

The CONTENTS Procedure

<b>Data Set Name</b>	TRABALHO.DF	<b>Observations</b>	102
<b>Member Type</b>	DATA	<b>Variables</b>	5
<b>Engine</b>	V9	<b>Indexes</b>	0
<b>Created</b>	12/07/2024 13:21:19	<b>Observation Length</b>	40
<b>Last Modified</b>	12/07/2024 13:21:19	<b>Deleted Observations</b>	0
<b>Protection</b>		<b>Compressed</b>	NO
<b>Data Set Type</b>		<b>Sorted</b>	NO
<b>Label</b>			
<b>Data Representation</b>	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
<b>Encoding</b>	utf-8 Unicode (UTF-8)		

Engine/Host Dependent Information	
<b>Data Set Page Size</b>	131072
<b>Number of Data Set Pages</b>	1
<b>First Data Page</b>	1
<b>Max Obs per Page</b>	3265
<b>Obs in First Data Page</b>	102
<b>Number of Data Set Repairs</b>	0
<b>Filename</b>	/home/u36587463/dados/df.sas7bdat
<b>Release Created</b>	9.0401M7
<b>Host Created</b>	Linux
<b>Inode Number</b>	23714677079
<b>Access Permission</b>	rw-r--r--
<b>Owner Name</b>	u36587463
<b>File Size</b>	256KB
<b>File Size (bytes)</b>	262144

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Label
<b>1</b>	ID	Num	8	BEST.	Nº do prontuário
<b>2</b>	X1	Num	8	BEST.	Resultado da radiografia
<b>3</b>	X2	Num	8	BEST.	Estágio do tumor
<b>4</b>	X3	Num	8	BEST.	Nível de fosfatase ácida

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Label
5	X4	Num	8	BEST.	Envolvimento nodal

**The FREQ Procedure**

Nível de fosfatase ácida				
X3	Frequency	Percent	Cumulative Frequency	Cumulative Percent
2600	1	0.98	1	0.98
2700	1	0.98	2	1.96
4000	2	1.96	4	3.92
4500	2	1.96	6	5.88
4600	1	0.98	7	6.86
4700	1	0.98	8	7.84
4800	5	4.90	13	12.75
4900	7	6.86	20	19.61
5000	8	7.84	28	27.45
5100	7	6.86	35	34.31
5200	2	1.96	37	36.27
5300	2	1.96	39	38.24
5400	1	0.98	40	39.22
5500	5	4.90	45	44.12
5600	2	1.96	47	46.08
5900	2	1.96	49	48.04
6000	1	0.98	50	49.02
6100	1	0.98	51	50.00
6200	1	0.98	52	50.98
6300	1	0.98	53	51.96
6400	1	0.98	54	52.94
6600	1	0.98	55	53.92
6700	6	5.88	61	59.80
6800	1	0.98	62	60.78
7000	3	2.94	65	63.73
7100	1	0.98	66	64.71
7200	2	1.96	68	66.67

Nível de fosfatase ácida					
X3	Frequency	Percent	Cumulative Frequency	Cumulative Percent	
7500	1	0.98	69	67.65	
7600	3	2.94	72	70.59	
7700	1	0.98	73	71.57	
7800	3	2.94	76	74.51	
7900	2	1.96	78	76.47	
8100	1	0.98	79	77.45	
8200	4	3.92	83	81.37	
8300	1	0.98	84	82.35	
8400	3	2.94	87	85.29	
8500	1	0.98	88	86.27	
8900	2	1.96	90	88.24	
9800	2	1.96	92	90.20	
9900	2	1.96	94	92.16	
10200	2	1.96	96	94.12	
13600	2	1.96	98	96.08	
13700	1	0.98	99	97.06	
18600	1	0.98	100	98.04	
18700	2	1.96	102	100.00	

Envolvimento nodal					
X4	Frequency	Percent	Cumulative Frequency	Cumulative Percent	
Não	60	58.82	60	58.82	
Sim	42	41.18	102	100.00	

The UNIVARIATE Procedure  
Variable: X3 (Nível de fosfatase ácida)  
X4 = Não

Moments			
N	60	Sum Weights	60
Mean	6441.66667	Sum Observations	386500
Std Deviation	3157.09004	Variance	9967217.51

Moments			
Skewness	3.07158322	Kurtosis	9.64960429
Uncorrected SS	3077770000	Corrected SS	588065833
Coeff Variation	49.0104534	Std Error Mean	407.578571

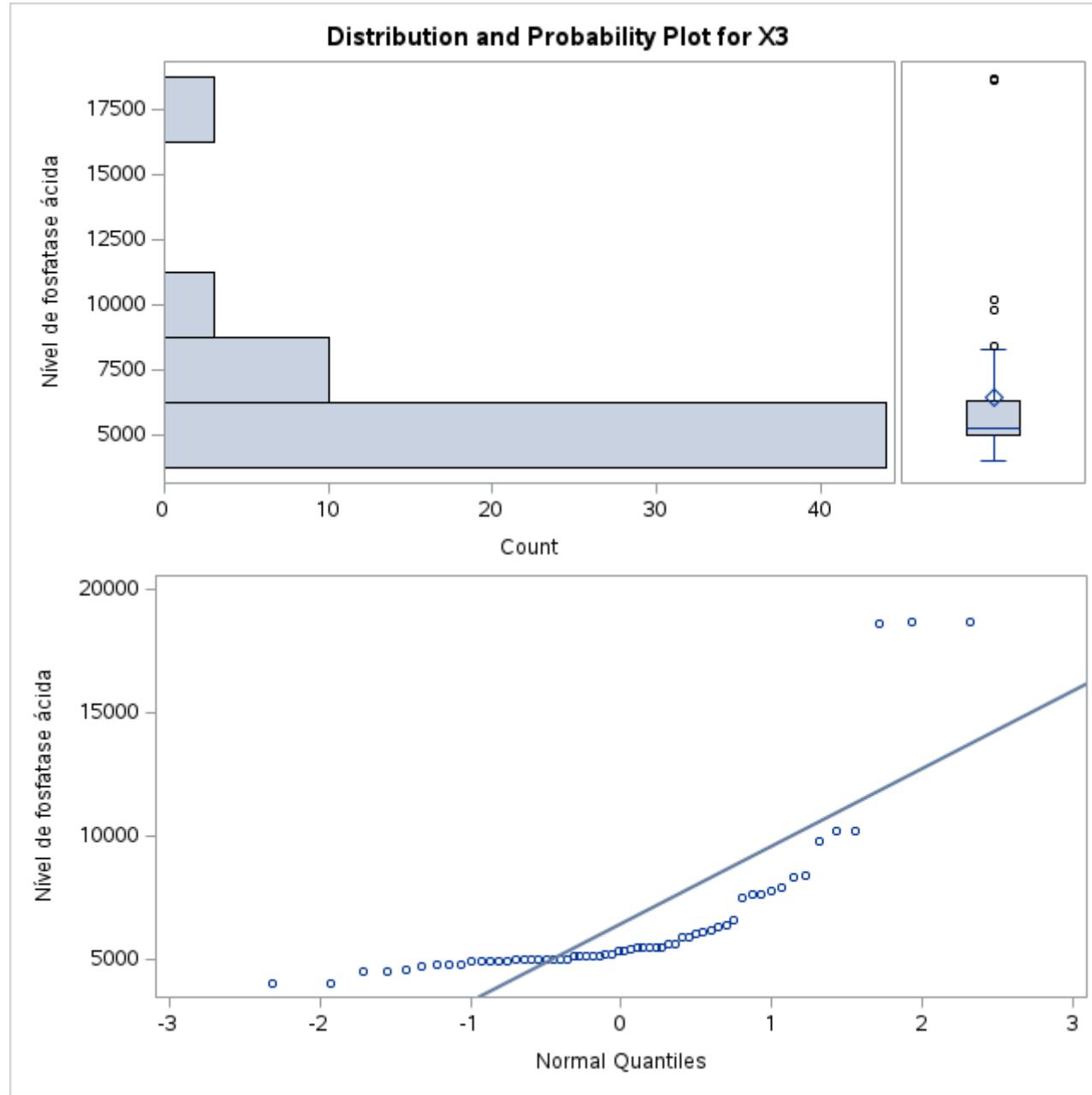
Basic Statistical Measures			
Location		Variability	
Mean	6441.667	Std Deviation	3157
Median	5300.000	Variance	9967218
Mode	5000.000	Range	14700
		Interquartile Range	1350

Tests for Location: Mu0=0				
Test		Statistic	p Value	
Student's t	t	15.80472	Pr >  t	<.0001
Sign	M	30	Pr >=  M	<.0001
Signed Rank	S	915	Pr >=  S	<.0001

Quantiles (Definition 5)	
Level	Quantile
100% Max	18700
99%	18700
95%	14400
90%	9100
75% Q3	6350
50% Median	5300
25% Q1	5000
10%	4750
5%	4500
1%	4000
0% Min	4000

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
4000	79	10200	28
4000	20	10200	86

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
4500	102	18600	54
4500	42	18700	18
4600	6	18700	74



The UNIVARIATE Procedure  
Variable: X3 (Nível de fosfatase ácida)  
X4 = Sim

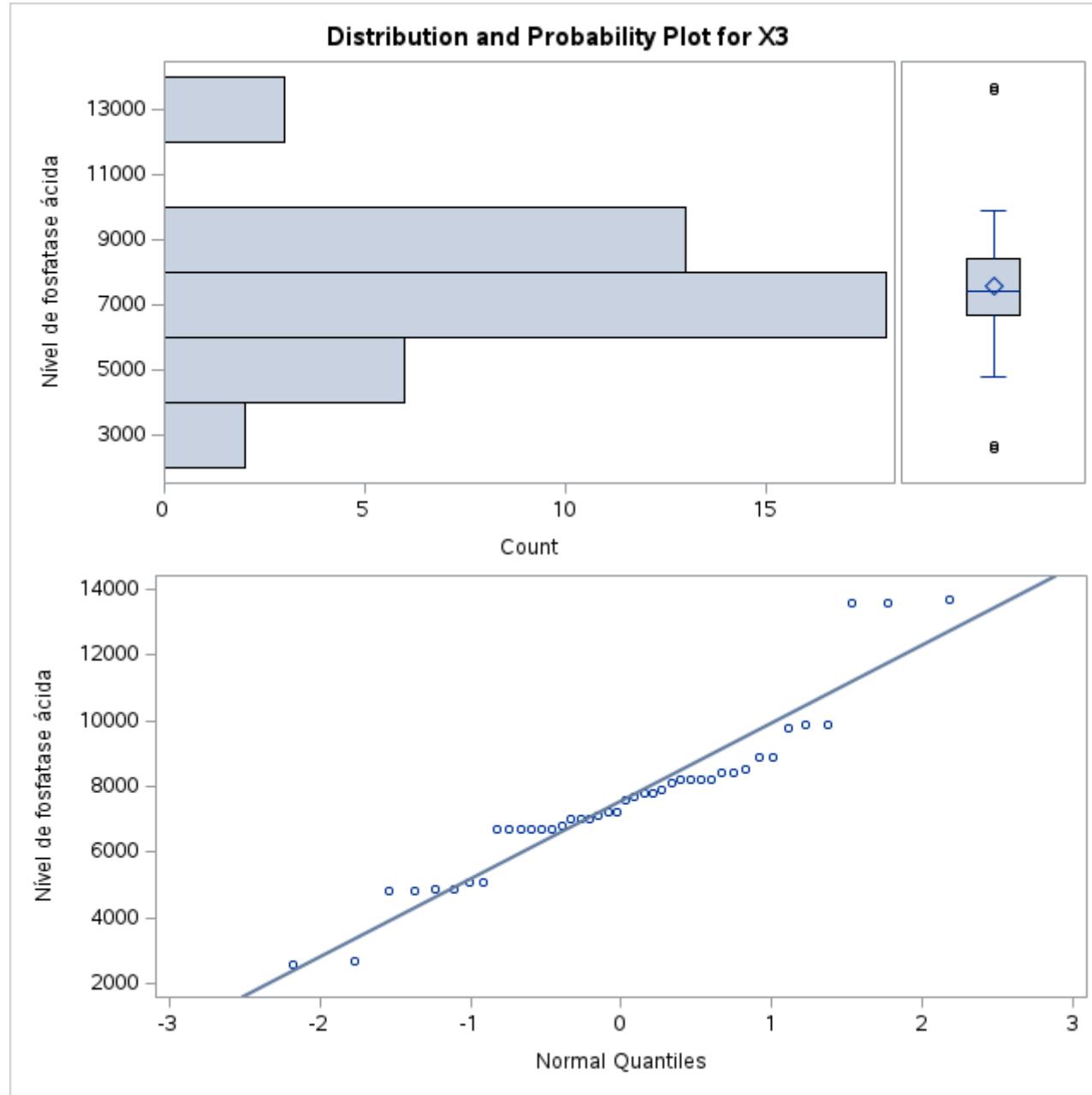
Moments			
N	42	Sum Weights	42
Mean	7564.28571	Sum Observations	317700
Std Deviation	2372.79514	Variance	5630156.79
Skewness	0.69572446	Kurtosis	1.7801564
Uncorrected SS	2634010000	Corrected SS	230836429
Coeff Variation	31.3683966	Std Error Mean	366.130239

