SAS Multiple Regression Appendix C

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TITLE 'Relationship between WMD and trial duration';

*     Author      Adrian Fung
      Date        31/3/06
      Purpose     To determine the relationship between WMD of IOPR between latanoprost and
                  brimonidine and trial duration analysed;

DATA Glaucoma;
INPUT WMD Duration Design Alloc Treatment;
DATALINES;
0.6          3            0     0     1
2.6          6            0     1     0
-0.3         3            0     1     0
1.3          6            0     1     1
0.69         3            0     0     0
1.9          6            0     0     0
-1.17        1            0     0     1
0.13         1            0     1     1
0.8          12           0     1     1
2            3            0     0     0
1.2          1            1     1     0
2            1            1     1     0
2.2          1.5          1     0     0
1.1          1.5          1     0     1
;

*CODE
Trial design                  0     Parallel
                              1     Cross-over
Allocation concealment        0     No/NS
                              1     Yes
Treatment                     0     Monotherapy
                              1     Adjunctive therapy*;

*Epidemiological study- no potential confounders
No biologically plausible interactions*;

PROC PRINT;
RUN;

PROC PLOT HPCT=50 VPCT=50;
PLOT WMD*Duration;

PROC REG CORR;
MODEL WMD=Duration Design Alloc Treatment /CLB VIF;
RUN;
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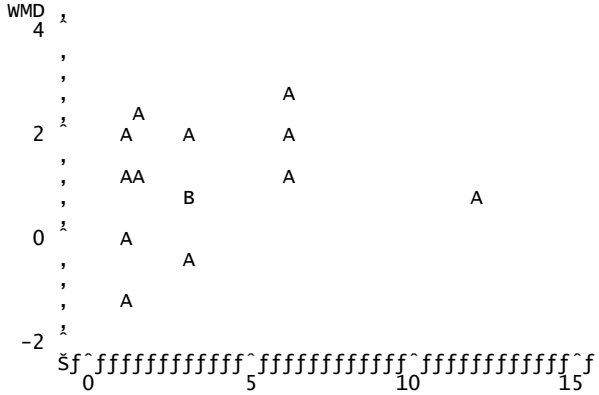
Plot of WMD*Duration. A=1, B=2, etc.



The REG Procedure

Correlation

Variable	Duration	Design	Alloc	Treatment	WMD
Duration	1.0000	-0.4762	0.2630	0.1691	0.1845
Design	-0.4762	1.0000	0.0000	-0.2282	0.3439
Alloc	0.2630	0.0000	1.0000	0.0000	0.0290
Treatment	0.1691	-0.2282	0.0000	1.0000	-0.5266
WMD	0.1845	0.3439	0.0290	-0.5266	1.0000

The REG Procedure
Model: MODEL1
Dependent Variable: WMD

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	7.52748	1.88187	2.49	0.1174
Error	9	6.79567	0.75507		
Corrected Total	13	14.32315			

Root MSE	0.86895	R-Square	0.5255
Dependent Mean	1.07500	Adj R-Sq	0.3147
Coeff Var	80.83258		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Variance Inflation	95% Confidence Limits	
Intercept	1	0.69808	0.53716	1.30	0.2260	0	-0.51706	1.91323
Duration	1	0.17847	0.09288	1.92	0.0869	1.42814	-0.03164	0.38858
Design	1	1.07347	0.59937	1.79	0.1069	1.35937	-0.28241	2.42935
Alloc	1	-0.22188	0.48687	-0.46	0.6594	1.09875	-1.32324	0.87949
Treatment	1	-1.03479	0.48333	-2.14	0.0609	1.06074	-2.12816	0.05857