Project1

1/15/2017

Table 1: Comparison of Demographics for Excluded & Included Data, w/ N=162 and N=174 respectively

Variable	Excluded	Analyzed Data	P-Value
Diff. in SBP, Wake - Sleep	14.5 (10.5)	13.4 (9.4)	0.6075
Diff. in SBP, Post-Wake Mean - Pre-Wake Mean	11.1 (12.3)	12.3 (12.2)	0.4331
Diff. in SBP, Post-Wake.1 - Pre-Wake.1	8.6 (14.2)	8.4 (13.6)	0.8162
ICV (calculated)	1403.7 (144.4)	1364.9 (138.4)	0.0247
Education (years)	16.3 (2.6)	15.5 (2.6)	0.0095
Age at medhx.date, recalculated	73.1 (7.5)	72.7 (7.1)	0.6214
Sex			0.0103
– Male	108 (67%)	91 (52%)	
– Female	54 (33%)	83 (48%)	
Two-level race/ethnicity			0.3688
– Non-Hispanic White	137 (85%)	154 (89%)	
– Other	25 (15%)	20 (11%)	
ApoE4+ (at least one E4 allele)			0.7182
– Yes	58 (36%)	58 (33%)	
– No	104 (64%)	116 (67%)	
Consensus Decision for Diagnosis			0.1202
– Normal	75 (46%)	101 (58%)	
– MCI	70 (43%)	62 (36%)	
– Dementia	1 (1%)	0 (0%)	
– Ambiguous At Risk	16 (10%)	11 (6%)	
Taking at least 1 anti-hypertensive med			0.622
– Yes	85 (52%)	97 (56%)	
– No	77 (48%)	77 (44%)	
Diabetic			0.1947
– Yes	35 (22%)	27 (16%)	
– No	127 (78%)	147 (84%)	
Current smoker (or quit in this or last calendar yr)			0.3898
– Yes	5 (3%)	2 (1%)	
– No	157 (97%)	172 (99%)	
CVD			0.622
– Yes	4 (2%)	7 (4%)	
– No	158 (98%)	167 (96%)	
A-fib			1
– Yes	9 (6%)	10 (6%)	
– No	151 (93%)	164 (94%)	
LV Hypertrophy			0.6958
– Yes	9 (6%)	7 (4%)	
– No	153 (94%)	166 (95%)	

```
cats <- cats[-4]
comparison <- c(c(), c(), c(),c())
mciData <- cvrdata[cvrdata$enrolled.dx.factor=="MCI",]
normData <- cvrdata[cvrdata$enrolled.dx.factor=="Normal",]
```

```
abData <- cvrdata[cvrdata$enrolled.dx.factor=="Ambiguous At Risk",]
ms <- length(mciData$map.id)
ns <- length(normData$map.id)
as <- length(abData$map.id)
for (cat in cats){
  if (is.factor(cvrdata[,cat])){
    chiData <- rbind(cbind(normData[,cat],rep("ns", length(normData[,cat]))),
                     cbind(mciData[,cat],rep("ms", length(mciData[,cat]))),
                     cbind(abData[,cat],rep("as", length(abData[,cat]))))
    pp <- chisq.test(table(chiData[,1], chiData[,2]))$p.value
    comparison <- rbind(comparison, c(label(crvdata[,cat]),'','','', round(pp,4)))
    for (lev in levels(cvrdata[,cat])){
      comparison <- rbind(comparison, c(paste("--",lev ),
                       paste(s <- sum(normData[,cat]==lev, na.rm=T), " (", round(s*100/ns),
                             "%)", sep=""),
                       paste(s <- sum(mciData[,cat]==lev, na.rm=T), " (", round(s*100/ms),
                             "%)", sep=""),
                       paste(s <- sum(abData[,cat]==lev, na.rm=T), " (", round(s*100/as),
                             "%)", sep=""), ''))
    }
    next
  }
  anovaData <- as.data.frame(rbind(cbind(normData[,cat],rep("ns", length(normData[,cat]))),
                     cbind(mciData[,cat],rep("ms", length(mciData[,cat]))),
                     cbind(abData[,cat],rep("as", length(abData[,cat])))))
  anovaData[,1] <- as.numeric(as.character(anovaData[,1]))
  pp <- kruskal.test(anovaData[,1] ~ anovaData[,2])$p.value
  comparison <- rbind(c(label(crvdata[,cat]),
                paste(round(mean(normData[,cat], na.rm=T),1)," (",
                      round(sd(normData[,cat],na.rm=T),1), ")",sep=""),
                paste(round(mean(mciData[,cat], na.rm=T),1)," (",
                      round(sd(mciData[,cat],na.rm=T),1), ")",sep=""),
                paste(round(mean(abData[,cat], na.rm=T),1)," (",
                      round(sd(abData[,cat],na.rm=T),1), ")",sep=""),
                round(pp, 4)), comparison)
}
```

```
## Warning in chisq.test(table(chiData[, 1], chiData[, 2])): Chi-squared
## approximation may be incorrect

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## approximation may be incorrect
```

```
comparison[,5][as.numeric(comparison[,5]) < 0.001] <- "<0.001"
comparison <- as.data.frame(comparison)
colnames(comparison) <- c("Variable","Normal", "MCI", "Ambiguous At-Risk", "P-value")
kable(comparison, width=3,
      caption=paste("Comparison of Demographics across Disease Status, w/ N=",
                    length(normData$map.id), ", N=", length(mciData$map.id),", and N=",
                    length(abData$map.id), " respectively", sep=""))
```