Basic Statistical Measures			
Location		Variability	
Mean	7564.286	Std Deviation	2373
Median	7400.000	Variance	5630157
Mode	6700.000	Range	11100
		Interquartile Range	1700

Tests for Location: Mu0=0				
Test	Statistic	p Value		
Student's t	t	20.6601	Pr >  t	<.0001
Sign	M	21	Pr >=  M	<.0001
Signed Rank	S	451.5	Pr >=  S	<.0001

Quantiles (Definition 5)	
Level	Quantile
100% Max	13700
99%	13700
95%	13600
90%	9900
75% Q3	8400
50% Median	7400
25% Q1	6700
10%	4900
5%	4800
1%	2600
0% Min	2600

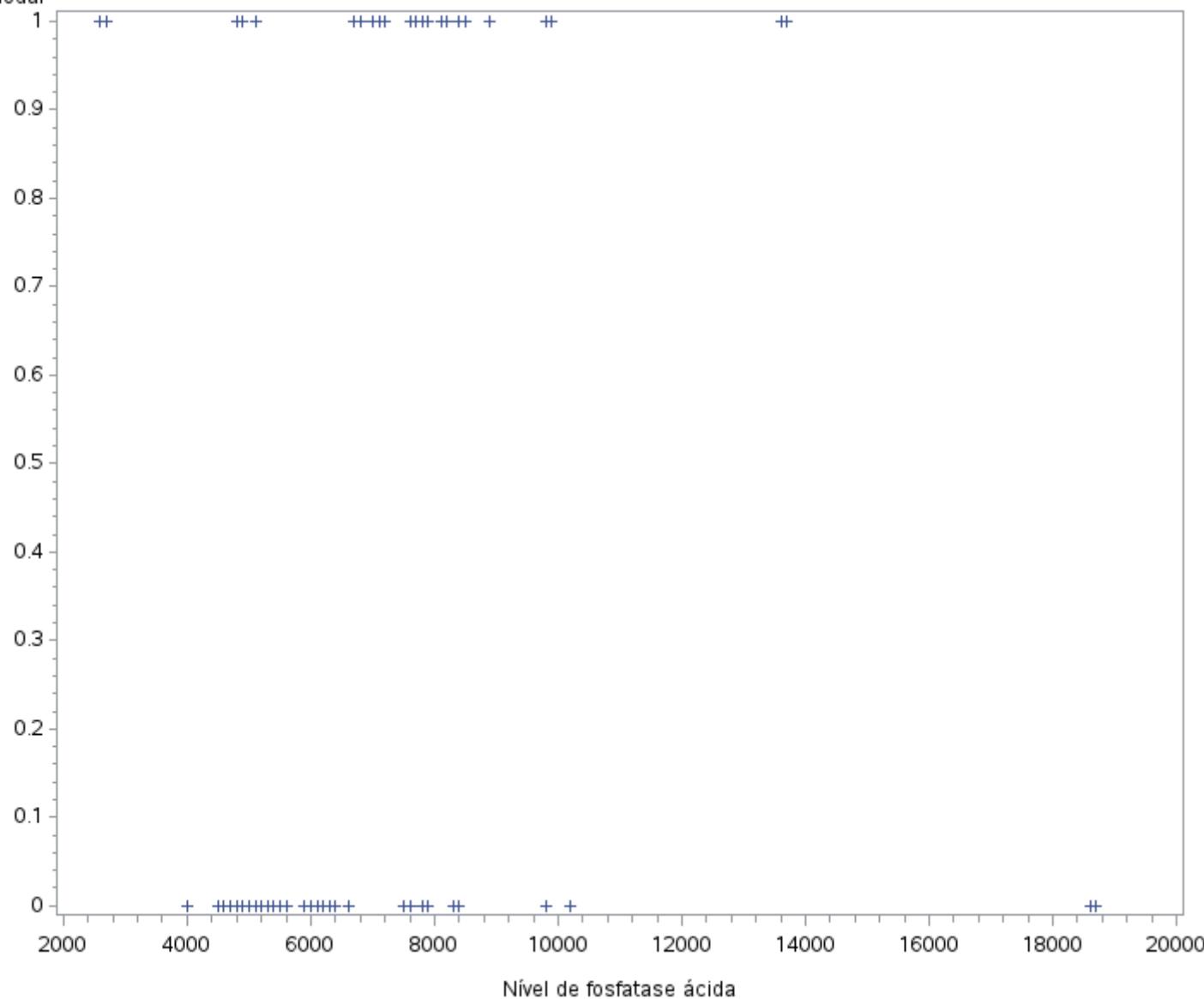
Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
2600	96	9900	17
2700	71	9900	73
4800	82	13600	19
4800	60	13600	75
4900	84	13700	55

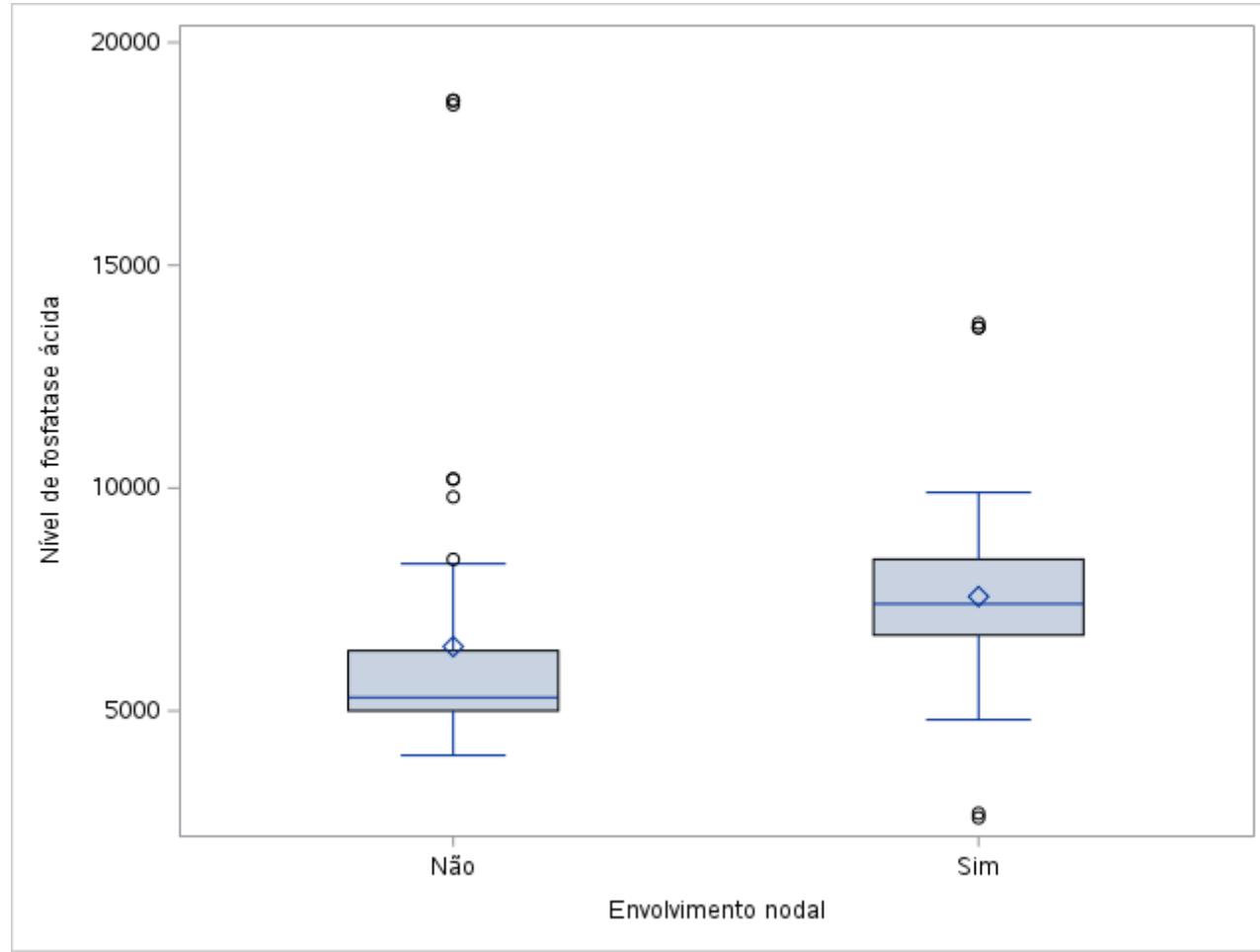


Analysis Variable : X3 Nível de fosfatase ácida						
Envolvimento nodal	N Obs	N	Mean	Std Dev	Minimum	Maximum
Não	60	60	6441.67	3157.09	4000.00	18700.00
Sim	42	42	7564.29	2372.80	2600.00	13700.00

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Envolvimento nodal





	Nível de fosfatase ácida	
	Mean	Std
Envolvimento nodal		
Não	6441.67	3157.09
Sim	7564.29	2372.80

The LOGISTIC Procedure

Model Information

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	0	60
2	1	42

Probability modeled is X4='1'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		138.450
SC	142.834		143.700
-2 Log L	138.209		134.450

Testing Global Null Hypothesis: BETA=0				
Test	Chi-Square	DF	Pr > ChiSq	
Likelihood Ratio	3.7590	1	0.0525	
Score	3.7362	1	0.0532	
Wald	3.3382	1	0.0677	

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-1.3258	0.5649	5.5081	0.0189

