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DRUG OF CHOICE AS A PREDICTOR OF PROGRAM COMPLETION IN A 12-WEEK INTENSIVE OUTPATIENT PROGRAM AND CONTINUING CARE PROGRAM

JAMES R. MYERS

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

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IN

PSYCHOLOGY

MARSHALL UNIVERSITY

2000

MASTER OF ARTS THESIS

OF

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MARSHALL UNIVERSITY

2000

This thesis was accepted on August 10 2000
Month Day Year

as meeting the research requirements for the master's degree.

Advisor_____

Department of_____

Dean of the Graduate College

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Running head: DRUG OF CHOICE AS A PREDICTOR OF PROGRAM COMPLETION IN A 12- WEEK INTENSIVE OUTPATIENT PROGRAM AND CONTINUING CARE PROGRAM

James R. Myers

Marshall University Graduate College

Abstract

This study consisted of a one year examination of a twelve week Intensive Outpatient Program (IOP), followed by continuing care treatment, coupled with required attendance to a Twelve Step AA/NA Program. This study detailed the treatment plan available at a local Intensive Outpatient Program in Southern West Virginia. A sample, separating alcoholics from other substance abusers to obtain an estimated completion rate was used.

This thesis comprised a one-year history of subjects (6/30/98 –07/01/99). A total of 84 subjects entered into the Intensive Outpatient Program (IOP) within the above time frame. Determination of completion rates was based on a categorical scale. Cross Tabulation and Logistic Regression were used to determine statistical significance.

The results in this study indicate no statistical difference exists between alcoholics and other substance abusers in successful completion of the 12-week intensive outpatient program or continuing care program.

Drug of Choice as a Predictor of Program Completion in a 12-Week Intensive Outpatient Program and Continuing Care Program

From a social-learning point of view, alcoholics are people who have acquired, through differential reinforcement and modeling experiences, alcohol consumption as a widely generalized dominant response to aversive stimulation. Therapeutic attention would therefore be most profitable directed toward reducing the level of aversive stimulation experienced by individuals, and toward eliminating alcohol stress responses either directly or, preferably, by establishing alternative modes of coping behavior. Given more effective and rewarding means of dealing with environmental demands, individuals will have less need to resort to self-anesthetization against everyday experiences (Marlatt, 1980).

An effective treatment program must incorporate education and counseling. Education is a key element in preventing relapse; patients must be taught to understand subtle cues by which they are affected (Washton, 1988).

The intensive outpatient program used in this study incorporated education, counseling, and group therapy, coupled with involvement in a 12 week setting followed by an aftercare program. In addition, mandatory attendance at either AA or NA meetings was required.

There were two hypotheses in this study:

Ho: No statistical difference exists between alcoholics and other substance abusers in successful completion of a 12-week intensive outpatient program.

Ha: Statistically significant differences exist between alcoholics and other substance abusers in the successful completion of a 12-week intensive outpatient program.

Ho: No statistical difference exists between alcoholics and other substance abusers in successful completion of a continuing care program.

Ha: Statistically significant differences exist between alcoholics and other substance abusers in the successful completion of a continuing care.

Method

Participants

There were 84 subjects, 62 male and 22 female. Of the 84 subjects 37 were alcohol abusers, 9 Opiod abusers, 18 Cannabis abusers, 6 cocaine abusers, and 14 Polysubstance abusers. Ages of subjects range from 17 years to 61 years of age the mean age being 39.92.

Procedure

The Intensive Outpatient Program is a twelve-week approach. This approach involves education on Mondays and Thursdays from 5:30pm–6:30pm, followed by Group Therapy from 6:30pm-7: 30pm.

The education series uses lecture and video by qualified counselors discussing the disease concept, recovery stages, medical aspects of addiction, relationships, relapse warning triggers, denial, spirituality, stress management, Biopsychosocial Models, HIV/fitness, shame and addiction, attitudes and behaviors, and AA/NA orientation (Southway, 1999). Group therapy involves discussion with peers and counselors on the number of AA/NA meetings attended and problems individuals are currently experiencing. This includes: family, employment or legal problems, and their substance abuse. In addition, random drug screens are given to individuals, and periodic individual counseling sessions are set with licensed counselors. On Tuesdays from 5:30-7:30pm, families of the individuals with substance abuse/dependence are invited to participate in a six-week education seminar. The outpatient chemical dependency program also consists of an intensive outpatient program (IOP), which include 6 family education sessions. These sessions are every Tuesday evening from 5:30 - 7:30 p.m. Significant others are expected to attend this Tuesday night group to increase their own knowledge of substance abuse and to support the patients in their recovery.

