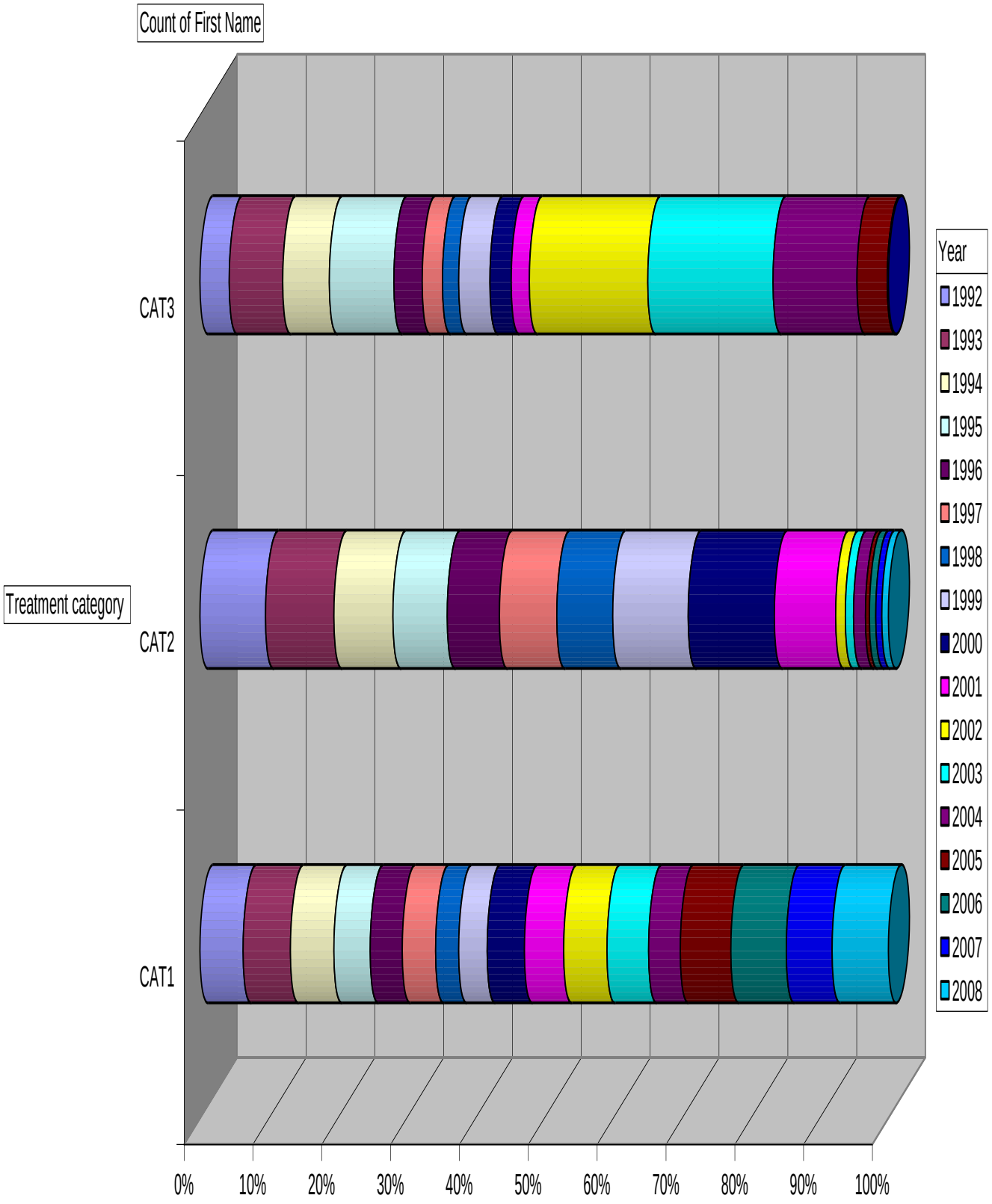

Diagram 14: Distribution of total tuberculous cases according to the regimen of treatment.

Table 15: Conversion rate for pulmonary tuberculous cases (positive cases) and statistical analysis between negative and positive cases.

Year (Positive cases)	Negative		Positive		P	Statistical significance
	No.	%	No.	%		
1992 N=151	110	72.15	10	6.62	P <0.0001	highly significant
1993 N=179	116	64.8	11	6.15	P <0.0001	highly significant
1994 N=155	51.61	٢٧,٨٧	7	4.52	P <0.0001	highly significant
1995 N=164	64.63	٣٨,٦٩	9	5.49	P <0.0001	highly significant
1996 N=126	87	69.05	4	3.17	P <0.0001	highly significant
1997 N=126	84	66.67	5	3.97	P <0.0001	highly significant
1998 N=119	99	83.19	3	2.52	P <0.0001	highly significant
1999 N=170	130	76.47	17	10.0	P <0.0001	highly significant
2000 N=178	120	67.42	11	6.18	P <0.0001	highly significant
2001 N=131	101	77.1	12	9.16	P <0.0001	highly significant
2002 N=130	99	76.15	12	9.23	P <0.0001	highly significant
2003 N=134	118	88.06	7	5.22	P <0.0001	highly significant
2004 N=101	86	85.15	4	3.96	P <0.0001	highly significant
2005 N=94	74	78.72	4	4.26	P <0.0001	highly significant
2006 N=93	59	63.44	3	3.23	P <0.0001	highly significant
2007 N=81	60	74.07	7	8.64	P <0.0001	highly significant
2008 N=112	78	69.64	10	8.93	P <0.0001	highly significant
Total N=2244	1607	71.61	136	6.06	P <0.0001	highly significant

Table 16: Results of sputum examination for AFB at the end of the second month for positive pulmonary cases.