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
X3	1	0.000140	0.000077	3.3382	0.0677

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X3	1.000	1.000	1.000

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	71.3	Somers' D	0.440
Percent Discordant	27.3	Gamma	0.446
Percent Tied	1.3	Tau-a	0.215
Pairs	2520	c	0.720

Estimated Covariance Matrix		
Parameter	Intercept	X3
Intercept	0.31912	-0.00004
X3	-0.00004	5.87E-9

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = 1		X4 = 0		
		Observed	Expected	Observed	Expected	
1	13	4	4.24	9	8.76	
2	7	2	2.42	5	4.58	
3	8	0	2.79	8	5.21	
4	11	2	3.89	9	7.11	
5	10	0	3.67	10	6.33	
6	12	6	4.76	6	7.24	
7	11	8	4.65	3	6.35	
8	11	9	4.93	2	6.07	
9	11	8	5.33	3	5.67	
10	8	3	5.33	5	2.67	

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq

Hosmer and Lemeshow Goodness-of-Fit Test			
Chi-Square	DF	Pr > ChiSq	
28.0931	8	0.0005	

### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		94.194
SC	142.834		104.694
-2 Log L	138.209		86.194

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	52.0152	3	<.0001
Score	42.1766	3	<.0001

Testing Global Null Hypothesis: BETA=0				
Test		Chi-Square	DF	Pr > ChiSq
<b>Wald</b>		21.9797	3	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
<b>Intercept</b>	1	-5.1039	1.1455	19.8514	<.0001
<b>X1</b>	1	2.7426	0.7361	13.8836	0.0002
<b>X2</b>	1	3.2084	0.7543	18.0894	<.0001
<b>X3</b>	1	0.000278	0.000090	9.4624	0.0021

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
<b>X1</b>	15.528	3.669	65.712
<b>X2</b>	24.739	5.640	108.512
<b>X3</b>	1.000	1.000	1.000

Association of Predicted Probabilities and Observed Responses				
Percent Concordant	89.3	Somers' D	0.788	
Percent Discordant	10.5	Gamma	0.789	
Percent Tied	0.2	Tau-a	0.385	
Pairs	2520	c	0.894	

Estimated Covariance Matrix					
Parameter	Intercept	X1	X2	X3	
<b>Intercept</b>	1.312246	-0.49305	-0.71224	-0.00009	
<b>X1</b>	-0.49305	0.54179	0.302397	0.000021	
<b>X2</b>	-0.71224	0.302397	0.56904	0.000034	
<b>X3</b>	-0.00009	0.000021	0.000034	8.173E-9	

Partition for the Hosmer and Lemeshow Test					
Group	Total	X4 = Sim		X4 = Não	
		Observed	Expected	Observed	Expected
<b>1</b>	10	0	0.23	10	9.77
<b>2</b>	10	0	0.25	10	9.75

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
3	10	1	0.54	9	9.46	
4	10	2	2.50	8	7.50	
5	11	3	4.06	8	6.94	
6	10	2	4.18	8	5.82	
7	10	9	5.03	1	4.97	
8	10	5	6.01	5	3.99	
9	11	10	9.61	1	1.39	
10	10	10	9.58	0	0.42	

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
10.7117	8	0.2186

#### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status

Model Convergence Status	
Convergence criterion (GCONV=1E-8) satisfied.	

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	140.209	123.876
SC	142.834	129.126
-2 Log L	138.209	119.876

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	18.3327	1	<.0001
Score	18.1441	1	<.0001
Wald	16.1442	1	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.9555	0.2631	13.1878	0.0003
X1	1	1.9671	0.4896	16.1442	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X1	7.150	2.739	18.665

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	45.4	Somers' D	0.390
Percent Discordant	6.3	Gamma	0.755
Percent Tied	48.3	Tau-a	0.191
Pairs	2520	c	0.695

Estimated Covariance Matrix		
Parameter	Intercept	X1
Intercept	0.069231	-0.06923
X1	-0.06923	0.239685

The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		120.029
SC	142.834		125.279
-2 Log L	138.209		116.029

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	22.1797	1	<.0001
Score	20.9969	1	<.0001
Wald	18.7463	1	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-1.5840	0.3881	16.6576	<.0001
X2	1	2.0659	0.4771	18.7463	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X2	7.892	3.098	20.107

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	52.6	Somers' D	0.460
Percent Discordant	6.7	Gamma	0.775
Percent Tied	40.7	Tau-a	0.225
Pairs	2520	c	0.730

Estimated Covariance Matrix		
Parameter	Intercept	X2
Intercept	0.150633	-0.15063
X2	-0.15063	0.227664

#### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		122.538
SC	142.834		130.413
-2 Log L	138.209		116.538

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	21.6704	2	<.0001
Score	21.0485	2	<.0001
Wald	18.1975	2	0.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-1.9102	0.6065	9.9193	0.0016
X1	1	1.9770	0.4973	15.8040	<.0001
X3	1	0.000137	0.000077	3.1433	0.0762

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X1	7.221	2.724	19.137
X3	1.000	1.000	1.000

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	79.7	Somers' D	0.600

Association of Predicted Probabilities and Observed Responses			
Percent Discordant	19.7	Gamma	0.603
Percent Tied	0.6	Tau-a	0.294
Pairs	2520	c	0.800

Estimated Covariance Matrix				
Parameter	Intercept	X1	X3	
Intercept	0.36787	-0.08769	-0.00004	
X1	-0.08769	0.247301	2.204E-6	
X3	-0.00004	2.204E-6	5.95E-9	

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
1	14	3	3.09	11	10.91	
2	13	0	2.96	13	10.04	
3	10	0	2.37	10	7.63	
4	10	5	2.62	5	7.38	
5	10	5	2.91	5	7.09	
6	10	7	3.33	3	6.67	
7	10	2	5.92	8	4.08	
8	10	5	7.03	5	2.97	
9	15	15	11.76	0	3.24	

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
30.4936	7	<.0001

#### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	

Model Information		
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	140.209	112.643
SC	142.834	120.518
-2 Log L	138.209	106.643

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	31.5662	2	<.0001
Score	28.2044	2	<.0001
Wald	21.9174	2	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-3.6320	0.8710	17.3870	<.0001
X2	1	2.5493	0.5638	20.4437	<.0001
X3	1	0.000244	0.000084	8.4481	0.0037

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X2	12.798	4.239	38.641
X3	1.000	1.000	1.000

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	80.5	Somers' D	0.613
Percent Discordant	19.1	Gamma	0.616
Percent Tied	0.4	Tau-a	0.300
Pairs	2520	c	0.807

Estimated Covariance Matrix			
Parameter	Intercept	X2	X3
Intercept	0.758689	-0.35674	-0.00006
X2	-0.35674	0.317885	0.000019
X3	-0.00006	0.000019	7.06E-9

Group	Total	X4 = Sim		X4 = Não	
		Observed	Expected	Observed	Expected
1	9	0	0.70	9	8.30
2	10	0	0.84	10	9.16
3	10	0	0.96	10	9.04
4	10	3	1.62	7	8.38
5	9	7	3.47	2	5.53
6	11	4	5.81	7	5.19
7	10	2	5.71	8	4.29
8	10	9	6.42	1	3.58
9	10	8	6.90	2	3.10
10	13	9	9.58	4	3.42

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
20.4259	8	0.0088

The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		102.083
SC	142.834		109.957
-2 Log L	138.209		96.083

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	42.1263	2	<.0001
Score	36.2932	2	<.0001
Wald	22.3503	2	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-2.5945	0.5644	21.1290	<.0001
X1	1	2.4502	0.6292	15.1673	<.0001
X2	1	2.4937	0.5992	17.3172	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X1	11.591	3.377	39.780
X2	12.106	3.740	39.180

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	72.5	Somers' D	0.643
Percent Discordant	8.2	Gamma	0.797
Percent Tied	19.4	Tau-a	0.315
Pairs	2520	c	0.821

Estimated Covariance Matrix			
Parameter	Intercept	X1	X2
Intercept	0.31859	-0.22512	-0.28836
X1	-0.22512	0.395833	0.171955
X2	-0.28836	0.171955	0.359087

Partition for the Hosmer and Lemeshow Test					
Group	Total	X4 = Sim		X4 = Não	
		Observed	Expected	Observed	Expected
1	35	3	2.43	32	32.57
2	12	5	5.57	7	6.43
3	37	17	17.57	20	19.43
4	18	17	16.43	1	1.57

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq

Hosmer and Lemeshow Goodness-of-Fit Test			
Chi-Square	DF	Pr > ChiSq	
0.5109	2	0.7746	

### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Quasi-complete separation of data points detected.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		89.516
SC	142.834		110.516
-2 Log L	138.209		73.516

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	64.6928	7	<.0001

Testing Global Null Hypothesis: BETA=0				
Test	Chi-Square	DF	Pr > ChiSq	
Score	49.0345	7	<.0001	
Wald	24.6557	7	0.0009	

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-3.4464	1.2494	7.6084	0.0058
X1	1	-142.0	195.8	0.5261	0.4682
X2	1	0.0858	2.0686	0.0017	0.9669
X3	1	0.000131	0.000117	1.2525	0.2631
X1*X2	1	147.5	195.9	0.5670	0.4515
X2*X3	1	0.000376	0.000282	1.7813	0.1820
X1*X3	1	0.0223	0.0302	0.5427	0.4613
X1*X2*X3	1	-0.0227	0.0302	0.5618	0.4535

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	92.8	Somers' D	0.858
Percent Discordant	7.0	Gamma	0.859
Percent Tied	0.2	Tau-a	0.420
Pairs	2520	c	0.929

Estimated Covariance Matrix								
Parameter	Intercept	X1	X2	X3	X1X2	X2X3	X1X3	X1X2X3
Intercept	1.561097	-1.5611	-1.5611	-0.00013	1.561097	0.000127	0.000127	-0.00013
X1	-1.5611	38345.33	1.561097	0.000127	-38345.3	-0.00013	-5.91688	5.91688
X2	-1.5611	1.561097	4.278952	0.000127	-4.27895	-0.00054	-0.00013	0.00054
X3	-0.00013	0.000127	0.000127	1.36E-8	-0.00013	-1.36E-8	-1.36E-8	1.36E-8
X1X2	1.561097	-38345.3	-4.27895	-0.00013	38359.17	0.00054	5.91688	-5.91886
X2X3	0.000127	-0.00013	-0.00054	-1.36E-8	0.00054	7.929E-8	1.36E-8	-7.93E-8
X1X3	0.000127	-5.91688	-0.00013	-1.36E-8	5.91688	1.36E-8	0.000914	-0.00091
X1X2X3	-0.00013	5.91688	0.00054	1.36E-8	-5.91886	-7.93E-8	-0.00091	0.000914

Partition for the Hosmer and Lemeshow Test					
Group	Total	X4 = Sim		X4 = Não	
		Observed	Expected	Observed	Expected

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
1	9	0	0.13	9	8.87	
2	12	0	0.69	12	11.31	
3	10	0	0.65	10	9.35	
4	10	3	1.17	7	8.83	
5	9	3	2.53	6	6.47	
6	10	0	3.44	10	6.56	
7	10	8	5.09	2	4.91	
8	10	7	7.24	3	2.76	
9	11	10	10.36	1	0.64	
10	11	11	10.72	0	0.28	