The sessions are broke down into the following topics:

Session I - Progression of Family Illness.

This initial session revolves around a few questions commonly asked in

recovery that focus on proving yourself to friends and family, changing what you think of yourself, improving current relationships, and the hazards of starting a new relationship at this point of recovery. Additionally you are taught to define alcoholism and other chemical dependencies as a disease. You also gain an understanding of the biochemical process of alcoholism, and to begin the process of positive communication.

Session II - Disease Concept - Part II

The second session addresses the addict's core beliefs and his/her current self-image. This session answers the following common beliefs; "I am basically a bad, unworthy person." "No one would love me as I am.", "My needs are never going to be met if I have to depend upon others.", and "The chemical is my most important need." Additionally, discussions take place concerning the people associated with the alcoholic individual, things to do if your loved one is an alcoholic, your personal bill of rights, as well as your personalized disease chart.

Session III - Family Roles.

This session is utilized to discuss the survival roles of each family member in a chemically dependent family, their feelings and their behavior. Each member will recognize and identify personal survival role behavior. They will define how survival role/behaviors repeat from childhood to adulthood and negatively

impact family interactions.

Session IV - Progression of Family Illness.

The objective of this session is to identify the symptoms of the family disease and its progression. Members will identify and share feelings of the here and now. The purpose of ALANON will be defined, and their knowledge will be increased about this self-help 12-step program.

Session V - Issues in Recovery as they Relate to the Family.

During this session the group identifies positive communication techniques. They discuss attitudes about he disease and the recovery process.

Session VI - AA/NA, ALANON Orientation.

The final session consists of identifying irrational beliefs, teaching strategies to change attitudes, defining the relapse process/event, and pinpointing counter behaviors to triggers. Additionally, ALANON, AA, and NA are discussed, as well as all the benefits the programs have to offer.

The continuing care program consists of twenty-six total sessions. Subjects meet on Wednesdays from 4:30pm – 5:30pm. A licensed counselor is present and leads the group in discussion on relevant issues. Subjects are required to attend the total amount of sessions to complete the continuing care program.

Statistical Procedure

A categorical scale was used with Cross Tabulation Analysis and Logistic Regression

to determine significance at $p < .05$.

Results

A Chi-square test was developed to determine the completion rate between alcohol abusers and other substance abusers in the 12-week intensive outpatient program and calculate if there was a statistical difference. The results indicated no statistical differences between alcohol abusers and other substance abusers. The Chi-Square Tests resulted in a Pierson Chi-Square = (X^2_1, = .085, $p>.05$).

A Chi-square test was developed to determine the completion rate between alcohol abusers and other substance abusers in the continuing care program and calculate if there was a statistical difference. The results indicated no statistical differences between alcohol abusers and other substance abusers. The Chi-Square Tests resulted in a Pierson Chi-Square = (X^2_1, = .089, $p>.05$).

Discussion

Subjects were selected from admitting data of the intensive outpatient program with admission dates of 06/30/98-07/01/99. This would allow for a period of time to elapse for the completion of the continuing care program.

The design of this study was on a categorical scale. Logistic Regression and Cross-tab analysis was implemented. Chi Square was used to determine significance levels of alcoholics and other substance abusers compared to completion of the 12-

week intensive outpatient program and completion of the continuing care program. The level of significance used was .05.

Of the 84 subjects, 37 were classified as alcohol abusers. The remaining 47 were classified as other substance abusers.

The study revealed 86.5% (32) of those classified as alcohol abusers completed the 12-week intensive outpatient program, compared to 78.7% (37) classified as other substance abusers.

Comparison of the Continuing Care program resulted in 35.1% (13) of those classified as alcohol abusers completed the continuing care program, compared to 38.3 % (18) classified as other.