Year	No. of +Ve sputum cases at the diagnosis		No. of -Ve sputum cases at the end of the second month		No. of +Ve sputum cases at the end of the second month		No. of cases not examined at the end of the second month	
	No.	%	No.	%	No.	%	No.	%
Before DOTS(1992- 2001)	1499	100	599	39.9	153	10.20	347	23.14
After DOTS(2002-2008)	745	100	495	66.44	89	11.94	161	21.61
P			<0.0001		0.5176		0.3111	
Statistical significance			highly significant		Non significant		Non significant	

Table 17: Results of sputum examination for AFB at the end of the third month for positive pulmonary cases.

Year	No. of +Ve cases at the diagnosis		No. of -Ve sputum cases at the end of the third month		No. of +Ve sputum cases at the end of the third month		No. of cases not examined at the end of the third month	
	No.	%	No.	%	No.	%	No.	%
Before DOTS(1992- 2001)	153	100	56	36.6	66	43.13	31	20.26
After DOTS(2002-2008)	89	100	51	57.3	29	32.58	9	10.11
p			0.0024		0.1204		0.0658	
Statistical significance			High significant		Non significant		Non significant	

Table 18: Follow up of positive sputum smear in pulmonary cases at regular intervals (2 months, 5 months and at the end of treatment).

Sputum conversion / Year	At the end of 2 months		At the end of 5 months		At the end of treatment	
	No.	%	No.	%	No.	%
1992 N=151	106	70.2	١٠٩	72.19	75	49.67
1993 N=179	111	62.01	١١٩	66.48	84	46.93
1994 N=155	76	49.03	٨٦	55.48	30	39.47
1995 N=164	100	60.98	١٠٧	65.24	68	41.46
1996 N=126	81	64.29	٨٨	69.84	62	49.21
1997 N=126	٨٤	66.67	٨٧	69.05	66	52.38
1998 N=119	٩٨	82.35	١٠٢	85.71	83	69.75
1999 N=170	١١٥	67.65	١٣٠	76.47	129	75.88
2000 N=178	١٠٢	57.3	١١٠	61.8	105	58.99
2001 N=131	٨٦	65.65	٩٠	65.65	95	72.52
2002 N=130	٧٩	60.77	٨٣	63.85	98	75.38
2003 N=134	١٠٢	76.12	١٢٠	89.55	105	78.36
2004 N=101	٧٤	73.27	٧٩	78.22	68	67.33
2005 N=94	٦٧	71.28	٧٧	81.91	51	54.26
2006 N=93	٥٢	55.91	5٩	63.44	78	83.87
2007 N=81	٥٧	70.73	٦٦	81.84	55	67.90
2008 N=112	٧١	63.39	٧٩	70.54	78	69.64
Total N=2244	١٤٦١	65.11	1591	70.9	1330	59.27

Table 19: Distribution of cases according to the treatment outcome before DOTS.

Outcome / Year	Cure		Complete		Fail		Default		TO		Death		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
1992	75	٢٦,٦٩	105	٣٧,٣٧	10	٣,٥٦	52	١٨,٥١	27	٩,٦١	12	٤,٢٧	281
1993	84	٢٦,٠٩	112	٣٤,٧٨	5	١,٥٥	62	١٩,٢٥	48	١٤,٩١	11	٣,٤٢	322
1994	30	١٠,٤٥	115	٤٠,٠٧	4	١,٣٩	45	١٥,٦٨	83	٢٨,٩٢	10	٣,٤٨	287
1995	68	٢٤,٨١	108	٣٩,٤٢	13	٤,٧٤	34	١٢,٤١	42	١٥,٣٣	9	٣,٢٨	274
1996	62	٢٨,٠٥	96	٤٣,٤٤	8	٣,٦٢	25	١١,٣١	16	٧,٢٤	14	٦,٣٣	221
1997	66	٢٩,٠٧	126	٥٥,٥١	6	٢,٦٤	11	٤,٨٥	8	٣,٥٢	10	٤,٤١	227
1998	83	٤٣,٩٢	64	٣٣,٨٦	5	٢,٦٥	19	١٠,٠٥	8	٤,٢٣	10	٥,٢٩	189
1999	129	٥٠,٣٩	66	٢٥,٧٨	17	٦,٦٤	18	٧,٠٣	12	٤,٦٩	14	٥,٤٧	256
2000	105	٣٥,٨٤	113	٣٨,٥٧	6	٢,٠٥	21	٧,١٧	29	٩,٩	19	٦,٤٨	293
2001	95	٣٨	120	٤٨	8	٣,٢	8	٣,٢	2	٠,٨	17	٦,٨	250
Total	797	٣٠,٦٥	1025	٣٩,٤٢	82	٣,١٥	295	١١,٣٥	275	١٠,٥٨	126	٤,٨٥	2600

Table 20: Distribution of cases according to the treatment outcome after DOTS.

Outcome / Year	Cure		Complete		Fail		Default		TO		Death		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
2002	98	٣٦,٨٤	121	٤٥,٤٩	6	٢,٢٦	24	٩,٠٢	4	١,٥	13	٤,٨٩	266
2003	105	٣٩,٦٢	119	٤٤,٩١	5	١,٨٩	19	٧,١٧	3	١,١٣	14	٥,٢٨	265
2004	68	٣٣,٨٣	93	٤٦,٢٧	8	٣,٩٨	12	٥,٩٧	6	٢,٩٩	14	٦,٩٧	201
2005	51	٢٦,٨٤	110	٥٧,٨٩	3	١,٥٨	15	٧,٨٩	4	٢,١١	7	٣,٦٨	190
2006	78	٤٣,٣٣	80	٤٤,٤٤	4	٢,٢٢	2	١,١١	5	٢,٧٨	11	٦,١١	180
2007	55	٣٦,٤٢	71	٤٧,٠٢	3	١,٩٩	12	٧,٩٥	3	١,٩٩	7	٤,٦٤	151
2008	78	٤٢,٨٦	65	٣٥,٧١	5	٢,٧٥	21	١١,٥٤	3	١,٦٥	10	٥,٤٩	182
Total	533	37.14	659	45.92	34	2.37	105	7.32	28	1.95	78	5.44	1435

Table 21: Distribution of the study cases according to outcome during the period of the study and statistical analysis between cases outcome before and after DOTS.