Table 2: Comparison of Demographics across Disease Status, w/ N=101, N=62, and N=11 respectively

Variable	Normal	MCI	Ambiguous At-Risk	P-value
Diff. in SBP, Wake - Sleep	15.3 (9.4)	9.5 (8.7)	17.7 (6.2)	<0.001
Diff. in SBP, Post-Wake Mean - Pre-Wake Mean	14.1 (12.9)	8.9 (10.3)	12.4 (11.9)	0.0529
Diff. in SBP, Post-Wake.1 - Pre-Wake.1	11.4 (12.9)	3.7 (12.5)	4.9 (18.7)	0.0011
ICV (calculated)	1369.2 (140)	1345.9 (135.9)	1431.9 (122.9)	0.1649
Education (years)	16.1 (2.4)	14.6 (2.6)	15.5 (3.3)	0.0021
Age at medhx.date, recalculated	72.6 (7.3)	73.2 (7.2)	71.4 (4.8)	0.743
Sex				0.7049
– Male	53 (52%)	31 (50%)	7 (64%)	
– Female	48 (48%)	31 (50%)	4 (36%)	
Two-level race/ethnicity				0.896
– Non-Hispanic White	90 (89%)	54 (87%)	10 (91%)	
– Other	11 (11%)	8 (13%)	1 (9%)	
ApoE4+ (at least one E4 allele)				0.5298
– Yes	34 (34%)	22 (35%)	2 (18%)	
– No	67 (66%)	40 (65%)	9 (82%)	
Taking at least 1 anti-hypertensive med				0.9005
– Yes	55 (54%)	36 (58%)	6 (55%)	
– No	46 (46%)	26 (42%)	5 (45%)	
Diabetic				0.0863
– Yes	12 (12%)	11 (18%)	4 (36%)	
– No	89 (88%)	51 (82%)	7 (64%)	
Current smoker (or quit in this or last calendar yr)				0.1608
– Yes	0 (0%)	2 (3%)	0 (0%)	
– No	101 (100%)	60 (97%)	11 (100%)	
CVD				0.6743
– Yes	5 (5%)	2 (3%)	0 (0%)	
– No	96 (95%)	60 (97%)	11 (100%)	
A-fib				0.1502
– Yes	4 (4%)	4 (6%)	2 (18%)	
– No	97 (96%)	58 (94%)	9 (82%)	
LV Hypertrophy				0.576
– Yes	3 (3%)	3 (5%)	1 (9%)	
– No	97 (96%)	59 (95%)	10 (91%)	

Missingness

Table 3: Missingness (N=174)

Variable	Missingness
Sex	0 (0%)
Two-level race/ethnicity	0 (0%)
ApoE4+ (at least one E4 allele)	0 (0%)
Taking at least 1 anti-hypertensive med	0 (0%)
Diabetic	0 (0%)
Current smoker (or quit in this or last calendar yr)	0 (0%)
CVD	0 (0%)
A-fib	0 (0%)
LV Hypertrophy	1 (0.57%)
Age at medhx.date, recalculated	0 (0%)
Education (years)	0 (0%)
ICV (calculated)	0 (0%)
Diff. in SBP, Post-Wake.1 - Pre-Wake.1	23 (13.22%)
Diff. in SBP, Post-Wake Mean - Pre-Wake Mean	27 (15.52%)
Diff. in SBP, Wake - Sleep	15 (8.62%)