A double blind, randomly clinical trial of (n=37) patients who had a history of cocaine dependence, 81% of subjects completed a 12-week IOP program. Overall, cocaine use during the study was comparatively low-17% of the urine screens submitted were positive for cocaine (Margolin et al., 1995). The authors reported while the cocaine study did not reach clinical significance, a direction toward positive outcomes with 12-week intensive outpatient programs versus other treatment options were noted.

These results compare favorably with the statistical data obtained from the intensive outpatient program used in this study. Of the 86 subjects in the study 82.1% (69) completed the 12-week intensive outpatient program.

The Logistic Regression analysis resulted in statistical predicted significance (R^2, 1,83 = .017, p<. 05) regarding total substance abusers for those that completed the 12-week intensive outpatient program.

The Continuing Care program resulted in a statistically predicted significance of (R^2, 1,83 = .001, p < .05) using Logistic Regression.

The statistical significance in the Logistic Regression analysis indicates, the subjects in the 12-week intensive outpatient program can be predicted on who will complete the program and those that will not complete the program. The total number of substance abusers in the program determines this result.

The statistical significance in the Logistic Regression analysis indicates, the subjects in the continuing care program cannot be predicted on who will complete the program and those that will not complete the program. The total number of substance abusers in the program determines this result.

One can conclude from the Logistic Regression that completion rates in the 12-week intensive outpatient program can be predicted (82.1%) accurately, while the continuing care program cannot be predicted with any certainty (63.1%).

The results indicate from the data available, that no statistical significance (Ha) exists between alcohol abusers who complete the 12-week intensive outpatient program or continuing care and those diagnosed as other substance abusers when using Chi-Square.

This study has limitations, which should be acknowledged. The data used was from a one-year period of admitting data (06/30/98-07/01/99). The drug of choice variable could not be statistically examined to achieve true completion rates based on a one-year period. This was due to small sample size in each category of drug.

Suggestions include:

1. Increasing the data set from one year to five or more years, this would allow examination of each drug by increasing the sample size.
2. Comparing completion rates of similar intensive outpatient programs.
3. Obtaining a relapse rate for those completing the intensive outpatient program and continuing care program. This would have the effect of a continuous versus categorical scale. The individuals within the program data set would need to be randomly selected to obtain a true relapse rate.
4. An efficacy study is needed to investigate length of time, post treatment before relapse.

APPENDIX A: LITERATURE REVIEW

The primary care physician is in a good position to diagnose, manage and intervene with patients who are undergoing the process of treatment and recovery from alcohol and drug disorders. Combinations of drugs and outpatient therapy can significantly reduce the chances of relapse (Miller & Gold, 1998). Historically, addiction treatment has not been integrated within the mainstream of the health care system, even though such treatment is effective and reduces health care costs. More accurate data on treatment outcomes and costs are needed so that informed consumers, insurers, physicians and policy makers can formulate rational decisions about addiction treatment. Fortunately, the results of several recent health services studies unequivocally demonstrate the cost effectiveness of addiction treatment. (Miller & Gold, 1998).

Group counseling approaches have been shown to be more economically and equally or more effective than individual approaches both outside the addiction field as well as within (Graham & Annis, 1996). In terms of group approaches used in aftercare, Chaney, O'Leary & Marlatt (1978) found skills training in relapse prevention were superior to discussion groups and no training (Graham & Annis, 1996).

A double blind, randomly clinical trial of (n=37) patients who had a history of cocaine dependence, 81% of subjects completed a 12-week IOP program. Overall, cocaine use during the study was comparatively low-17% of the urine screens submitted

were positive for cocaine (Margolin et al., 1995). The authors reported while the cocaine study did not reach clinical significance, a direction toward positive outcomes with 12-week IOP programs versus other treatment options were noted.

High relapse rates remain the most common outcome in treatment of problem drug use. Motivational interviewing, coupled with performance-based strategies that enhance skills and expectations, appear to hold promise in improving treatment outcome (Allsop & Saunders, 1997). Saunders and Houghton (1995) argue such studies invite the investigation of those who do not succeed in changing behavior, as against the study of those who do. For those concerned with the treatment, studying the successes may be a more informative process than studying the failures (Saunders & Houghton, 1995). In agreement with Saunders and Houghton, Miller (1996) believes it should be clinical practice to abandon the notion of relapse and focus instead on terminology that better describes the normal resolution process for addictive behaviors. This is to avoid self-fulfilling prophecies (Miller, 1996).