	Before DOTS		After DOTS		**P**	**Significance**
	No.	%	No.	%		
Cure	**789**	**30.65**	**533**	**37.14**	**0.000007**	Highly significant
Complete	**1015**	**39.42**	**658**	**45.92**	**0.0005**	High significant
Fail	**78**	**3.15**	**34**	**2.36**	**0.2282**	Non significant
Default	**313**	**11.34**	**105**	**7.31**	**0.0009**	High significant
TO	**279**	**10.57**	**28**	**1.95**	**0.0001**	Highly significant
Death	**126**	**4.84**	**77**	**5.43**	**0.5016**	Non significant
Total	**2600**	**100%**	**1435**	**100%**	**0.0001**	Highly significant

Table 22: Outcome of the study cases according to age group.

Age / **Outcome**	**< 15y**		**15-**		**30-**		**45-**		**60+y**		**Total**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Cured *	**23**	**6.71**	**490**	**34.98**	**420**	**35.35**	**290**	**37.91**	**99**	**29.29**	**1322**	**32.76**
Completed	**259**	**75.71**	**610**	**43.54**	**442**	**37.21**	**256**	**33.46**	**106**	**31.36**	**1673**	**41.46**
Failed*	**-**	**-**	**35**	**2.5**	**48**	**4.04**	**22**	**2.88**	**7**	**2.07**	**112**	**2.78**
Died	**8**	**2.33**	**21**	**1.5**	**49**	**4.12**	**56**	**7.32**	**69**	**20.41**	**203**	**5.03**
Default	**34**	**9.91**	**149**	**10.64**	**117**	**9.85**	**84**	**10.98**	**34**	**10.06**	**418**	**10.36**
Transferred-out	**19**	**5.54**	**96**	**6.85**	**112**	**9.43**	**57**	**7.45**	**23**	**6.8**	**307**	**7.61**

Total	**343**	**100**	**1401**	**100**	**1188**	**100**	**765**	**100**	**338**	**100**	**4035**	**100**

(*for smear positive cases)

Table 23: Outcome of the study cases according to gender and statistical analysis between males and females.

Sex / Outcome	Males		Females		Total		P	Significance
	No.	%	No.	%	No.	%		
Cured	**924**	**35.35**	**398**	**28.01**	**1322**	**32.76**	**0.00001**	Highly significant
Completed	**932**	**35.65**	**741**	**52.15**	**1673**	**41.46**	**0.00001**	Highly significant
Failed	**95**	**3.63**	**17**	**1.2**	**112**	**2.78**	**0.00001**	Highly significant
Died	**141**	**5.39**	**62**	**4.36**	**203**	**5.03**	**0.1902**	Non significant
Default	**303**	**11.59**	**115**	**8.09**	**418**	**10.36**	**0.004**	High significant
Transfer out	**219**	**8.38**	**88**	**6.19**	**307**	**7.61**	**0.0142**	Non significant
Total	**2614**	**100.0**	**1421**	**100.0**	**4035**	**100.0**	**0.00001**	Highly significant

Table 24: Outcome of the study cases according to residence and statistical analysis between urban and rural cases.

Residence / Outcome	Urban		Rural		Total		P	Significance
	No.	%	No.	%	No.	%		
Cured	**247**	**30.68**	**1075**	**33.28**	**1322**	**32.76**	**0.1326**	Non significant
Completed	**325**	**40.37**	**1348**	**41.73**	**1673**	**41.46**	**0.5864**	Non significant
Failed	**23**	**2.86**	**89**	**2.76**	**112**	**2.78**	**0.9053**	Non significant

Died	**34**	**4.22**	**169**	**5.23**	**203**	**5.03**	**0.9188**	Non significant
Default	**106**	**13.17**	**312**	**9.66**	**418**	**10.36**	**0.3607**	Non significant
Transfer out	**70**	**8.7**	**237**	**7.34**	**307**	**7.61**	**0.7902**	Non significant
Total	**805**	**100.0**	**3230**	**100.0**	**4035**	**100.0**	**0.0001**	Highly significant

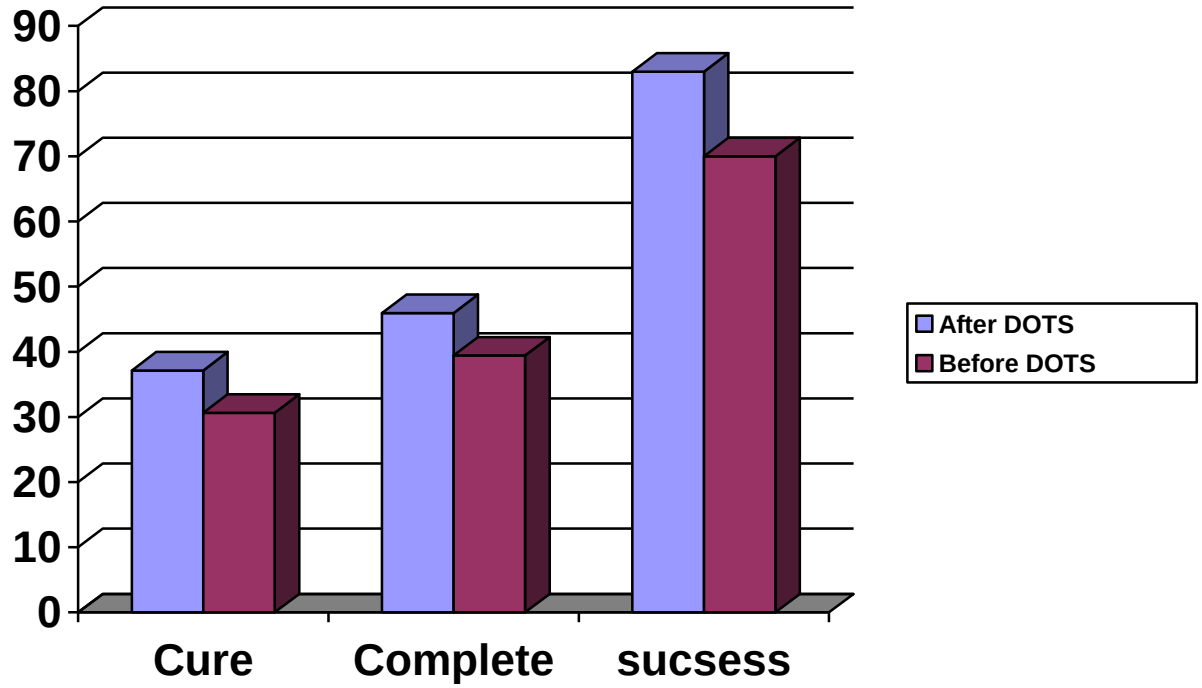

Diagram 15: Distribution of cases according to the treatment outcome (cure, complete,and sucsess) before and after DOTS.