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
14.0905	8	0.0794

#### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	140.209	97.258
SC	142.834	115.633
-2 Log L	138.209	83.258

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	54.9509	6	<.0001
Score	44.3960	6	<.0001
Wald	20.5241	6	0.0022

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-3.7704	1.2777	8.7082	0.0032
X1	1	-0.5836	2.4451	0.0570	0.8114
X2	1	1.3750	1.8929	0.5276	0.4676
X3	1	0.000164	0.000113	2.1220	0.1452
X1*X2	1	1.7736	1.8220	0.9476	0.3303
X2*X3	1	0.000189	0.000245	0.5918	0.4417
X1*X3	1	0.000390	0.000330	1.4012	0.2365

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	90.5	Somers' D	0.812
Percent Discordant	9.3	Gamma	0.814
Percent Tied	0.2	Tau-a	0.397
Pairs	2520	c	0.906

Estimated Covariance Matrix							
Parameter	Intercept	X1	X2	X3	X1X2	X2X3	X1X3
Intercept	1.632442	-1.43882	-1.55281	-0.00013	1.018684	0.000113	0.000095

Estimated Covariance Matrix							
Parameter	Intercept	X1	X2	X3	X1X2	X2X3	X1X3
X1	-1.43882	5.978506	0.831029	0.000106	-2.77197	-9.54E-6	-0.00073
X2	-1.55281	0.831029	3.583188	0.000117	-1.59215	-0.00042	-3.92E-6
X3	-0.00013	0.000106	0.000117	1.272E-8	-0.00006	-1.14E-8	-9.63E-9
X1X2	1.018684	-2.77197	-1.59215	-0.00006	3.319547	0.000136	0.000245
X2X3	0.000113	-9.54E-6	-0.00042	-1.14E-8	0.000136	6.022E-8	-4.8E-9
X1X3	0.000095	-0.00073	-3.92E-6	-9.63E-9	0.000245	-4.8E-9	1.087E-7

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
1	10	0	0.49	10	9.51	
2	10	0	0.52	10	9.48	
3	10	1	0.79	9	9.21	
4	10	2	1.87	8	8.13	
5	10	3	3.30	7	6.70	
6	10	2	3.62	8	6.38	
7	12	8	5.78	4	6.22	
8	11	8	7.11	3	3.89	
9	10	9	9.59	1	0.41	
10	9	9	8.93	0	0.07	

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
5.2155	8	0.7343

#### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	

Model Information		
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209	97.464	
SC	142.834	113.213	
-2 Log L	138.209	85.464	

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	52.7453	5	<.0001
Score	43.1149	5	<.0001
Wald	22.5598	5	0.0004

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-4.5214	1.2670	12.7358	0.0004
X1	1	2.3721	0.9823	5.8314	0.0157
X2	1	1.6998	1.8964	0.8035	0.3701
X3	1	0.000236	0.000099	5.7474	0.0165
X1*X2	1	0.7404	1.5044	0.2422	0.6226

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
X2*X3	1	0.000184	0.000239	0.5962	0.4401

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	89.7	Somers' D	0.796
Percent Discordant	10.1	Gamma	0.798
Percent Tied	0.2	Tau-a	0.390
Pairs	2520	c	0.898

Estimated Covariance Matrix						
Parameter	Intercept	X1	X2	X3	X1X2	X2X3
Intercept	1.605188	-0.80749	-1.60519	-0.00011	0.807488	0.000106
X1	-0.80749	0.964968	0.807488	0.000033	-0.96497	-0.00003
X2	-1.60519	0.807488	3.596308	0.000106	-1.25104	-0.0004
X3	-0.00011	0.000033	0.000106	9.731E-9	-0.00003	-9.73E-9
X1X2	0.807488	-0.96497	-1.25104	-0.00003	2.263107	0.000084
X2X3	0.000106	-0.00003	-0.0004	-9.73E-9	0.000084	5.69E-8

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
1	10	0	0.34	10	9.66	
2	10	0	0.36	10	9.64	
3	10	1	0.68	9	9.32	
4	12	3	2.97	9	9.03	
5	10	2	3.28	8	6.72	
6	11	2	4.55	9	6.45	
7	10	9	5.12	1	4.88	
8	10	9	6.88	1	3.12	
9	10	7	9.03	3	0.97	
10	9	9	8.79	0	0.21	

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq

Hosmer and Lemeshow Goodness-of-Fit Test			
Chi-Square	DF	Pr > ChiSq	
17.1315	8	0.0288	

### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		95.872
SC	142.834		111.621
-2 Log L	138.209		83.872

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	54.3372	5	<.0001
Score	44.1637	5	<.0001

Testing Global Null Hypothesis: BETA=0				
Test	Chi-Square	DF	Pr > ChiSq	
Wald	19.9062	5	0.0013	

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-4.1533	1.2410	11.2012	0.0008
X1	1	-0.5924	2.5671	0.0533	0.8175
X2	1	2.7128	0.8385	10.4660	0.0012
X3	1	0.000202	0.000102	3.9606	0.0466
X1*X2	1	1.3727	1.6964	0.6548	0.4184
X1*X3	1	0.000415	0.000353	1.3815	0.2398

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	89.8	Somers' D	0.799
Percent Discordant	10.0	Gamma	0.800
Percent Tied	0.2	Tau-a	0.391
Pairs	2520	c	0.899

Estimated Covariance Matrix						
Parameter	Intercept	X1	X2	X3	X1X2	X1X3
Intercept	1.54003	-1.54003	-0.85959	-0.00011	0.859588	0.000108
X1	-1.54003	6.589816	0.859588	0.000108	-2.70637	-0.00082
X2	-0.85959	0.859588	0.70316	0.000042	-0.70316	-0.00004
X3	-0.00011	0.000108	0.000042	1.03E-8	-0.00004	-1.03E-8
X1X2	0.859588	-2.70637	-0.70316	-0.00004	2.877732	0.000238
X1X3	0.000108	-0.00082	-0.00004	-1.03E-8	0.000238	1.246E-7

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
1	10	0	0.41	10	9.59	
2	10	0	0.43	10	9.57	
3	10	1	0.74	9	9.26	
4	11	2	2.26	9	8.74	
5	12	5	4.61	7	7.39	

Partition for the Hosmer and Lemeshow Test					
Group	Total	X4 = Sim		X4 = Não	
		Observed	Expected	Observed	Expected
6	10	0	4.19	10	5.81
7	10	9	4.84	1	5.16
8	10	7	6.04	3	3.96
9	10	9	9.58	1	0.42
10	9	9	8.89	0	0.11

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
16.5581	8	0.0351

#### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	140.209	96.324
SC	142.834	112.074
-2 Log L	138.209	84.324

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	53.8847	5	<.0001
Score	43.7892	5	<.0001
Wald	21.4871	5	0.0007

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-4.5073	1.2342	13.3377	0.0003
X1	1	0.9274	1.7984	0.2659	0.6061
X2	1	2.3734	1.6753	2.0069	0.1566
X3	1	0.000208	0.000110	3.5899	0.0581
X2*X3	1	0.000115	0.000227	0.2565	0.6125
X1*X3	1	0.000279	0.000276	1.0208	0.3123

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	91.0	Somers' D	0.822
Percent Discordant	8.8	Gamma	0.823
Percent Tied	0.2	Tau-a	0.402
Pairs	2520	c	0.911

Estimated Covariance Matrix						
Parameter	Intercept	X1	X2	X3	X2X3	X1X3
Intercept	1.52315	-0.73226	-1.20908	-0.00012	0.000077	0.000035
X1	-0.73226	3.234199	-0.3415	0.000061	0.000094	-0.00045
X2	-1.20908	-0.3415	2.806768	0.000094	-0.00034	0.0001
X3	-0.00012	0.000061	0.000094	1.204E-8	-8.92E-9	-5.62E-9
X2X3	0.000077	0.000094	-0.00034	-8.92E-9	5.173E-8	-1.49E-8
X1X3	0.000035	-0.00045	0.0001	-5.62E-9	-1.49E-8	7.611E-8

Partition for the Hosmer and Lemeshow Test					
Group	Total	X4 = Sim		X4 = Não	
		Observed	Expected	Observed	Expected
1	10	0	0.30	10	9.70
2	10	0	0.32	10	9.68
3	10	1	0.55	9	9.45
4	10	2	2.28	8	7.72
5	9	3	3.23	6	5.77
6	10	1	3.91	9	6.09
7	10	6	4.81	4	5.19
8	12	11	7.03	1	4.97
9	11	8	9.81	3	1.19
10	10	10	9.76	0	0.24

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
13.9799	8	0.0823

#### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	140.209	97.258
SC	142.834	115.633
-2 Log L	138.209	83.258

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	54.9509	6	<.0001
Score	44.3960	6	<.0001
Wald	20.5241	6	0.0022

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-3.7704	1.2777	8.7082	0.0032
X1	1	-0.5836	2.4451	0.0570	0.8114
X2	1	1.3750	1.8929	0.5276	0.4676
X3	1	0.000164	0.000113	2.1220	0.1452
X1*X2	1	1.7736	1.8220	0.9476	0.3303
X2*X3	1	0.000189	0.000245	0.5918	0.4417
X1*X3	1	0.000390	0.000330	1.4012	0.2365

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	90.5	Somers' D	0.812
Percent Discordant	9.3	Gamma	0.814
Percent Tied	0.2	Tau-a	0.397
Pairs	2520	c	0.906

Estimated Covariance Matrix							
Parameter	Intercept	X1	X2	X3	X1X2	X2X3	X1X3
Intercept	1.632442	-1.43882	-1.55281	-0.00013	1.018684	0.000113	0.000095

Estimated Covariance Matrix							
Parameter	Intercept	X1	X2	X3	X1X2	X2X3	X1X3
X1	-1.43882	5.978506	0.831029	0.000106	-2.77197	-9.54E-6	-0.00073
X2	-1.55281	0.831029	3.583188	0.000117	-1.59215	-0.00042	-3.92E-6
X3	-0.00013	0.000106	0.000117	1.272E-8	-0.00006	-1.14E-8	-9.63E-9
X1X2	1.018684	-2.77197	-1.59215	-0.00006	3.319547	0.000136	0.000245
X2X3	0.000113	-9.54E-6	-0.00042	-1.14E-8	0.000136	6.022E-8	-4.8E-9
X1X3	0.000095	-0.00073	-3.92E-6	-9.63E-9	0.000245	-4.8E-9	1.087E-7

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
1	10	0	0.49	10	9.51	
2	10	0	0.52	10	9.48	
3	10	1	0.79	9	9.21	
4	10	2	1.87	8	8.13	
5	10	3	3.30	7	6.70	
6	10	2	3.62	8	6.38	
7	12	8	5.78	4	6.22	
8	11	8	7.11	3	3.89	
9	10	9	9.59	1	0.41	
10	9	9	8.93	0	0.07	

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
5.2155	8	0.7343

#### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	

Model Information		
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209	94.194	
SC	142.834	104.694	
-2 Log L	138.209	86.194	

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	52.0152	3	<.0001
Score	42.1766	3	<.0001
Wald	21.9797	3	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-5.1039	1.1455	19.8514	<.0001
X1	1	2.7426	0.7361	13.8836	0.0002
X2	1	3.2084	0.7543	18.0894	<.0001
X3	1	0.000278	0.000090	9.4624	0.0021

