



# The Impact of the ABO/Rh Blood Group on Susceptibility and Severity among COVID-19 Patients in Luanda, Angola

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**Supplementary Table 1:** Socio demographic and clinical characteristics related to ABO/Rh blood types among COVID-19 patients in Luanda, Angola.

Characteristics	N(%)	ABO blood group distribution										Rh Blood Type				
		A			B			AB			O			Neg.(%)	Pos.(%)	p-value
		No(%)	Yes(%)	p-value	No(%)	Yes(%)	p-value	No(%)	Yes(%)	p-value	No(%)	Yes(%)	p-value			
Overall	101(100)	76(75.2)	25(24.8)		80(79.2)	21(20.8)		98(97.0)	3(3.0)		49(48.5)	52(51.5)		7(6.90)	94(93.1)	
Age groups																
<20y	1(1.0)	0(0.0)	1(100)	0.07	1(100)	20(83.3)	0.732	1(100)	0(0.0)	0.601	1(100)	0(0.0)	0.062	0(0.0)	1(100)	0.791
20-40y	24(23.8)	21(87.5)	3(12.5)		20(83.3)	4(16.7)		24(100)	0(0.0)		7(29.2)	17(70.8)		1(4.20)	23(95.8)	
>40y	76/75.2)	55(72.4)	21(27.6)		59(77.6)	17(22.4)		73(96.1)	3(3.90)		41(53.9)	35(46.1)		6(7.90)	70(92.1)	
Gender																
Female	40(39.6)	29(72.5)	11(27.5)	0.604	35(87.5)	5(12.5)	0.096	40(100)	0(0.0)	0.154	16(40.0)	24(60.0)	0.166	2(5.0)	38(95.0)	0.536
Male	61(60.4)	47(77.0)	14(23.0)		45(73.8)	16(26.2)		58(95.1)	3(4.90)		33(54.1)	28(45.9)		5(8.20)	56(91.8)	