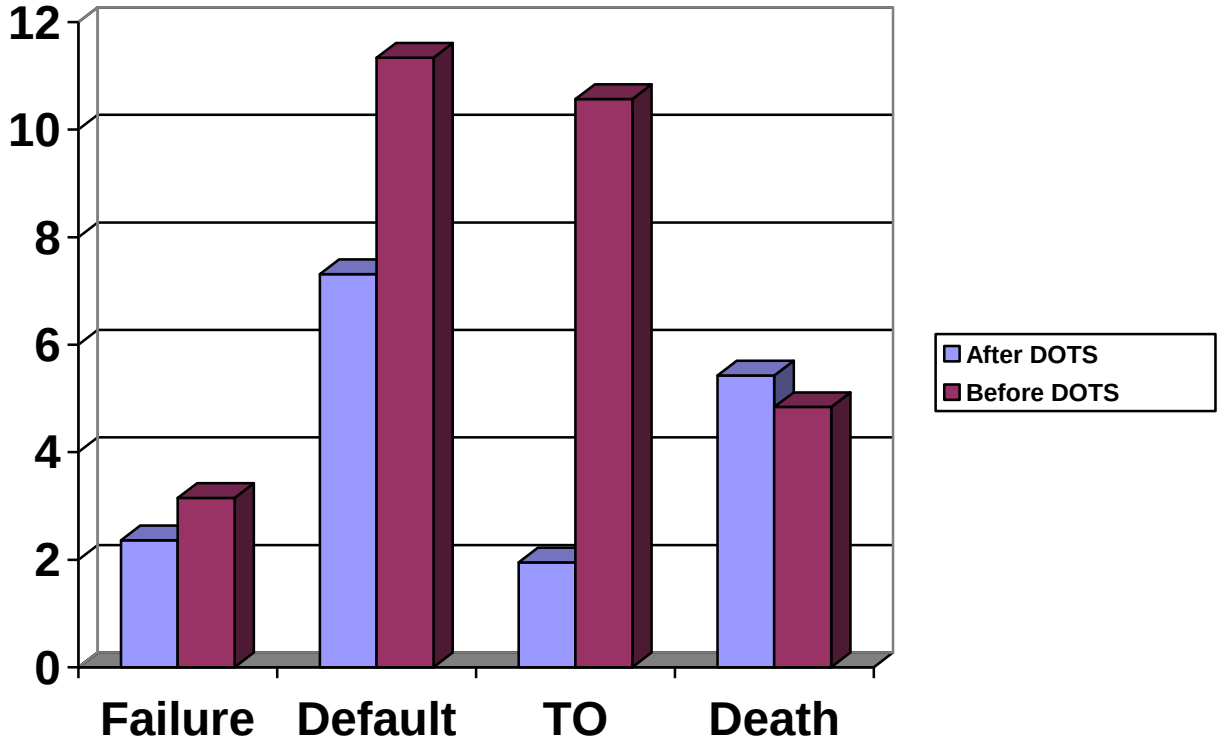

Diagram 16: Distribution of cases according to the treatment outcome (Failure, Default, TO, Death) before and after DOTS.