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X1	15.528	3.669	65.712
X2	24.739	5.640	108.512
X3	1.000	1.000	1.000

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	89.3	Somers' D	0.788
Percent Discordant	10.5	Gamma	0.789
Percent Tied	0.2	Tau-a	0.385
Pairs	2520	c	0.894

Estimated Covariance Matrix					
Parameter	Intercept	X1	X2	X3	
Intercept	1.312246	-0.49305	-0.71224	-0.00009	
X1	-0.49305	0.54179	0.302397	0.000021	
X2	-0.71224	0.302397	0.56904	0.000034	
X3	-0.00009	0.000021	0.000034	8.173E-9	

Partition for the Hosmer and Lemeshow Test					
Group	Total	X4 = Sim		X4 = Não	
		Observed	Expected	Observed	Expected
1	10	0	0.23	10	9.77
2	10	0	0.25	10	9.75
3	10	1	0.54	9	9.46
4	10	2	2.50	8	7.50
5	11	3	4.06	8	6.94
6	10	2	4.18	8	5.82
7	10	9	5.03	1	4.97
8	10	5	6.01	5	3.99
9	11	10	9.61	1	1.39
10	10	10	9.58	0	0.42

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq

Hosmer and Lemeshow Goodness-of-Fit Test			
Chi-Square	DF	Pr > ChiSq	
10.7117	8	0.2186	

### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		102.083
SC	142.834		109.957
-2 Log L	138.209		96.083

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	42.1263	2	<.0001
Score	36.2932	2	<.0001

Testing Global Null Hypothesis: BETA=0				
Test	Chi-Square	DF	Pr > ChiSq	
Wald	22.3503	2	<.0001	

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-2.5945	0.5644	21.1290	<.0001
X1	1	2.4502	0.6292	15.1673	<.0001
X2	1	2.4937	0.5992	17.3172	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X1	11.591	3.377	39.780
X2	12.106	3.740	39.180

Association of Predicted Probabilities and Observed Responses				
Percent Concordant	72.5	Somers' D	0.643	
Percent Discordant	8.2	Gamma	0.797	
Percent Tied	19.4	Tau-a	0.315	
Pairs	2520	c	0.821	

Estimated Covariance Matrix				
Parameter	Intercept	X1	X2	
Intercept	0.31859	-0.22512	-0.28836	
X1	-0.22512	0.395833	0.171955	
X2	-0.28836	0.171955	0.359087	

Partition for the Hosmer and Lemeshow Test					
Group	Total	X4 = Sim		X4 = Não	
		Observed	Expected	Observed	Expected
1	35	3	2.43	32	32.57
2	12	5	5.57	7	6.43
3	37	17	17.57	20	19.43
4	18	17	16.43	1	1.57

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
0.5109	2	0.7746

### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

### Stepwise Selection Procedure

Step 0. Intercept entered:

Model Convergence Status	
Convergence criterion (GCONV=1E-8) satisfied.	

$$-2 \text{ Log L} = 138.209$$

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-0.3567	0.2012	3.1430	0.0763

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
49.0345	7	<.0001

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
X1	1	18.1441	<.0001
X2	1	20.9969	<.0001
X3	1	3.7362	0.0532

Step 1. Effect X2 entered:

Model Convergence Status	
Convergence criterion (GCONV=1E-8) satisfied.	

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		120.029
SC	142.834		125.279
-2 Log L	138.209		116.029

Testing Global Null Hypothesis: BETA=0				
Test	Chi-Square	DF	Pr > ChiSq	
Likelihood Ratio	22.1797	1	<.0001	
Score	20.9969	1	<.0001	
Wald	18.7463	1	<.0001	

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-1.5840	0.3881	16.6576	<.0001
X2	1	2.0659	0.4771	18.7463	<.0001

Odds Ratio Estimates		
Effect	Point Estimate	95% Wald Confidence Limits

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X2	7.892	3.098	20.107

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	52.6	Somers' D	0.460
Percent Discordant	6.7	Gamma	0.775
Percent Tied	40.7	Tau-a	0.225
Pairs	2520	c	0.730

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
36.8610	6	<.0001

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
X2	1	18.7463	<.0001

**Note:** No effects for the model in Step 1 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
X1	1	18.9236	<.0001
X3	1	10.9756	0.0009

#### Step 2. Effect X1 entered:

Model Convergence Status			
Convergence criterion (GCONV=1E-8) satisfied.			

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	140.209	102.083
SC	142.834	109.957

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
-2 Log L	138.209	96.083

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	42.1263	2	<.0001
Score	36.2932	2	<.0001
Wald	22.3503	2	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-2.5945	0.5644	21.1290	<.0001
X1	1	2.4502	0.6292	15.1673	<.0001
X2	1	2.4937	0.5992	17.3172	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X1	11.591	3.377	39.780
X2	12.106	3.740	39.180

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	72.5	Somers' D	0.643
Percent Discordant	8.2	Gamma	0.797
Percent Tied	19.4	Tau-a	0.315
Pairs	2520	c	0.821

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
13.7274	5	0.0174

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
X1	1	15.1673	<.0001

Analysis of Effects Eligible for Removal				
Effect	DF	Wald Chi-Square	Pr > ChiSq	
X2	1	17.3172	<.0001	

Note: No effects for the model in Step 2 are removed.

Analysis of Effects Eligible for Entry				
Effect	DF	Score Chi-Square	Pr > ChiSq	
X3	1	11.9368	0.0006	
X1*X2	1	0.5109	0.4748	

### Step 3. Effect X3 entered:

Model Convergence Status			
Convergence criterion (GCONV=1E-8) satisfied.			

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		94.194
SC	142.834		104.694
-2 Log L	138.209		86.194

Testing Global Null Hypothesis: BETA=0				
Test	Chi-Square	DF	Pr > ChiSq	
Likelihood Ratio	52.0152	3	<.0001	
Score	42.1766	3	<.0001	
Wald	21.9797	3	<.0001	

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-5.1039	1.1455	19.8514	<.0001
X1	1	2.7426	0.7361	13.8836	0.0002
X2	1	3.2084	0.7543	18.0894	<.0001
X3	1	0.000278	0.000090	9.4624	0.0021

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X1	15.528	3.669	65.712
X2	24.739	5.640	108.512
X3	1.000	1.000	1.000

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	89.3	Somers' D	0.788
Percent Discordant	10.5	Gamma	0.789
Percent Tied	0.2	Tau-a	0.385
Pairs	2520	c	0.894

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
4.7892	4	0.3096

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
X1	1	13.8836	0.0002
X2	1	18.0894	<.0001
X3	1	9.4624	0.0021

Note: No effects for the model in Step 3 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
X1*X2	1	0.1118	0.7381
X2*X3	1	0.4760	0.4903
X1*X3	1	1.3408	0.2469

Step 4. Effect X1\*X3 entered:

Model Convergence Status			
Convergence criterion (GCONV=1E-8) satisfied.			

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	140.209	94.584
SC	142.834	107.709
-2 Log L	138.209	84.584

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	53.6251	4	<.0001
Score	43.4489	4	<.0001
Wald	20.7087	4	0.0004

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-4.6889	1.1937	15.4286	<.0001
X1	1	0.7043	1.8542	0.1443	0.7041
X2	1	3.1410	0.7520	17.4459	<.0001
X3	1	0.000228	0.000101	5.1272	0.0236
X1*X3	1	0.000315	0.000289	1.1932	0.2747

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X2	23.126	5.297	100.972

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	90.7	Somers' D	0.816
Percent Discordant	9.1	Gamma	0.818
Percent Tied	0.2	Tau-a	0.399
Pairs	2520	c	0.908

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
4.3308	3	0.2279

Analysis of Effects Eligible for Removal			
Effect	DF	Wald Chi-Square	Pr > ChiSq
X2	1	17.4459	<.0001
X1*X3	1	1.1932	0.2747

Note: No effects for the model in Step 4 are removed.

Analysis of Effects Eligible for Entry			
Effect	DF	Score Chi-Square	Pr > ChiSq
X1*X2	1	0.6841	0.4082
X2*X3	1	0.2576	0.6118

Note: No (additional) effects met the 0.3 significance level for entry into the model.

Summary of Stepwise Selection								
Step	Effect		DF	Number In	Score Chi-Square	Wald Chi-Square	Pr > ChiSq	Variable Label
	Entered	Removed						
1	X2		1	1	20.9969		<.0001	Estágio do tumor
2	X1		1	2	18.9236		<.0001	Resultado da radiografia
3	X3		1	3	11.9368		0.0006	Nível de fosfatase ácida
4	X1*X3		1	4	1.3408		0.2469	

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
1	10	0	0.27	10	9.73	
2	10	0	0.30	10	9.70	
3	10	1	0.55	9	9.45	
4	10	2	2.28	8	7.72	
5	10	3	3.90	7	6.10	
6	10	2	4.14	8	5.86	
7	12	8	5.86	4	6.14	
8	11	8	6.63	3	4.37	
9	10	9	9.31	1	0.69	
10	9	9	8.77	0	0.23	

Hosmer and Lemeshow Goodness-of-Fit Test			
Chi-Square	DF	Pr > ChiSq	
5.8827	8	0.6604	

### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209	94.194	
SC	142.834	104.694	
-2 Log L	138.209	86.194	

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	52.0152	3	<.0001
Score	42.1766	3	<.0001

Testing Global Null Hypothesis: BETA=0				
Test	Chi-Square	DF	Pr > ChiSq	
Wald	21.9797	3	<.0001	

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-5.1039	1.1455	19.8514	<.0001
X1	1	2.7426	0.7361	13.8836	0.0002
X2	1	3.2084	0.7543	18.0894	<.0001
X3	1	0.000278	0.000090	9.4624	0.0021

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X1	15.528	3.669	65.712
X2	24.739	5.640	108.512
X3	1.000	1.000	1.000

Association of Predicted Probabilities and Observed Responses				
Percent Concordant	89.3	Somers' D	0.788	
Percent Discordant	10.5	Gamma	0.789	
Percent Tied	0.2	Tau-a	0.385	
Pairs	2520	c	0.894	

Estimated Covariance Matrix					
Parameter	Intercept	X1	X2	X3	
Intercept	1.312246	-0.49305	-0.71224	-0.00009	
X1	-0.49305	0.54179	0.302397	0.000021	
X2	-0.71224	0.302397	0.56904	0.000034	
X3	-0.00009	0.000021	0.000034	8.173E-9	

Partition for the Hosmer and Lemeshow Test					
Group	Total	X4 = Sim		X4 = Não	
		Observed	Expected	Observed	Expected
1	10	0	0.23	10	9.77
2	10	0	0.25	10	9.75

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
3	10	1	0.54	9	9.46	
4	10	2	2.50	8	7.50	
5	11	3	4.06	8	6.94	
6	10	2	4.18	8	5.82	
7	10	9	5.03	1	4.97	
8	10	5	6.01	5	3.99	
9	11	10	9.61	1	1.39	
10	10	10	9.58	0	0.42	