According to Cantrell (1993), one year follow-up data revealed that while the majority of patients relapse, they reported shorter periods of substance abuse. Increased involvement with outpatient activities correlated with positive outcomes such as increased sobriety and fewer relapses.

APPENDIX B: STATISTICAL DATA

Crosstabs

Case Processing Summary

	Cases	
	Valid	
	N	Percent
DRUGCAT * 12 week IOP	84	97.7%
DRUGCAT * Continuing care	84	97.7%

Case Processing Summary

	Cases			
	Missing		Total	
	N	Percent	N	Percent
DRUGCAT * 12 week IOP	2	2.3%	86	100.0%
DRUGCAT * Continuing care	2	2.3%	86	100.0%

DRUGCAT * 12 week IOP

Crosstab

			12 week IOP		
			yes	no	Total
DRUGCAT	alcohol	Count	32	5	37
		% within DRUGCAT	86.5%	13.5%	100.0%
		% within 12 week IOP	46.4%	33.3%	44.0%
		% of Total	38.1%	6.0%	44.0%
	other	Count	37	10	47
		% within DRUGCAT	78.7%	21.3%	100.0%
		% within 12 week IOP	53.6%	66.7%	56.0%
		% of Total	44.0%	11.9%	56.0%
Total		Count	69	15	84
		% within DRUGCAT	82.1%	17.9%	100.0%
		% within 12 week IOP	100.0%	100.0%	100.0%
		% of Total	82.1%	17.9%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.851[b]	1	.356		
Continuity Correction[a]	.404	1	.525		
Likelihood Ratio	.868	1	.351		
Fisher's Exact Test				.404	.265
Linear-by-Linear Association	.840	1	.359		
N of Valid Cases	84				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.61.

DRUGCAT * Continuing care

Crosstab

			Continuing care		
			yes	no	Total
DRUGCAT	alcohol	Count	13	24	37
		% within DRUGCAT	35.1%	64.9%	100.0%
		% within Continuing care	41.9%	45.3%	44.0%
		% of Total	15.5%	28.6%	44.0%
	other	Count	18	29	47
		% within DRUGCAT	38.3%	61.7%	100.0%
		% within Continuing care	58.1%	54.7%	56.0%
		% of Total	21.4%	34.5%	56.0%
Total		Count	31	53	84
		% within DRUGCAT	36.9%	63.1%	100.0%
		% within Continuing care	100.0%	100.0%	100.0%
		% of Total	36.9%	63.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.089[b]	1	.766		
Continuity Correction[a]	.005	1	.944		
Likelihood Ratio	.089	1	.765		
Fisher's Exact Test				.822	.473
Linear-by-Linear Association	.088	1	.767		
N of Valid Cases	84				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 13.65.

Logistic Regression

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	84	97.7
	Missing Cases	2	2.3
	Total	86	100.0
Unselected Cases		0	.0
Total		86	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
yes	0
no	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			Continuing care		Percentage Correct
			yes	no	
Step 0	Continuing care	yes	0	31	.0
		no	0	53	100.0
	Overall Percentage				63.1

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.536	.226	5.625	1	.018	1.710

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	DRUGCAT	.089	1	.766
	Overall Statistics		.089	1	.766

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.089	1	.765
	Block	.089	1	.765
	Model	.089	1	.765

Classification Table[a]

Observed			Predicted		
			Continuing care		Percentage Correct
			yes	no	
Step 1	Continuing care	yes	0	31	.0
		no	0	53	100.0
	Overall Percentage				63.1

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	DRUGCAT	-.136	.457	.089	1	.766	.873
	Constant	.749	.751	.995	1	.319	2.115

a. Variable(s) entered on step 1: DRUGCAT.