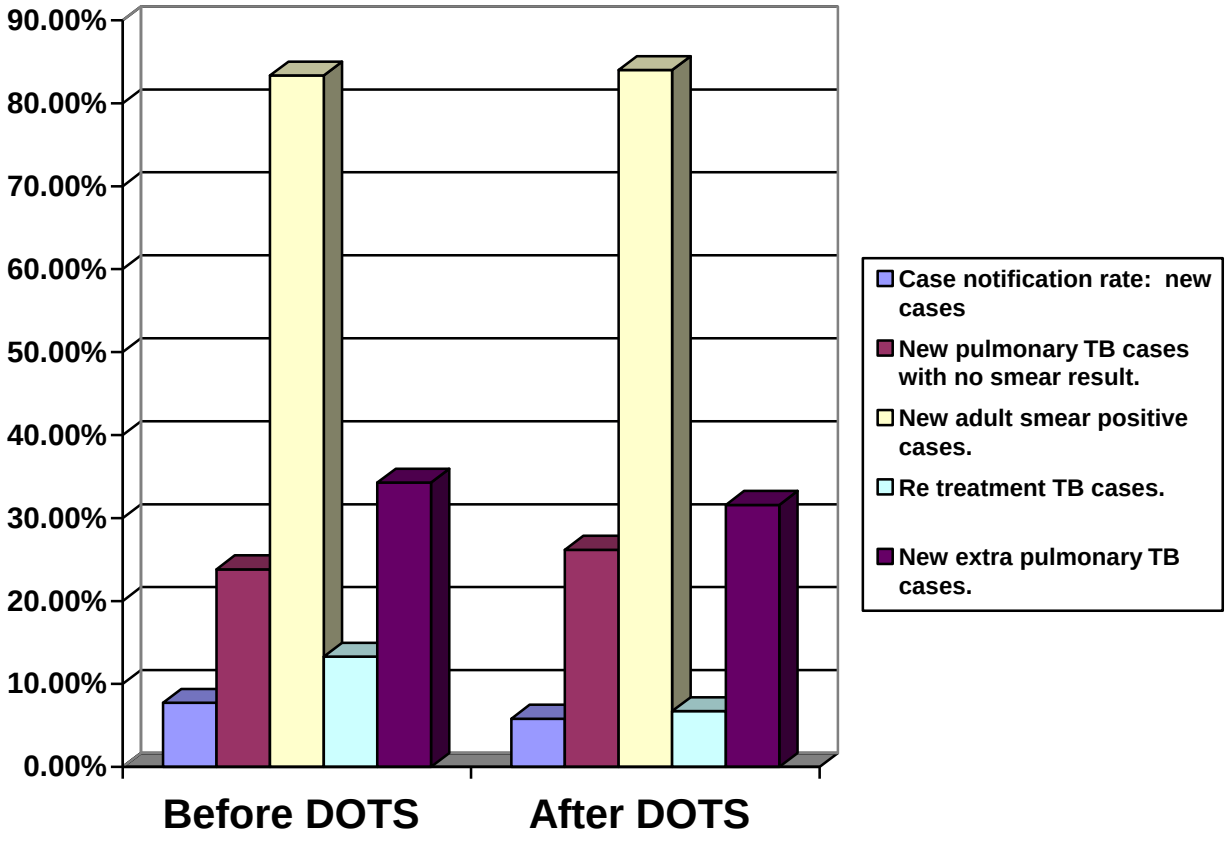

Diagram 17: Distribution of total tuberculous cases according to the incidence rate.

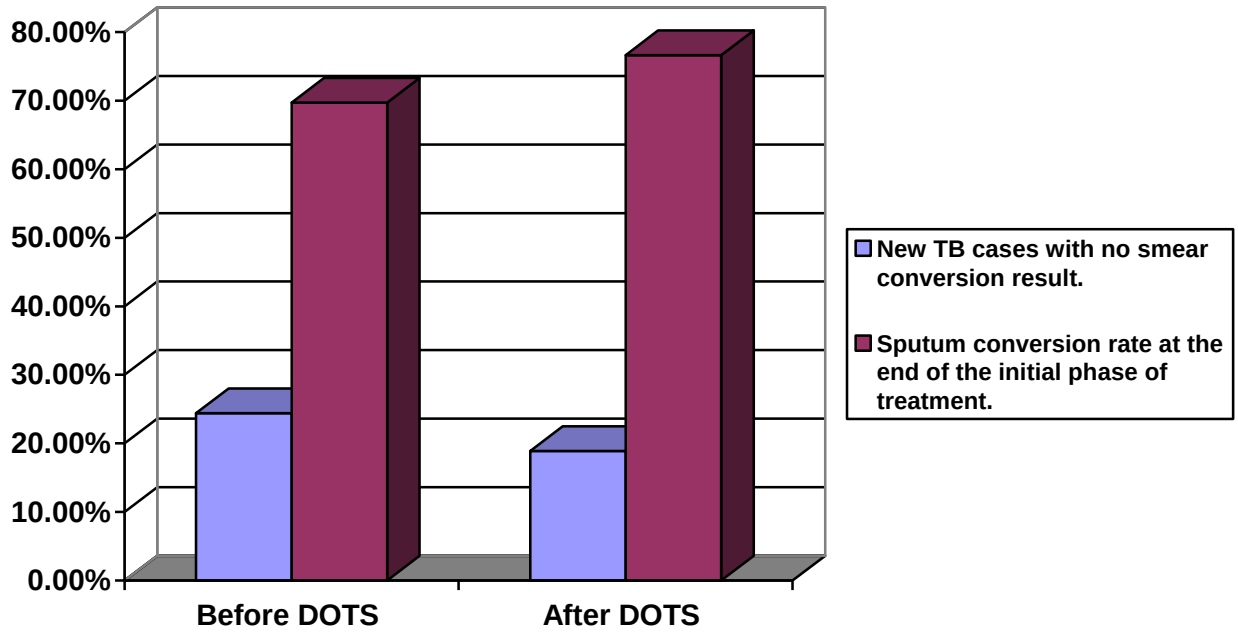

Diagram 18: Results of conversion rate for all tuberculous cases.

Table 25: Results of indicators before DOTS.

		Mean	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1	Incidence rate: new cases	**7.73**	٩,٢٠	٩,٥٥	٨,٤٩	٧	٦,٧١	٧,٠١	٥,٧٩	٧,٤٢	٨,٦٧	٧,٤٢
2	Incidence rate: new and relapse cases	**8.38**	٩,٤٦	١٠,٨٠	٩,٤٦	٨,٦٣	٧,١٦	٧,٤٢	٦,١٦	٧,٨٨	٩,٠٣	٧,٨٣
3	Incidence rate: all cases	**9.02**	١٠,٤٧	١١,٧٨	١٠,٣٢	٩,٦٥	٧,٦٨	٧,٧٣	٦,٤٣	٨,٤٨	٩,٥٦	٨,٠٦
4	Incidence rate new smear positive pulmonary TB cases.	**4.05**	٤,٤٣	٤,٤٢	٣,٩٥	٣,٣٦	٣,٤٠	٣,٦٢	٤,٠٧	٤,٦٤	٥,٠٢	٣,٥٩
5	New pulmonary TB cases with no smear result.	**23.82**	٥١,٨٢	٢٣,٨٩	٢٠,٨٦	٢٢,٧٦	١٣,٢٧	٢١,٤٨	١٧,٨٨	١٩,٠٧	١٨,٥١	٢٨,٦٦
6	New adult smear positive cases.	**83.35**	٧٦,٣١	٨١,٧٥	٨٠	٧٨,٣٣	٨٦,٦٠	٨٥,٢٤	٩٣,٣٩	٨٦,٥٣	٨٥,٣١	٨٠
7	Retreatment TB cases.	**13.29**	١٢,٠٩	١٨,٩٤	١٣,٤٤	٢٧,٤٧	١٢,٦٩	٩,٢٩	٩,٩٤	١٢,٥٠	٨,٥٣	٧,٩٦
8	New extrapulmonary TB cases.	**34.27**	٣٣,٦٠	٤٢,٣٢	٤١,١٠	٣٧,٨٧	٤١,٤٥	٣٤,١٤	٢٨,٤٨	٢٢,٧٦	٢٨,٩٤	٣٢,٠٣
9	New TB cases with no smear conversion result.	**24.41**	٢١,٨٤	٢٧,٢٧	٤١,٨١	٢٦,٣١	٢٢,٤٤	٣٣,٠١	١٥,٨٤	١١,٤٢	٢٨,١٠	١٦,٠٧
10	Sputum conversion rate at the end of the initial phase of	**69.72**	٤٧,٠٥	٦٩,٤٢	٥٦,٣٦	٧٣,٦٨	٧٧,٥٥	٦٦,٠٣	٨٣,١٦	٨١,٤٢	٦٧,٥٣	٧٥