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Residence area																
Rural	46(45.5)	36(78.3)	10(21.7)	0.521	34(73.9)	12(26.1)	0.23	46(100)	0(0.0)	0.108	22(47.8)	24(52.2)	0.899	2(4.30)	44(95.7)	0.35
Urban	55(54.5)	40(72.7)	15(27.3)		46(83.6)	9(16.4)		52(94.5)	3(5.50)		27(49.1)	28(50.9)		5(9.10)	50(90.9)	
Clinical category																
Mild	23(22.8)	17(73.9)	6(26.1)	0.714	17(73.9)	6(26.1)	0.531	22(95.7)	1(4.30)	0.625	13(56.5)	10(43.5)	0.651	5(21.7)	18(78.3)	<b>0.005</b>
Moderate	55(54.5)	43(78.2)	12(21.8)		43(78.2)	12(21.8)		53(96.4)	2(3.60)		26(47.3)	29(52.7)		2(3.60)	53(96.4)	
Severe	23(22.8)	16(69.6)	7(30.4)		20(87.0)	3(13.0)		23(100)	0(0.0)		10(43.5)	13(56.5)		0(0.0)	23(100)	
Hospitalization																
No	21(20.8)	13(61.9)	8(38.1)	0.111	17(81.0)	4(19.0)	0.825	20(95.2)	1(4.80)	0.587	13(61.9)	8(38.1)	0.168	4(19.0)	17(81.0)	<b>0.014</b>
Yes	80(79.2)	63(78.8)	17(21.3)		63(78.8)	17(21.3)		78(97.5)	2(2.50)		36(45.0)	44(55.0)		3(3.80)	77(96.3)	
Clinical outcome																
Recovery	91(90.1)	68(74.7)	23(25.3)	0.714	70(76.9)	21(23.1)	0.088	88(96.7)	3(3.30)	0.56	47(51.6)	44(48.4)	0.057	7(7.70)	84(92.3)	0.363
Death	10(9.90)	8(80.0)	2(20.0)		10(100)	0(0.0)		10(100)	0(0.0)		2(20.0)	8(80.0)		0(0.0)	10(100)	
Symptoms																
No	23(22.8)	17(73.9)	6(26.1)	0.866	17(73.9)	6(26.1)	0.476	22(95.7)	1(4.30)	0.658	13(56.5)	10(43.5)	0.382	5(21.7)	18(78.3)	<b>0.001</b>
Yes	78(77.2)	59(75.6)	19(24.4)		63(80.8)	15(19.2)		76(97.4)	2(2.60)		36(46.2)	42(53.8)		2(2.60)	76(97.4)	
Fever																
No	65(64.4)	53(81.5)	12(18.5)	<b>0.049</b>	49(75.4)	16(24.6)	0.203	64(98.5)	1(1.50)	0.255	29(44.6)	36(55.4)	0.292	6(9.20)	59(90.8)	0.221
Yes	36(35.6)	23(63.9)	13(36.1)		31(86.1)	5(13.9)		34(94.4)	2(5.60)		20(55.6)	16(44.4)		1(2.80)	35(97.2)	
Cough																
No	64(63.4)	50(78.1)	14(21.9)	0.378	49(76.6)	15(23.4)	0.389	61(95.3)	3(4.70)	0.181	32(50.0)	32(50.0)	0.694	5(7.80)	59(92.2)	0.646
Yes	37(36.6)	26(70.3)	11(29.7)		31(83.8)	6(16.2)		37(100)	0(0.0)		17(45.9)	20(54.1)		2(5.40)	35(94.6)	
Fatigue																
No	93(92.1)	69(74.2)	24(25.8)	0.403	73(78.5)	20(21.5)	0.547	91(97.8)	2(2.20)	0.098	46(49.5)	47(50.5)	0.516	7(7.50)	86(92.5)	0.421
Yes	8(7.90)	7(87.5)	1(12.5)		7(87.5)	1(12.5)		7(87.5)	1(12.5)		3(37.5)	5(62.5)		0(0.0)	8(100)	
Dyspnoea																
No	82(81.2)	61(74.4)	21(25.6)	0.678	65(79.3)	17(20.7)	0.975	80(97.6)	2(2.40)	0.514	40(48.8)	42(51.2)	0.912	6(7.30)	76(92.7)	0.751
Yes	19(18.8)	15(78.9)	4(21.1)		15(78.9)	4(21.1)		18(94.7)	1(5.30)		9(47.4)	10(52.6)		1(5.30)	18(94.7)	
Osteomyotralgia																
No	85(84.2)	62(72.9)	23(27.1)	0.216	67(78.8)	18(21.2)	0.826	83(97.6)	2(2.40)	0.4	43(50.6)	42(49.4)	0.337	7(8.20)	78(91.8)	0.234
Yes	16(15.8)	14(87.5)	2(12.5)		13(81.3)	3(18.8)		15(93.8)	1(6.30)		6(37.5)	10(62.5)		0(0.0)	16(100)	
Headache																
No	86(85.1)	63(73.3)	23(26.7)	0.267	69(80.2)	17(19.8)	0.543	83(96.5)	3(3.50)	0.463	43(50.0)	43(50.0)	0.475	7(8.10)	79(91.9)	0.252
Yes	15(14.9)	13(86.7)	2(13.3)		11(73.3)	4(26.7)		15(100)	0(0.0)		6(40.0)	9(60.0)		0(0.0)	15(100)	