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
10.7117	8	0.2186

Obs	_LINK_	_TYPE_	_STATUS_	_NAME_	Intercept	X1	X2	X3	_LNLIKE_	_ESTTYPE_
1	LOGIT	PARMS	0 Converged	X4	-5.10392	2.742629	3.208363981	0.000278088	-43.0969	MLE
2	LOGIT	COV	0 Converged	Intercept	1.31225	-0.49305	-0.71223906	-.000087014	-43.0969	MLE
3	LOGIT	COV	0 Converged	X1	-0.49305	0.54179	0.302397316	0.000020736	-43.0969	MLE
4	LOGIT	COV	0 Converged	X2	-0.71224	0.302397	0.569040191	0.000033531	-43.0969	MLE
5	LOGIT	COV	0 Converged	X3	-0.00009	0.000021	0.000033531	0.000000008	-43.0969	MLE

Obs	ID	X1	X2	X3	X4	_FROM_	_INTO_	IP_Não	IP_Sim	XP_Não	XP_Sim	_LEVEL_	phat	lcl	ucl
1	2	negativo	menos grave	5600	Não	Não	Não	0.97199	0.02801	0.97152	0.02848	Sim	0.02801	0.00632	0.11547
2	3	negativo	menos grave	5000	Não	Não	Não	0.97619	0.02381	0.97582	0.02418	Sim	0.02381	0.00502	0.10549
3	4	negativo	menos grave	5200	Não	Não	Não	0.97486	0.02514	0.97446	0.02554	Sim	0.02514	0.00542	0.10868
4	5	negativo	menos grave	5000	Não	Não	Não	0.97619	0.02381	0.97582	0.02418	Sim	0.02381	0.00502	0.10549
5	6	negativo	menos grave	4900	Não	Não	Não	0.97683	0.02317	0.97647	0.02353	Sim	0.02317	0.00483	0.10394
6	7	positivo	menos grave	4600	Não	Não	Não	0.74689	0.25311	0.72378	0.27622	Sim	0.25311	0.08557	0.55103
7	8	positivo	menos grave	6200	Não	Não	Não	0.65411	0.34589	0.62280	0.37720	Sim	0.34589	0.14021	0.63164
8	10	positivo	menos grave	5500	Não	Não	Não	0.69674	0.30326	0.66914	0.33086	Sim	0.30326	0.11408	0.59534
9	14	positivo	menos grave	6700	Sim	Sim	Não	0.62201	0.37799	0.67544	0.32456	Sim	0.37799	0.16082	0.65835

<b>Obs</b>	<b>ID</b>	<b>X1</b>	<b>X2</b>	<b>X3</b>	<b>X4</b>	<b>_FROM_</b>	<b>_INTO_</b>	<b>IP_Não</b>	<b>IP_Sim</b>	<b>XP_Não</b>	<b>XP_Sim</b>	<b>_LEVEL_</b>	<b>phat</b>	<b>lcl</b>	<b>ucl</b>
10	15	negativo	menos grave	4700	Não	Não	Não	0.97805	0.02195	0.97773	0.02227	Sim	0.02195	0.00447	0.10094
11	16	negativo	menos grave	4900	Não	Não	Não	0.97683	0.02317	0.97647	0.02353	Sim	0.02317	0.00483	0.10394
12	17	negativo	menos grave	5000	Não	Não	Não	0.97619	0.02381	0.97582	0.02418	Sim	0.02381	0.00502	0.10549
13	18	negativo	menos grave	7800	Não	Não	Não	0.94954	0.05046	0.94841	0.05159	Sim	0.05046	0.01403	0.16561
14	19	negativo	menos grave	8300	Não	Não	Não	0.94245	0.05755	0.94105	0.05895	Sim	0.05755	0.01659	0.18104
15	20	negativo	menos grave	9800	Não	Não	Não	0.91518	0.08482	0.91249	0.08751	Sim	0.08482	0.02646	0.24012
16	21	negativo	menos grave	5200	Não	Não	Não	0.97486	0.02514	0.97446	0.02554	Sim	0.02514	0.00542	0.10868
17	23	negativo	menos grave	9900	Sim	Sim	Não	0.91300	0.08700	0.93812	0.06188	Sim	0.08700	0.02724	0.24485
18	24	negativo	menos grave	18700	Não	Não	Sim	0.47593	0.52407	0.32775	0.67225	Sim	0.52407	0.14438	0.87783
19	25	positivo	menos grave	13600	Sim	Sim	Sim	0.19455	0.80545	0.21461	0.78539	Sim	0.80545	0.48305	0.94830
20	27	negativo	mais grave	4000	Não	Não	Não	0.68637	0.31363	0.67510	0.32490	Sim	0.31363	0.17272	0.50002
21	28	negativo	mais grave	5000	Não	Não	Não	0.62366	0.37634	0.61209	0.38791	Sim	0.37634	0.23118	0.54771
22	29	negativo	mais grave	5000	Não	Não	Não	0.62366	0.37634	0.61209	0.38791	Sim	0.37634	0.23118	0.54771
23	31	negativo	mais grave	5500	Não	Não	Não	0.59051	0.40949	0.57867	0.42133	Sim	0.40949	0.26254	0.57461
24	32	negativo	mais grave	5900	Não	Não	Não	0.56337	0.43663	0.55116	0.44884	Sim	0.43663	0.28792	0.59769
25	34	positivo	mais grave	5100	Sim	Sim	Sim	0.09404	0.90596	0.09827	0.90173	Sim	0.90596	0.70789	0.97456
26	35	negativo	mais grave	4900	Sim	Sim	Não	0.63016	0.36984	0.64946	0.35054	Sim	0.36984	0.22502	0.54259
27	36	negativo	mais grave	4800	Não	Não	Não	0.63662	0.36338	0.62513	0.37487	Sim	0.36338	0.21892	0.53755
28	38	negativo	mais grave	10200	Não	Não	Sim	0.28071	0.71929	0.24910	0.75090	Sim	0.71929	0.50748	0.86436
29	39	negativo	mais grave	7600	Não	Não	Sim	0.44573	0.55427	0.42946	0.57054	Sim	0.55427	0.38950	0.70791
30	42	positivo	mais grave	8400	Sim	Sim	Sim	0.03981	0.96019	0.04083	0.95917	Sim	0.96019	0.83346	0.99147
31	46	positivo	mais grave	7800	Sim	Sim	Sim	0.04670	0.95330	0.04801	0.95199	Sim	0.95330	0.81658	0.98943
32	47	negativo	mais grave	7000	Sim	Sim	Sim	0.48724	0.51276	0.50082	0.49918	Sim	0.51276	0.35558	0.66746
33	48	negativo	mais grave	6700	Sim	Sim	Não	0.50809	0.49191	0.52204	0.47796	Sim	0.49191	0.33771	0.64767
34	49	negativo	mais grave	8200	Sim	Sim	Sim	0.40498	0.59502	0.41806	0.58194	Sim	0.59502	0.42072	0.74826
35	50	negativo	mais grave	6700	Sim	Sim	Não	0.50809	0.49191	0.52204	0.47796	Sim	0.49191	0.33771	0.64767
36	51	positivo	mais grave	7200	Sim	Sim	Sim	0.05472	0.94528	0.05640	0.94360	Sim	0.94528	0.79743	0.98698
37	52	positivo	mais grave	8900	Sim	Sim	Sim	0.03482	0.96518	0.03565	0.96435	Sim	0.96518	0.84602	0.99290
38	54	negativo	menos grave	4900	Não	Não	Não	0.97683	0.02317	0.97647	0.02353	Sim	0.02317	0.00483	0.10394
39	55	negativo	menos grave	5500	Não	Não	Não	0.97273	0.02727	0.97229	0.02771	Sim	0.02727	0.00609	0.11372
40	57	negativo	menos grave	5300	Não	Não	Não	0.97417	0.02583	0.97376	0.02624	Sim	0.02583	0.00564	0.11032
41	59	negativo	menos grave	4800	Não	Não	Não	0.97745	0.02255	0.97711	0.02289	Sim	0.02255	0.00464	0.10243
42	60	positivo	menos grave	4500	Não	Não	Não	0.75211	0.24789	0.72948	0.27052	Sim	0.24789	0.08276	0.54629
43	61	positivo	menos grave	6300	Não	Não	Não	0.64779	0.35221	0.61594	0.38406	Sim	0.35221	0.14421	0.63694
44	63	positivo	menos grave	5400	Não	Não	Não	0.70258	0.29742	0.67550	0.32450	Sim	0.29742	0.11063	0.59028
45	64	negativo	menos grave	6100	Não	Não	Não	0.96794	0.03206	0.96737	0.03263	Sim	0.03206	0.00763	0.12480