	treatment.											
11	Cure rate.	**57.60**	٥٥,٤٦	٥٣,٧١	٢٠	٤٥,٢٦	٥٣,٠٦	٥٨,٤٩	٧٥,٢٤	٨٠	٥٩,٧٤	٧٥
12	Treatment completion rate.	**19.41**	١٥,٩٦	٩,٩١	٣٠	٢٩,٤٧	٣٣,٦٧	٣٤,٩٠	١١,٨٨	٥	١١,٦٨	١١,٦٠
13	Treatment success rate.	**77.01**	٧١,٤٢	٦٣,٦٣	٥٠	٧٤,٧٣	٨٦,٧٣	٩٣,٣٩	٨٧,١٢	٨٥	٧١,٤٢	٨٦,٦٠
14	Death rate.	**3.59**	٢,٥٢	٣,٣	٠,٩٠	٣,١٥	٣,٠٦	٢,٨٣	١,٩٨	٥	٧,٧٩	٥,٣٥
15	Treatment failure rate.	**2.23**	٣,٣٦	٠,٨٢	٠	٢,١٠	١,٠٢	١,٨٨	٠,٩٩	٥,٧١	١,٩٤	٤,٤٦
16	Default rate.	**7.45**	١٠,٩٢	١٧,٣٥	١٥,٤٥	٤,٢١	٦,١٢	١,٨٨	٤,٩٥	٢,١٤	٩,٧٤	١,٧٨
17	Transfer out rate.	**9.71**	١١,٧٦	١٤,٨٧	٣٣,٦٣	١٥,٧٨	٣,٠٦	٠	٤,٩٥	٢,١٤	٩,٠٩	١,٧٨
18	Retreatment failure rate (chronic TB rate).	**19.56**	٣٤,٣٧	٦,٨٩	٢٤,٤٤	١٦,١٧	٢٥	١٥	٢٦,٣١	٢٣,٣٣	٨,٣٣	١٥,٧٨

Table 26: Results of indicators after DOTS.

		Mean	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
1	Incidence rate: new cases	**5.81**	٧,٨٤	٧,٧٩	٥,٥٩	٥,٤٤	٥,٠١	٤,١٤	٤,٨٧
2	Incidence rate: new and relapse cases	**6.06**	٨,٢٢	٨,١٣	٥,٨٦	٥,٥٧	٥,١٩	٤,٢٩	٥,١٩
3	Incidence rate: all cases	**6.23**	٨,٤١	٨,٢٩	٦,٠٨	٥,٧٥	٥,٣٧	٤,٤٤	٥,٢٨
4	Incidence rate new smear positive pulmonary TB cases.	**2.8**	٣,٦٠	٣,٧٧	٢,٦٤	٢,٠٦	٢,٥٣	٢,١٧	٢,٨٧
5	New pulmonary TB cases with no smear result.	**26.18**	٣٢,١٤	٣٠,٨٥	٢٦,٤٩	٣٣,٣٣	٢٥,٤٣	١٦,٨٥	١٨,١٨
6	New adult smear positive cases.	**84**	٧٨,١٦	٨٤,٧٨	٨٥,٨٥	٨١,٧٣	٨٤,٠٥	٨٩,٨٧	٨٣,٦٢
7	Retreatment TB cases.	**6.72**	٦,٧٦	٦,٠١	٨,٠٨	٥,٢٦	٦,٦٦	٦,٦٢	٧,٦٩
8	New extrapulmonary	**31.59**	٣٢,٢٥	٣٠	٣٥,٧١	٢٨,٣٣	٣٢,١٤	٣٦,١٧	٢٦,٥٨

	TB cases.								
9	New TB cases with no smear conversion result.	**18.89**	١٥,٧٨	١٣,٢٢	٨,١٣	٢٣,٢٥	٣٤,١١	١٧,٥٦	٢٠,٢٠
10	Sputum conversion rate at the end of the initial phase of treatment.	**76.64**	٧٨,٠٧	٨٣,٤٧	٨٨,٣٧	٧٥,٥٨	٦٣,٥٢	٧٥,٧٦	٧١,٧١
11	Cure rate.	**71.85**	٧٤,٥٦	٧٧,٨٦	٧٣,٢٥	٥١,١٦	٨١,١٧	٧٠,٢٧	٧٤,٧٤
12	Treatment completion rate.	**9.81**	٩,٦٤	٤,١٣	٦,٩٧	٢٩,٠٦	٢,٣٥	٩,٤٥	٧,٠٧
13	Treatment success rate.	**81.66**	٨٤,٢١	٨١,٨١	٨٠,٢٣	٧٩,٢٢	٨٣,٥٢	٧٩,٧٢	٨١,٨١
14	Death rate.	**4.97**	٤,٣٨	٤,٩٥	٤,٦٥	٢,٣٢	٩,٤١	٤,٠٥	٥,٠٥
15	Treatment failure rate.	**3.54**	٢,٦٣	٢,٤٧	٨,١٣	٣,٤٨	٢,٣٥	٢,٧٠	٣,٠٣
16	Default rate.	**8.35**	٧,٨٩	١٠,٧٤	٥,٨١	١٠,٤٦	٠	١٣,٥١	١٠,١٠
17	Transfer out rate.	**1.45**	٠,٨٧	٠,٠	١,١٦	٣,٤٨	٤,٧٠	٠	٠
18	Retreatment failure rate (chronic TB rate).	**13.73**	١٨,٧٥	١٣,٣٣	٧,٦٩	٠,٠	٢٥	٠	٥٣,٨٤