Vomit																
No	97(96.0)	74(76.3)	23(23.7)	0.233	76(78.4)	21(21.6)	0.296	94(96.9)	3(3.10)	0.721	47(48.5)	50(51.5)	0.952	7(7.20)	90(92.8)	0.578
Yes	4(4.00)	2(50.0)	2(50.0)		4(100)	0(0.0)		4(100)	0(0.0)		2(50.0)	2(50.0)		0(0.0)	4(100)	
Diarrhea																
No	96(95.0)	74(77.1)	22(22.9)	0.061	75(78.1)	21(21.9)	0.24	93(96.9)	3(3.10)	0.688	46(47.9)	50(52.1)	0.598	6(6.30)	90(93.8)	0.238
Yes	5(5.00)	2(40.0)	3(60.0)		5(100)	0(0.0)		5(100)	0(0.0)		3(60.0)	2(40.0)		1(20.0)	4(80.0)	
Malaise																
No	81(80.2)	61(75.3)	20(24.7)	0.977	61(75.3)	20(24.7)	0.052	80(98.8)	1(1.20)	<b>0.039</b>	41(50.6)	40(49.4)	0.395	6(7.40)	75(92.6)	0.704
Yes	20(19.8)	15(75.0)	5(25.0)		19(95.0)	1(5.0)		18(90.0)	2(10.0)		8(40.0)	12(60.0)		1(5.0)	19(95.0)	
Asthenia																
No	74(73.3)	55(74.3)	19(25.7)	0.722	59(79.7)	15(20.3)	0.831	73(98.6)	1(1.40)	0.113	35(47.3)	39(52.7)	0.685	5(6.80)	69(93.2)	0.909
Yes	27(26.7)	21(77.8)	6(22.2)		21(77.8)	6(22.2)		25(92.6)	2(7.40)		14(51.9)	13(48.1)		2(7.40)	25(92.6)	
Anorexia																
No	95(94.1)	71(74.7)	24(25.3)	0.636	77(81.1)	18(18.9)	0.069	93(97.9)	2(2.10)	<b>0.042</b>	44(46.3)	51(53.7)	0.078	7(7.40)	88(92.6)	0.491
Yes	6(5.90)	5(83.3)	1(16.7)		3(50.0)	3(50.0)		5(83.3)	1(16.7)		5(83.3)	1(16.7)		0(0.0)	6(100)	
Anosmia																
No	92(91.1)	69(75.0)	23(25.0)	0.854	72(78.3)	20(21.7)	0.453	90(97.8)	2(2.20)	0.132	45(48.9)	47(51.1)	0.798	7(7.60)	85(92.4)	0.391
Yes	9(8.90)	7(77.8)	2(22.2)		8(88.9)	1(11.1)		8(88.9)	1(11.1)		4(44.4)	5(55.6)		0(0.0)	9(100)	
Hemiplegia																
No	100(99.0)	75(75.0)	25(25.0)	0.564	79(79.0)	21(21.0)	0.607	97(97.0)	3(3.0)	0.860	49(49.0)	51(51.0)	0.329	7(7.0)	93(93.0)	0.784
Yes	1(1.00)	1(100)	0(0.0)		1(100)	0(0.0)		1(100)	0(0.0)		0(0.0)	1(100)		0(0.0)	1(100)	
Consciousness loss																
No	100(99.0)	75(75.0)	25(25.0)	0.564	79(79.0)	21(21.0)	0.607	97(97.0)	3(3.0)	0.860	49(49.0)	51(51.0)	0.329	7(7.0)	93(93.0)	0.784
Yes	1(1.00)	1(100)	0(0.0)		1(100)	0(0.0)		1(100)	0(0.0)		0(0.0)	1(100)		0(0.0)	1(100)	
Comorbidities*																
No	36(35.6)	26(72.2)	10(27.8)	0.6	26(72.2)	10(27.8)	0.198	35(97.2)	1(2.80)	0.932	21(58.3)	15(41.7)	0.142	3(8.30)	33(91.7)	0.68
Yes	65(64.4)	50(76.9)	15(23.1)		54(83.1)	11(16.9)		63(96.9)	2(3.10)		28(43.1)	37(56.9)		4(6.20)	61(93.8)	
Malaria																
No	98(97.0)	75(76.5)	23(23.5)	0.088	77(78.6)	21(21.4)	0.368	96(98.0)	2(2.0)	<b>0.002</b>	46(46.9)	52(53.1)	0.07	7(7.10)	91(92.9)	0.631
Yes	3(3.00)	1(33.3)	2(66.7)		3(100)	0(0.0)		2(66.7)	1(33.3)		3(100)	0(0.0)		0(0.0)	3(100)	

**Abbreviations:** Neg: Negative; Pos: Positive.

Bold numbers mean that results were statistically significant for the X2 test ( $p < 0.05$ ).

\***Comorbidities:** Hypertension; Diabetes; Kidney disease; Obesity; Cerebrovascular accident.