Untitled

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```
library(readr)
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v purrr     1.0.2
## v forcats   1.0.0     v stringr   1.5.1
## v ggplot2   3.5.1     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.1
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(dplyr)
library(ggplot2)
library(MASS)
```

```
##
## Attaching package: 'MASS'
##
## The following object is masked from 'package:dplyr':
##
##     select
```

```
library(tidyr)
library(kableExtra)
```

```
##
## Attaching package: 'kableExtra'
##
## The following object is masked from 'package:dplyr':
##
##     group_rows
```

```
library(knitr)
library(GGally)
```

```
## Registered S3 method overwritten by 'GGally':
##   method from
##   +.gg   ggplot2
```

```
library(naniar)
library(visdat)
library(gtsummary)
```

```
##
## Attaching package: 'gtsummary'
##
## The following object is masked from 'package:MASS':
##
##     select
```

```
library(gt)
library(mice)
```

```
##
## Attaching package: 'mice'
##
## The following object is masked from 'package:stats':
##
##     filter
##
## The following objects are masked from 'package:base':
##
##     cbind, rbind
```

```
library(corrplot)
```

```
## corrplot 0.94 loaded
```

```
library(reshape2)
```

```
##
## Attaching package: 'reshape2'
##
## The following object is masked from 'package:tidyr':
##
##     smiths
```

```
library(ggwordcloud)
library(magick)
```

```
## Linking to ImageMagick 6.9.12.93
## Enabled features: cairo, fontconfig, freetype, heic, lcms, pango, raw, rsvg, webp
## Disabled features: fftw, ghostscript, x11
```

```
library(glmnet)
```

```
## Loading required package: Matrix
##
## Attaching package: 'Matrix'
##
## The following objects are masked from 'package:tidyr':
##
##     expand, pack, unpack
##
## Loaded glmnet 4.1-8
```

```
library(caret)
```

```
## Loading required package: lattice
##
## Attaching package: 'caret'
```

```
##
## The following object is masked from 'package:purrr':
##
##     lift
```

```
library(car)
```

```
## Loading required package: carData
##
## Attaching package: 'car'
##
## The following object is masked from 'package:dplyr':
##
##     recode
##
## The following object is masked from 'package:purrr':
##
##     some
```

```
library(broom)
library(gridExtra)
```

```
##
## Attaching package: 'gridExtra'
##
## The following object is masked from 'package:dplyr':
##
##     combine
```

```
library(pROC)
```

```
## Type 'citation("pROC")' for a citation.
##
## Attaching package: 'pROC'
##
## The following objects are masked from 'package:stats':
##
##     cov, smooth, var
```

```
library(broom)
#Load the data in


project2 <- read_csv("~/Documents/GitHub/Project2/project2.csv")
```

```
## Rows: 300 Columns: 25
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## dbl (25): id, abst, Var, BA, age_ps, sex_ps, NHW, Black, Hisp, inc, edu, ftc...
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
# summary table with baseline variables

# define treatment categories
project2_treatments <- project2 %>%
```

```
  mutate(
    treatment_groups = case_when(
      Var == 1 & BA == 1 ~ "BASC + Varenicline",
      Var == 0 & BA == 1 ~ "BASC + Placebo",
      Var == 1 & BA == 0 ~ "ST + Varenicline",
      Var == 0 & BA == 0 ~ "ST + Placebo"
    )
  )

baseline_table <- project2_treatments %>%
  select(
    treatment_groups, age_ps, sex_ps, NHW, Black, Hisp, inc, edu,
    ftcd_score, ftcd.5.mins, bdi_score_w00, cpd_ps, crv_total_pq1,
    hedonsum_n_pq1, hedonsum_y_pq1, shaps_score_pq1, otherdiag,
    antidepmed, mde_curr, NMR, Only.Menthol, readiness
  ) %>%
  tbl_summary(
    by = treatment_groups,
    label = list(
      age_ps ~ "Age",
      sex_ps ~ "Sex",
      NHW ~ "Non-Hispanic White",
      Black ~ "Black",
      Hisp ~ "Hispanic",
      inc ~ "Income",
      edu ~ "Education Level",
      ftcd_score ~ "FTCD Score",
      ftcd.5.mins ~ "FTCD Score (5 mins)",
      bdi_score_w00 ~ "BDI Score",
      cpd_ps ~ "Cigarettes per day",
      crv_total_pq1 ~ "Craving Total",
      hedonsum_n_pq1 ~ "Hedonic Sum (Negative)",
      hedonsum_y_pq1 ~ "Hedonic Sum (Positive)",
      shaps_score_pq1 ~ "Shaps Score",
      otherdiag ~ "Other Diagnoses",
      antidepmed ~ "Antidepressant Medication",
      mde_curr ~ "Current Major Depression Episode",
      NMR ~ "Nicotine Metabolism Ratio",
      Only.Menthol ~ "Only Menthol",
      readiness ~ "Readiness to Quit"
    ))



baseline_table
```

Characteristic	**BASC + Placebo** N = 68[1]	**BASC + Varenicline** N = 83[1]	**S**
Age	54 (42, 61)	53 (40, 60)	
Sex			
1	30 (44%)	39 (47%)	
2	38 (56%)	44 (53%)	
Non-Hispanic White	24 (35%)	34 (41%)	
Black	37 (54%)	37 (45%)	
Hispanic	5 (7.4%)	4 (4.8%)	
Income			
1	25 (37%)	30 (37%)	
2	16 (24%)	17 (21%)	
3	8 (12%)	13 (16%)	
4	12 (18%)	12 (15%)	
5	6 (9.0%)	10 (12%)	
Unknown	1	1	
Education Level			
1	1 (1.5%)	0 (0%)	
2	3 (4.4%)	7 (8.4%)	
3	23 (34%)	15 (18%)	
4	22 (32%)	32 (39%)	
5	19 (28%)	29 (35%)	
FTCD Score	5.00 (4.00, 7.00)	5.00 (4.00, 7.00)	
Unknown	0	0	
FTCD Score (5 mins)	32 (47%)	33 (40%)	
BDI Score	18 (9, 27)	18 (10, 25)	
Cigarettes per day	15 (10, 20)	15 (10, 20)	
Craving Total	7.0 (5.0, 10.0)	8.0 (4.5, 10.0)	
Unknown	1	3	
Hedonic Sum (Negative)	21 (10, 31)	20 (9, 32)	
Hedonic Sum (Positive)	23 (14, 34)	17 (11, 31)	
Shaps Score	0.00 (0.00, 3.00)	1.00 (0.00, 4.00)	
Unknown	2	0	
Other Diagnoses	35 (51%)	30 (36%)	
Antidepressant Medication	28 (41%)	24 (29%)	
Current Major Depression Episode	32 (47%)	40 (48%)	
Nicotine Metabolism Ratio	0.32 (0.23, 0.46)	0.33 (0.22, 0.50)	
Unknown	7	3	
Only Menthol	40 (59%)	48 (59%)	
Unknown	0	1	
Readiness to Quit			
3	1 (1.6%)	0 (0%)	
4	2 (3.1%)	2 (2.6%)	
5	6 (9.4%)	11 (14%)	
6	18 (28%)	22 (28%)	
7	16 (25%)	21 (27%)	
8	17 (27%)	20 (26%)	
9	5 2 (3.1%)	1 (1.3%)	
10	2 (3.1%)	1 (1.3%)	
Unknown	4	5	

[1] Median (Q1, Q3); n (%)