<b>Obs</b>	<b>ID</b>	<b>X1</b>	<b>X2</b>	<b>X3</b>	<b>X4</b>	<b>_FROM_</b>	<b>_INTO_</b>	<b>IP_Não</b>	<b>IP_Sim</b>	<b>XP_Não</b>	<b>XP_Sim</b>	<b>_LEVEL_</b>	<b>phat</b>	<b>lcl</b>	<b>ucl</b>
<b>46</b>	67	positivo	menos grave	6800	Sim	Sim	Não	0.61545	0.38455	0.66843	0.33157	Sim	0.38455	0.16512	0.66375
<b>47</b>	69	negativo	menos grave	5000	Não	Não	Não	0.97619	0.02381	0.97582	0.02418	Sim	0.02381	0.00502	0.10549
<b>48</b>	70	negativo	menos grave	5100	Não	Não	Não	0.97553	0.02447	0.97515	0.02485	Sim	0.02447	0.00522	0.10707
<b>49</b>	71	negativo	menos grave	7900	Não	Não	Não	0.94819	0.05181	0.94702	0.05298	Sim	0.05181	0.01451	0.16855
<b>50</b>	72	negativo	menos grave	8400	Não	Não	Não	0.94092	0.05908	0.93947	0.06053	Sim	0.05908	0.01714	0.18436
<b>51</b>	74	negativo	menos grave	5100	Não	Não	Não	0.97553	0.02447	0.97515	0.02485	Sim	0.02447	0.00522	0.10707
<b>52</b>	75	negativo	menos grave	7600	Não	Não	Não	0.95214	0.04786	0.95110	0.04890	Sim	0.04786	0.01310	0.15994
<b>53</b>	76	negativo	menos grave	9800	Sim	Sim	Não	0.91518	0.08482	0.93982	0.06018	Sim	0.08482	0.02646	0.24012
<b>54</b>	77	negativo	menos grave	18600	Não	Não	Sim	0.48287	0.51713	0.33822	0.66178	Sim	0.51713	0.14262	0.87333
<b>55</b>	78	positivo	menos grave	13700	Sim	Sim	Sim	0.19023	0.80977	0.20982	0.79018	Sim	0.80977	0.48709	0.95020
<b>56</b>	79	negativo	mais grave	8100	Sim	Sim	Sim	0.41169	0.58831	0.42478	0.57522	Sim	0.58831	0.41571	0.74161
<b>57</b>	81	negativo	mais grave	5100	Não	Não	Não	0.61711	0.38289	0.60550	0.39450	Sim	0.38289	0.23738	0.55292
<b>58</b>	84	negativo	mais grave	5600	Não	Não	Não	0.58377	0.41623	0.57185	0.42815	Sim	0.41623	0.26888	0.58025
<b>59</b>	85	negativo	mais grave	6000	Não	Não	Não	0.55651	0.44349	0.54419	0.45581	Sim	0.44349	0.29425	0.60367
<b>60</b>	88	negativo	mais grave	4800	Sim	Sim	Não	0.63662	0.36338	0.65638	0.34362	Sim	0.36338	0.21892	0.53755
<b>61</b>	89	negativo	mais grave	4900	Não	Não	Não	0.63016	0.36984	0.61864	0.38136	Sim	0.36984	0.22502	0.54259
<b>62</b>	90	positivo	mais grave	6400	Não	Não	Sim	0.06743	0.93257	0.04145	0.95855	Sim	0.93257	0.76782	0.98300
<b>63</b>	95	positivo	mais grave	8500	Sim	Sim	Sim	0.03876	0.96124	0.03974	0.96026	Sim	0.96124	0.83608	0.99178
<b>64</b>	97	positivo	mais grave	7700	Sim	Sim	Sim	0.04795	0.95205	0.04932	0.95068	Sim	0.95205	0.81355	0.98905
<b>65</b>	98	negativo	mais grave	7100	Sim	Sim	Sim	0.48029	0.51971	0.49378	0.50622	Sim	0.51971	0.36141	0.67414
<b>66</b>	99	positivo	mais grave	7900	Sim	Sim	Sim	0.04548	0.95452	0.04673	0.95327	Sim	0.95452	0.81954	0.98980
<b>67</b>	100	negativo	mais grave	7000	Sim	Sim	Sim	0.48724	0.51276	0.50082	0.49918	Sim	0.51276	0.35558	0.66746
<b>68</b>	101	negativo	mais grave	6700	Sim	Sim	Não	0.50809	0.49191	0.52204	0.47796	Sim	0.49191	0.33771	0.64767
<b>69</b>	102	negativo	mais grave	8200	Sim	Sim	Sim	0.40498	0.59502	0.41806	0.58194	Sim	0.59502	0.42072	0.74826
<b>70</b>	103	negativo	mais grave	6700	Sim	Sim	Não	0.50809	0.49191	0.52204	0.47796	Sim	0.49191	0.33771	0.64767
<b>71</b>	106	positivo	mais grave	2700	Sim	Sim	Sim	0.16827	0.83173	0.18132	0.81868	Sim	0.83173	0.55279	0.95184
<b>72</b>	108	negativo	menos grave	7500	Não	Não	Não	0.95339	0.04661	0.95239	0.04761	Sim	0.04661	0.01265	0.15720
<b>73</b>	109	negativo	menos grave	9900	Sim	Sim	Não	0.91300	0.08700	0.93812	0.06188	Sim	0.08700	0.02724	0.24485
<b>74</b>	110	negativo	menos grave	18700	Não	Não	Sim	0.47593	0.52407	0.32775	0.67225	Sim	0.52407	0.14438	0.87783
<b>75</b>	111	positivo	menos grave	13600	Sim	Sim	Sim	0.19455	0.80545	0.21461	0.78539	Sim	0.80545	0.48305	0.94830
<b>76</b>	112	negativo	mais grave	8200	Sim	Sim	Sim	0.40498	0.59502	0.41806	0.58194	Sim	0.59502	0.42072	0.74826
<b>77</b>	114	negativo	mais grave	5000	Não	Não	Não	0.62366	0.37634	0.61209	0.38791	Sim	0.37634	0.23118	0.54771
<b>78</b>	115	negativo	mais grave	5000	Não	Não	Não	0.62366	0.37634	0.61209	0.38791	Sim	0.37634	0.23118	0.54771
<b>79</b>	116	negativo	mais grave	4000	Não	Não	Não	0.68637	0.31363	0.67510	0.32490	Sim	0.31363	0.17272	0.50002
<b>80</b>	117	negativo	mais grave	5500	Não	Não	Não	0.59051	0.40949	0.57867	0.42133	Sim	0.40949	0.26254	0.57461
<b>81</b>	118	negativo	mais grave	5900	Não	Não	Não	0.56337	0.43663	0.55116	0.44884	Sim	0.43663	0.28792	0.59769

<b>Obs</b>	<b>ID</b>	<b>X1</b>	<b>X2</b>	<b>X3</b>	<b>X4</b>	<b>_FROM_</b>	<b>_INTO_</b>	<b>IP_Não</b>	<b>IP_Sim</b>	<b>XP_Não</b>	<b>XP_Sim</b>	<b>_LEVEL_</b>	<b>phat</b>	<b>lcl</b>	<b>ucl</b>
82	119	positivo	mais grave	4800	Sim	Sim	Sim	0.10139	0.89861	0.10624	0.89376	Sim	0.89861	0.69173	0.97223
83	120	positivo	mais grave	5100	Sim	Sim	Sim	0.09404	0.90596	0.09827	0.90173	Sim	0.90596	0.70789	0.97456
84	121	negativo	mais grave	4900	Sim	Sim	Não	0.63016	0.36984	0.64946	0.35054	Sim	0.36984	0.22502	0.54259
85	122	negativo	mais grave	4800	Não	Não	Não	0.63662	0.36338	0.62513	0.37487	Sim	0.36338	0.21892	0.53755
86	124	negativo	mais grave	10200	Não	Não	Sim	0.28071	0.71929	0.24910	0.75090	Sim	0.71929	0.50748	0.86436
87	127	negativo	mais grave	6600	Não	Não	Não	0.51504	0.48496	0.50173	0.49827	Sim	0.48496	0.33163	0.64118
88	128	positivo	mais grave	8400	Sim	Sim	Sim	0.03981	0.96019	0.04083	0.95917	Sim	0.96019	0.83346	0.99147
89	130	positivo	mais grave	7600	Sim	Sim	Sim	0.04924	0.95076	0.05066	0.94934	Sim	0.95076	0.81046	0.98866
90	131	negativo	mais grave	7000	Sim	Sim	Sim	0.48724	0.51276	0.50082	0.49918	Sim	0.51276	0.35558	0.66746
91	132	positivo	mais grave	7800	Sim	Sim	Sim	0.04670	0.95330	0.04801	0.95199	Sim	0.95330	0.81658	0.98943
92	135	negativo	mais grave	8200	Sim	Sim	Sim	0.40498	0.59502	0.41806	0.58194	Sim	0.59502	0.42072	0.74826
93	136	negativo	mais grave	6700	Sim	Sim	Não	0.50809	0.49191	0.52204	0.47796	Sim	0.49191	0.33771	0.64767
94	137	positivo	mais grave	7200	Sim	Sim	Sim	0.05472	0.94528	0.05640	0.94360	Sim	0.94528	0.79743	0.98698
95	138	positivo	mais grave	8900	Sim	Sim	Sim	0.03482	0.96518	0.03565	0.96435	Sim	0.96518	0.84602	0.99290
96	139	positivo	mais grave	2600	Sim	Sim	Sim	0.17220	0.82780	0.18589	0.81411	Sim	0.82780	0.54514	0.95069
97	140	negativo	menos grave	4900	Não	Não	Não	0.97683	0.02317	0.97647	0.02353	Sim	0.02317	0.00483	0.10394
98	141	negativo	menos grave	5500	Não	Não	Não	0.97273	0.02727	0.97229	0.02771	Sim	0.02727	0.00609	0.11372
99	142	negativo	menos grave	5100	Não	Não	Não	0.97553	0.02447	0.97515	0.02485	Sim	0.02447	0.00522	0.10707
100	143	negativo	menos grave	5300	Não	Não	Não	0.97417	0.02583	0.97376	0.02624	Sim	0.02583	0.00564	0.11032
101	144	negativo	menos grave	5100	Não	Não	Não	0.97553	0.02447	0.97515	0.02485	Sim	0.02447	0.00522	0.10707
102	146	positivo	menos grave	4500	Não	Não	Não	0.75211	0.24789	0.72948	0.27052	Sim	0.24789	0.08276	0.54629

### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

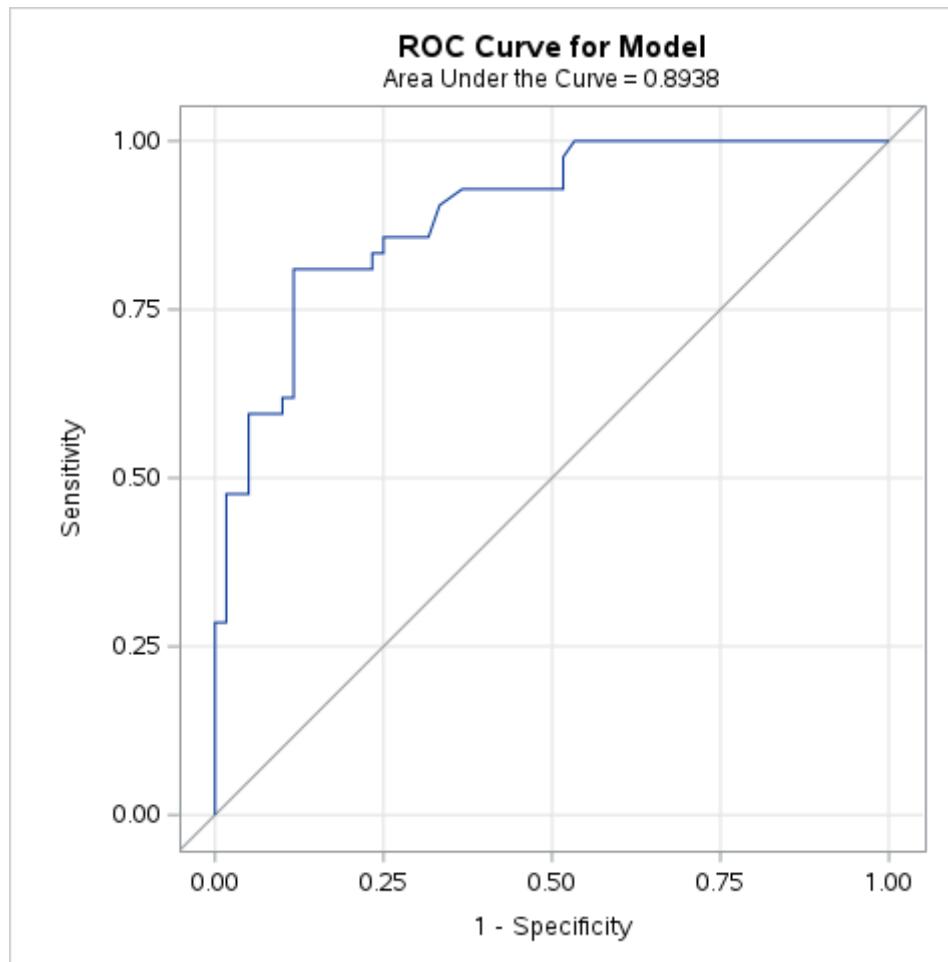
Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209		94.194
SC	142.834		104.694
-2 Log L	138.209		86.194

Testing Global Null Hypothesis: BETA=0				
Test	Chi-Square	DF	Pr > ChiSq	
Likelihood Ratio	52.0152	3	<.0001	
Score	42.1766	3	<.0001	
Wald	21.9797	3	<.0001	

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-5.1039	1.1455	19.8514	<.0001
X1	1	2.7426	0.7361	13.8836	0.0002
X2	1	3.2084	0.7543	18.0894	<.0001
X3	1	0.000278	0.000090	9.4624	0.0021

Odds Ratio Estimates				
Effect	Point Estimate	95% Wald Confidence Limits		
X1	15.528	3.669		65.712
X2	24.739	5.640		108.512
X3	1.000	1.000		1.000

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	89.3	Somers' D	0.788
Percent Discordant	10.5	Gamma	0.789
Percent Tied	0.2	Tau-a	0.385
Pairs	2520	c	0.894



#### The LOGISTIC Procedure

Model Information		
Data Set	TRABALHO.DF	
Response Variable	X4	Envolvimento nodal

Model Information		
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	102
Number of Observations Used	102

Response Profile		
Ordered Value	X4	Total Frequency
1	Não	60
2	Sim	42

Probability modeled is X4='Sim'.