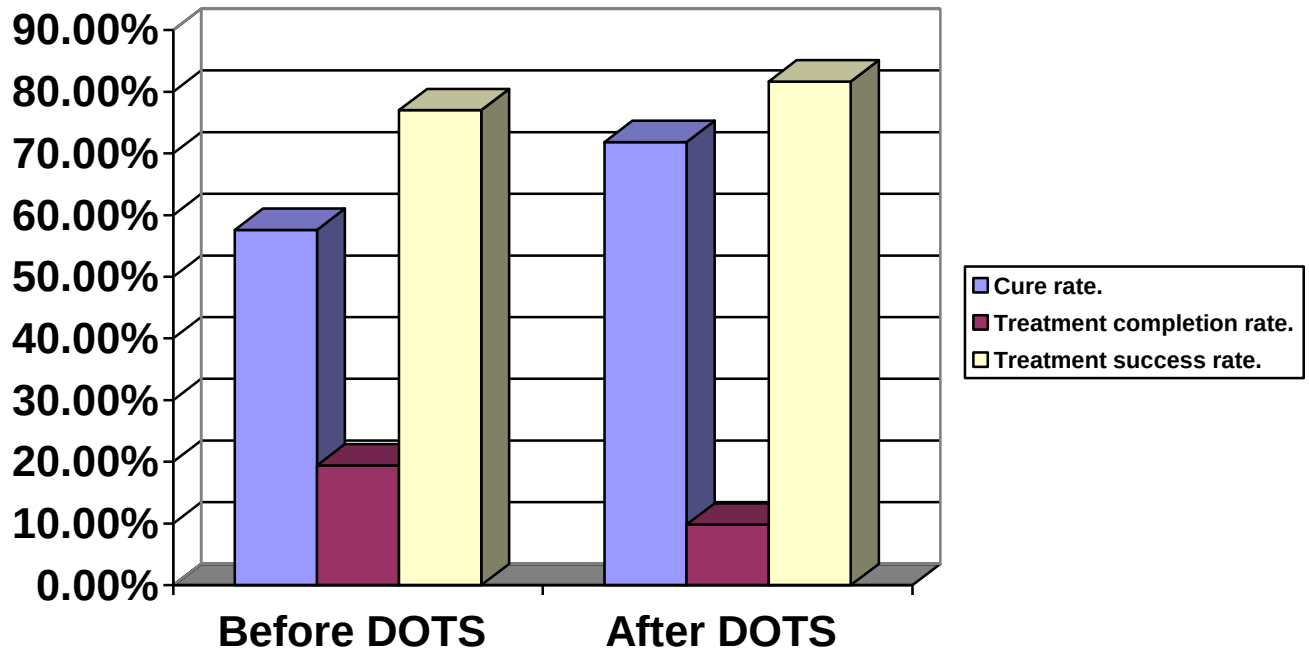

Diagram 19: Distribution of total tuberculous cases according to the treatment outcome (cure, completion, and success rates).

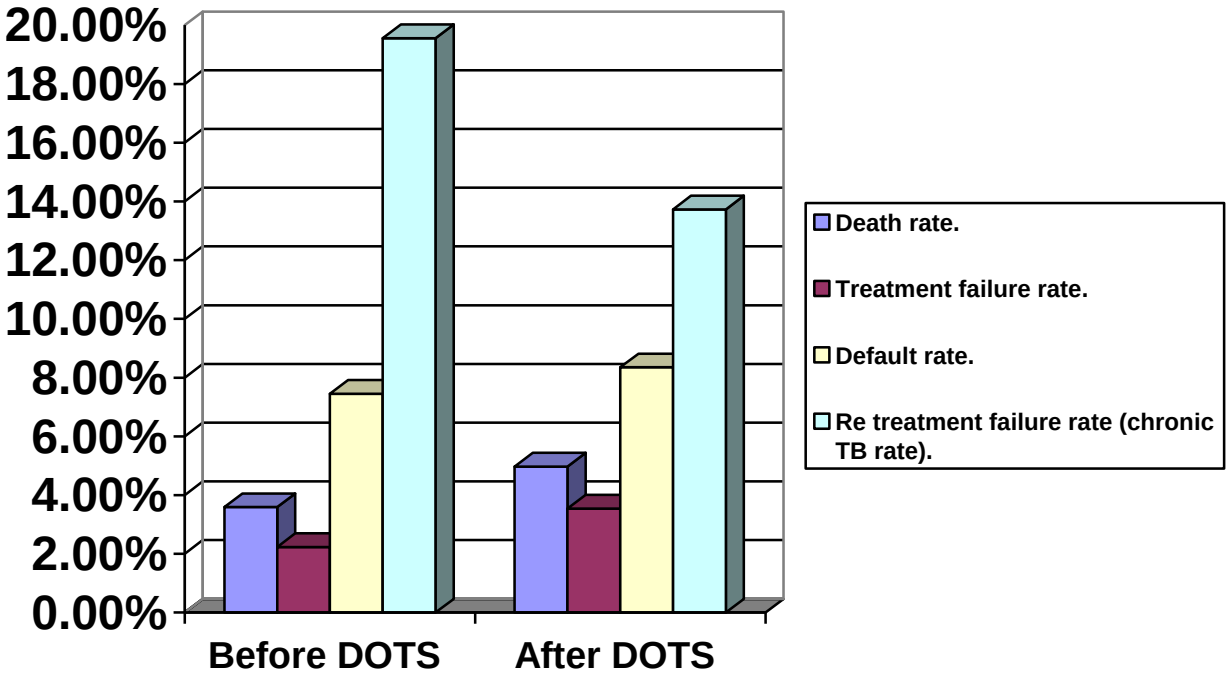

Diagram 20: Distribution of total tuberculous cases according to the treatment outcome (death, failure, default, and chronic rates).