Logistic Regression

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	84	97.7
	Missing Cases	2	2.3
	Total	86	100.0
Unselected Cases		0	.0
Total		86	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
yes	0
no	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			12 week IOP		Percentage Correct
			yes	no	
Step 0	12 week IOP	yes	69	0	100.0
		no	15	0	.0
	Overall Percentage				82.1

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-1.526	.285	28.693	1	.000	.217

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	DRUGCAT	.849	1	.357
	Overall Statistics		.849	1	.357

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.868	1	.351
	Block	.868	1	.351
	Model	.868	1	.351

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	77.961	.010	.017

Classification Table[a]

Observed			Predicted		
			12 week IOP		Percentage Correct
			yes	no	
Step 1	12 week IOP	yes	69	0	100.0
		no	15	0	.0
	Overall Percentage				82.1

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	DRUGCAT	.548	.599	.838	1	.360	1.730
	Constant	-2.404	1.026	5.495	1	.019	.090

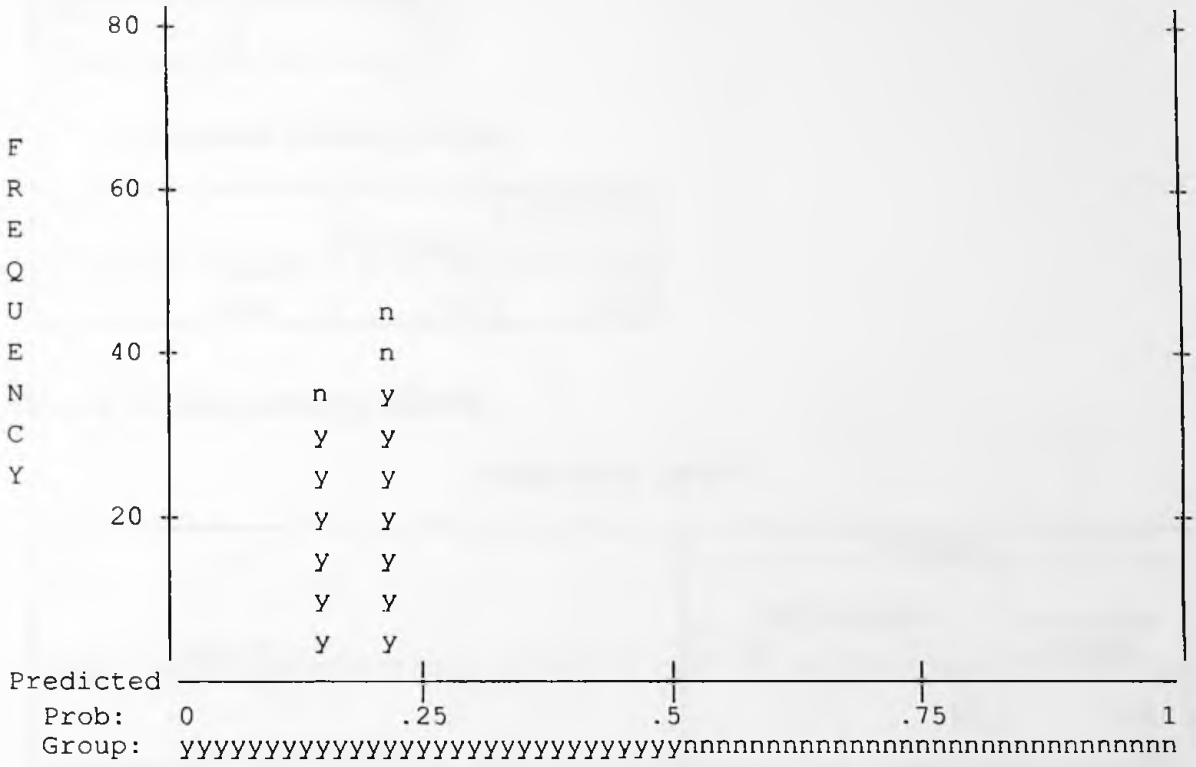
Variables in the Equation

		95.0% C.I.for EXP(B)	
		Lower	Upper
Step 1[a]	DRUGCAT	.535	5.591
	Constant		

a. Variable(s) entered on step 1: DRUGCAT.

Step number: 1

Observed Groups and Predicted Probabilities



Predicted Probability is of Membership for no
The Cut Value is .50
Symbols: y - yes
n - no
Each Symbol Represents 5 Cases.