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics			
Criterion	Intercept Only	Intercept and Covariates	
AIC	140.209	94.194	
SC	142.834	104.694	
-2 Log L	138.209	86.194	

Testing Global Null Hypothesis: BETA=0				
Test	Chi-Square	DF	Pr > ChiSq	
Likelihood Ratio	52.0152	3	<.0001	
Score	42.1766	3	<.0001	
Wald	21.9797	3	<.0001	

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-5.1039	1.1455	19.8514	<.0001
X1	1	2.7426	0.7361	13.8836	0.0002
X2	1	3.2084	0.7543	18.0894	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
X3	1	0.000278	0.000090	9.4624	0.0021

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
X1	15.528	3.669	65.712
X2	24.739	5.640	108.512
X3	1.000	1.000	1.000

Association of Predicted Probabilities and Observed Responses				
Percent Concordant	89.3	Somers' D	0.788	
Percent Discordant	10.5	Gamma	0.789	
Percent Tied	0.2	Tau-a	0.385	
Pairs	2520	c	0.894	

Estimated Covariance Matrix					
Parameter	Intercept	X1	X2	X3	
Intercept	1.312246	-0.49305	-0.71224	-0.00009	
X1	-0.49305	0.54179	0.302397	0.000021	
X2	-0.71224	0.302397	0.56904	0.000034	
X3	-0.00009	0.000021	0.000034	8.173E-9	

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
1	10	0	0.23	10	9.77	
2	10	0	0.25	10	9.75	
3	10	1	0.54	9	9.46	
4	10	2	2.50	8	7.50	
5	11	3	4.06	8	6.94	
6	10	2	4.18	8	5.82	
7	10	9	5.03	1	4.97	
8	10	5	6.01	5	3.99	
9	11	10	9.61	1	1.39	

Partition for the Hosmer and Lemeshow Test						
Group	Total	X4 = Sim		X4 = Não		
		Observed	Expected	Observed	Expected	
<b>10</b>	10	10	9.58	0	0.42	

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
10.7117	8	0.2186

Obs	ID	X1	X2	X3	X4	F_X4	I_X4	P_Não	P_Sim
<b>1</b>	2	0	0	5600	0		Não	0.97199	0.02801
<b>2</b>	3	0	0	5000	0		Não	0.97619	0.02381
<b>3</b>	5	0	0	5000	0		Não	0.97619	0.02381
<b>4</b>	7	1	0	4600	0		Não	0.74689	0.25311
<b>5</b>	8	1	0	6200	0		Não	0.65411	0.34589
<b>6</b>	9	0	0	5600	1		Não	0.97199	0.02801
<b>7</b>	10	1	0	5500	0		Não	0.69674	0.30326
<b>8</b>	11	0	0	6200	0		Não	0.96707	0.03293
<b>9</b>	12	0	0	7100	0		Não	0.95809	0.04191
<b>10</b>	13	0	0	6500	0		Não	0.96430	0.03570
<b>11</b>	14	1	0	6700	1		Não	0.62201	0.37799
<b>12</b>	15	0	0	4700	0		Não	0.97805	0.02195
<b>13</b>	17	0	0	5000	0		Não	0.97619	0.02381
<b>14</b>	20	0	0	9800	0		Não	0.91518	0.08482
<b>15</b>	21	0	0	5200	0		Não	0.97486	0.02514
<b>16</b>	22	0	0	7500	0		Não	0.95339	0.04661
<b>17</b>	23	0	0	9900	1		Não	0.91300	0.08700
<b>18</b>	24	0	0	18700	0		Sim	0.47593	0.52407
<b>19</b>	25	1	0	13600	1		Sim	0.19455	0.80545
<b>20</b>	26	0	1	8200	1		Sim	0.40498	0.59502
<b>21</b>	27	0	1	4000	0		Não	0.68637	0.31363
<b>22</b>	31	0	1	5500	0		Não	0.59051	0.40949
<b>23</b>	32	0	1	5900	0		Não	0.56337	0.43663
<b>24</b>	33	1	1	4800	1		Sim	0.10139	0.89861
<b>25</b>	34	1	1	5100	1		Sim	0.09404	0.90596

<b>Obs</b>	<b>ID</b>	<b>X1</b>	<b>X2</b>	<b>X3</b>	<b>X4</b>	<b>F_X4</b>	<b>I_X4</b>	<b>P_Não</b>	<b>P_Sim</b>
<b>26</b>	36	0	1	4800	0		Não	0.63662	0.36338
<b>27</b>	40	0	1	9500	0		Sim	0.32163	0.67837
<b>28</b>	41	0	1	6600	0		Não	0.51504	0.48496
<b>29</b>	42	1	1	8400	1		Sim	0.03981	0.96019
<b>30</b>	44	1	1	7600	1		Sim	0.04924	0.95076
<b>31</b>	45	0	1	7000	1		Sim	0.48724	0.51276
<b>32</b>	46	1	1	7800	1		Sim	0.04670	0.95330
<b>33</b>	47	0	1	7000	1		Sim	0.48724	0.51276
<b>34</b>	49	0	1	8200	1		Sim	0.40498	0.59502
<b>35</b>	50	0	1	6700	1		Não	0.50809	0.49191
<b>36</b>	52	1	1	8900	1		Sim	0.03482	0.96518
<b>37</b>	54	0	0	4900	0		Não	0.97683	0.02317
<b>38</b>	56	0	0	5100	0		Não	0.97553	0.02447
<b>39</b>	57	0	0	5300	0		Não	0.97417	0.02583
<b>40</b>	58	0	0	5100	0		Não	0.97553	0.02447
<b>41</b>	59	0	0	4800	0		Não	0.97745	0.02255
<b>42</b>	60	1	0	4500	0		Não	0.75211	0.24789
<b>43</b>	62	0	0	5700	1		Não	0.97122	0.02878
<b>44</b>	63	1	0	5400	0		Não	0.70258	0.29742
<b>45</b>	64	0	0	6100	0		Não	0.96794	0.03206
<b>46</b>	65	0	0	7000	0		Não	0.95920	0.04080
<b>47</b>	66	0	0	6600	0		Não	0.96333	0.03667
<b>48</b>	68	0	0	4800	0		Não	0.97745	0.02255
<b>49</b>	69	0	0	5000	0		Não	0.97619	0.02381
<b>50</b>	71	0	0	7900	0		Não	0.94819	0.05181
<b>51</b>	72	0	0	8400	0		Não	0.94092	0.05908
<b>52</b>	73	0	0	9700	0		Não	0.91732	0.08268
<b>53</b>	74	0	0	5100	0		Não	0.97553	0.02447
<b>54</b>	75	0	0	7600	0		Não	0.95214	0.04786
<b>55</b>	77	0	0	18600	0		Sim	0.48287	0.51713
<b>56</b>	78	1	0	13700	1		Sim	0.19023	0.80977
<b>57</b>	80	0	1	4100	0		Não	0.68035	0.31965
<b>58</b>	81	0	1	5100	0		Não	0.61711	0.38289
<b>59</b>	84	0	1	5600	0		Não	0.58377	0.41623
<b>60</b>	85	0	1	6000	0		Não	0.55651	0.44349
<b>61</b>	86	1	1	4900	1		Sim	0.09888	0.90112

<b>Obs</b>	<b>ID</b>	<b>X1</b>	<b>X2</b>	<b>X3</b>	<b>X4</b>	<b>F_X4</b>	<b>I_X4</b>	<b>P_Não</b>	<b>P_Sim</b>
<b>62</b>	87	1	1	5100	1		Sim	0.09404	0.90596
<b>63</b>	88	0	1	4800	1		Não	0.63662	0.36338
<b>64</b>	89	0	1	4900	0		Não	0.63016	0.36984
<b>65</b>	90	1	1	6400	0		Sim	0.06743	0.93257
<b>66</b>	91	0	1	10100	0		Sim	0.28636	0.71364
<b>67</b>	92	0	1	7700	0		Sim	0.43888	0.56112
<b>68</b>	93	0	1	9600	0		Sim	0.31559	0.68441
<b>69</b>	94	0	1	6700	0		Não	0.50809	0.49191
<b>70</b>	95	1	1	8500	1		Sim	0.03876	0.96124
<b>71</b>	97	1	1	7700	1		Sim	0.04795	0.95205
<b>72</b>	100	0	1	7000	1		Sim	0.48724	0.51276
<b>73</b>	101	0	1	6700	1		Não	0.50809	0.49191
<b>74</b>	104	1	1	7200	1		Sim	0.05472	0.94528
<b>75</b>	107	0	0	5200	0		Não	0.97486	0.02514
<b>76</b>	108	0	0	7500	0		Não	0.95339	0.04661
<b>77</b>	109	0	0	9900	1		Não	0.91300	0.08700
<b>78</b>	110	0	0	18700	0		Sim	0.47593	0.52407
<b>79</b>	111	1	0	13600	1		Sim	0.19455	0.80545
<b>80</b>	114	0	1	5000	0		Não	0.62366	0.37634
<b>81</b>	115	0	1	5000	0		Não	0.62366	0.37634
<b>82</b>	116	0	1	4000	0		Não	0.68637	0.31363
<b>83</b>	117	0	1	5500	0		Não	0.59051	0.40949
<b>84</b>	118	0	1	5900	0		Não	0.56337	0.43663
<b>85</b>	119	1	1	4800	1		Sim	0.10139	0.89861
<b>86</b>	122	0	1	4800	0		Não	0.63662	0.36338
<b>87</b>	124	0	1	10200	0		Sim	0.28071	0.71929
<b>88</b>	125	0	1	7600	0		Sim	0.44573	0.55427
<b>89</b>	128	1	1	8400	1		Sim	0.03981	0.96019
<b>90</b>	129	1	1	8100	1		Sim	0.04312	0.95688
<b>91</b>	130	1	1	7600	1		Sim	0.04924	0.95076
<b>92</b>	131	0	1	7000	1		Sim	0.48724	0.51276
<b>93</b>	132	1	1	7800	1		Sim	0.04670	0.95330
<b>94</b>	133	0	1	7000	1		Sim	0.48724	0.51276
<b>95</b>	134	0	1	6700	1		Não	0.50809	0.49191
<b>96</b>	136	0	1	6700	1		Não	0.50809	0.49191
<b>97</b>	138	1	1	8900	1		Sim	0.03482	0.96518

Obs	ID	X1	X2	X3	X4	F_X4	I_X4	P_Não	P_Sim
98	139	1	1	2600	1		Sim	0.17220	0.82780
99	140	0	0	4900	0		Não	0.97683	0.02317
100	143	0	0	5300	0		Não	0.97417	0.02583
101	144	0	0	5100	0		Não	0.97553	0.02447
102	146	1	0	4500	0		Não	0.75211	0.24789

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The FREQ Procedure

Frequency		Table of X4 by I_X4		
		I_X4(Into: X4)		
X4(Envolvimento nodal)		Não	Sim	Total
	Não	54	10	64
	Sim	10	28	38
	Total	64	38	102