Table 27: Comparison between indicators before and after DOTS and statistical analysis between indicators before and after DOTS.

	Mean / Indicator	Mean before DOTS	Mean after DOTS	P*	Statistical significance
1	Incidence rate: new cases	**7.73**	**5.81**	**0.0107**	significant
2	Incidence rate: new and relapse cases	**8.38**	**6.06**	**0.0048**	significant
3	Incidence rate: all cases	**9.02**	**6.23**	**0.0028**	significant
4	Incidence rate new smear positive pulmonary TB cases.	**4.05**	**2.8**	**0.0008**	high significant
5	New pulmonary TB cases with no smear result.	**23.82**	**26.18**	**0.0001**	highly significant
6	New adult smear positive cases.	**83.35**	**84**	**0.7745**	non significant
7	Retreatment TB cases.	**13.29**	**6.72**	**0.0042**	high significance

8	New extrapulmonary TB cases.	**34.27**	**31.59**	**0.3380**	non significant
9	New TB cases with no smear conversion result.	**24.41**	**18.89**	**0.2176**	non significant
10	Sputum conversion rate at the end of the initial phase of treatment.	**69.72**	**76.64**	**0.1831**	non significant
11	Cure rate.	**57.60**	**71.85**	**0.0701**	non significant
12	Treatment completion rate.	**19.41**	**9.81**	**0.0803**	non significant
13	Treatment success rate.	**77.01**	**81.66**	**0.3781**	non significant
14	Death rate.	**3.59**	**4.97**	**0.1915**	non significant
15	Treatment failure rate.	**2.23**	**3.54**	**0.1815**	non significant
16	Default rate.	**7.45**	**8.35**	**0.7303**	non significant
17	Transfer out rate.	**9.71**	**1.45**	**0.0517**	significant
18	Retreatment failure rate (chronic TB rate).	**19.56**	**13.73**	**0.3976**	non significant

***p<0.05 (means significant).**

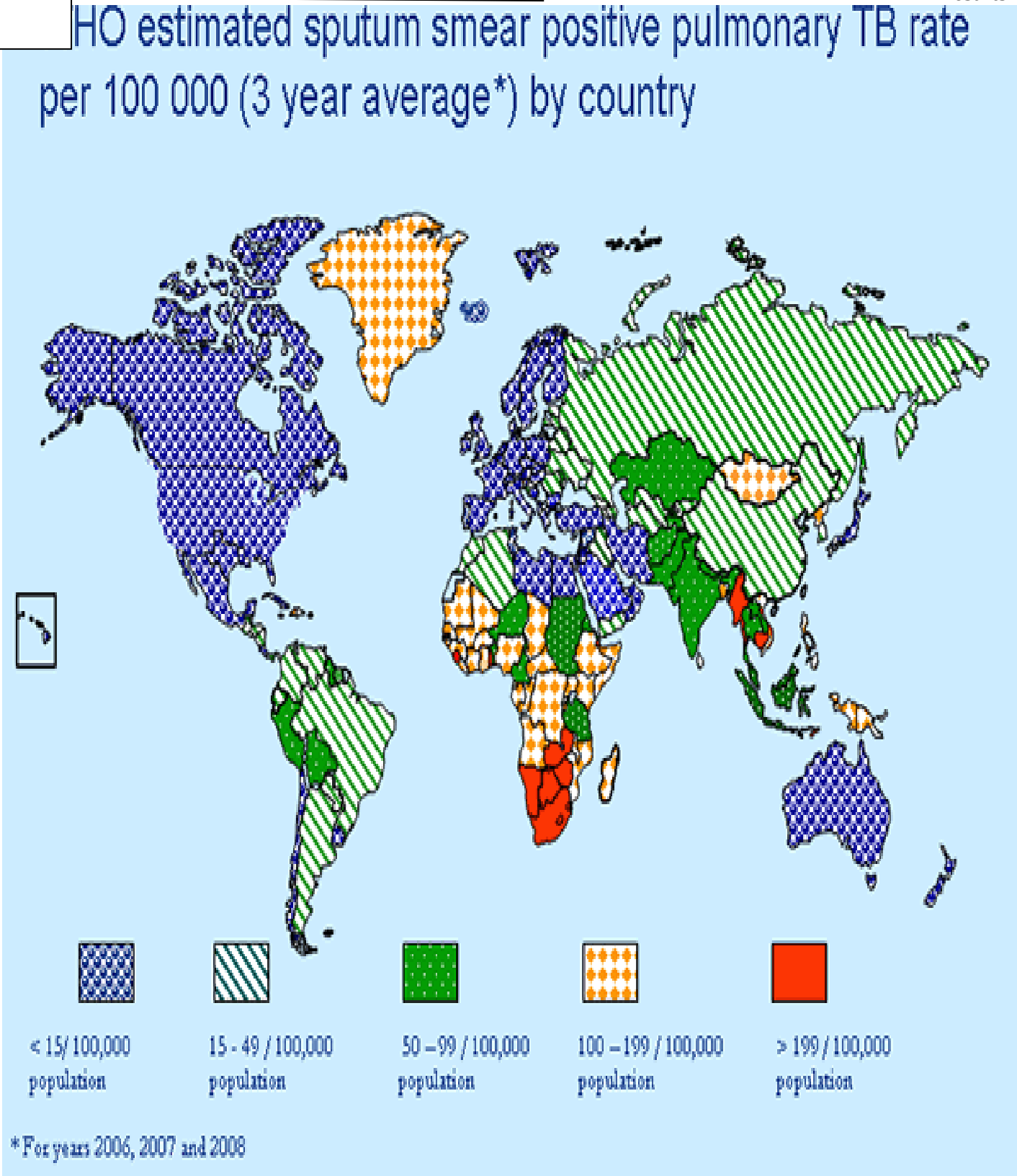

Diagram (21): WHO estimated sputum smear positive pulmonary TB rate per 100 000 (3 year average) by country.