Logistic Regression

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	84	97.7
	Missing Cases	2	2.3
	Total	86	100.0
Unselected Cases		0	.0
Total		86	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
yes	0
no	1

Categorical Variables Codings

		Frequency	Parameter (1)
DRUGCAT	alcohol	37	1.000
	other	47	.000

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			Continuing care		Percentage Correct
			yes	no	
Step 0	Continuing care	yes	0	31	.0
		no	0	53	100.0
	Overall Percentage				63.1

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.536	.226	5.625	1	.018	1.710

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	DRUGCAT(1)	.089	1	.765
	Overall Statistics		.089	1	.765

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.089	1	.765
	Block	.089	1	.765
	Model	.089	1	.765

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	110.530	.001	.001

Classification Table[a]

			Predicted		
			Continuing care		Percentage Correct
	Observed		yes	no	
Step 1	Continuing care	yes	0	31	.0
		no	0	53	100.0
	Overall Percentage				63.1

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df
Step 1[a]	DRUGCAT(1)	.136	.457	.089	1
	Constant	.477	.300	2.526	1

Variables in the Equation

		Sig.	Exp(B)
Step 1[a]	DRUGCAT(1)	.766	1.146
	Constant	.112	1.611

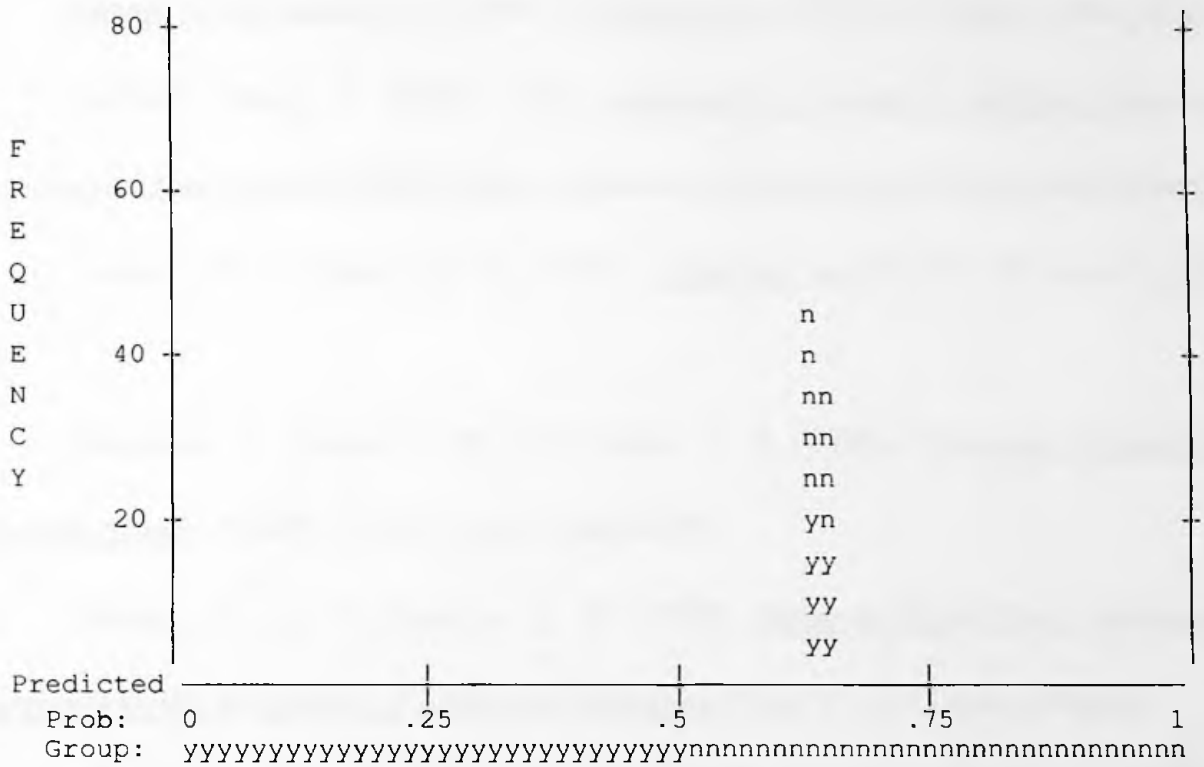
a. Variable(s) entered on step 1: DRUGCAT.

Correlation Matrix

		Constant	DRUGCAT(1)
Step 1	Constant	1.000	-.657
	DRUGCAT(1)	-.657	1.000

Step number: 1

Observed Groups and Predicted Probabilities



Predicted Probability is of Membership for no
The Cut Value is .50
Symbols: y - yes
n - no
Each Symbol Represents 5 Cases.

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