

# Exploring the R gtsummary Package to Create Professional-Quality Descriptive Tables for Academic Publications

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2025-02-09

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## Install and read in R packages needed

```
library(NHANES)
library(gtsummary)
library(gt)
library(dplyr)
```

## Read in the demo data

```
data <- NHANES::NHANES
```

## Example basic table

```

data %>%
  # Remove the missing data in the diabetes variable for simplicity
  filter(!is.na(Diabetes)) %>%
  select(Gender, Age, AgeDecade, Race1, BMI_WHO, Education, MaritalStatus,
         HHIncome, Work, Diabetes) %>%
  tbl_summary(by = Diabetes,
              statistic = list(all_continuous() ~ "{mean} ({sd})",
                              all_categorical() ~ "{n} ({p}%)")) %>%

  add_overall() %>%
  add_p() %>% # test for a difference between groups
  bold_labels() %>%
  modify_header(label = "**Characteristic**") %>% # Update the column header
  as_gt() %>%
  gt::tab_header("Table: sociodemographic characteristics of patients with and without dial")

```

Table: sociodemographic characteristics of patients with and without diabetes.

Characteristic	Overall N = 9,858 <sup>1</sup>	No N = 9,098 <sup>1</sup>	Yes N = 760 <sup>1</sup>	p-value <sup>2</sup>
<b>Gender</b>				0.064
female	4,949 (50%)	4,592 (50%)	357 (47%)	
male	4,909 (50%)	4,506 (50%)	403 (53%)	
<b>Age</b>	37 (22)	35 (22)	59 (15)	<0.001
<b>AgeDecade</b>				<0.001
0-9	1,254 (13%)	1,254 (14%)	0 (0%)	
10-19	1,371 (14%)	1,354 (15%)	17 (2.5%)	
20-29	1,356 (14%)	1,344 (15%)	12 (1.7%)	
30-39	1,338 (14%)	1,295 (15%)	43 (6.2%)	
40-49	1,398 (15%)	1,302 (15%)	96 (14%)	
50-59	1,304 (14%)	1,126 (13%)	178 (26%)	
60-69	917 (9.6%)	713 (8.1%)	204 (30%)	
70+	587 (6.2%)	447 (5.1%)	140 (20%)	
Unknown	333	263	70	
<b>Race1</b>				<0.001
Black	1,184 (12%)	1,053 (12%)	131 (17%)	
Hispanic	602 (6.1%)	555 (6.1%)	47 (6.2%)	
Mexican	991 (10%)	925 (10%)	66 (8.7%)	
White	6,290 (64%)	5,840 (64%)	450 (59%)	
Other	791 (8.0%)	725 (8.0%)	66 (8.7%)	
<b>BMI_WHO</b>				<0.001
12.0_18.5	1,277 (13%)	1,274 (14%)	3 (0.4%)	
18.5_to_24.9	2,908 (30%)	2,797 (32%)	111 (15%)	
25.0_to_29.9	2,664 (28%)	2,461 (28%)	203 (27%)	
30.0_plus	2,749 (29%)	2,321 (26%)	428 (57%)	
Unknown	260	245	15	
<b>Education</b>				<0.001
8th Grade	451 (6.2%)	351 (5.4%)	100 (13%)	
9 - 11th Grade	886 (12%)	781 (12%)	105 (14%)	
High School	1,517 (21%)	1,352 (21%)	165 (22%)	
Some College	2,267 (31%)	2,039 (31%)	228 (31%)	
College Grad	2,098 (29%)	1,954 (30%)	144 (19%)	
Unknown	2,639	2,621	18	
<b>MaritalStatus</b>				<0.001
Divorced	705 (9.8%)	605 (9.3%)	100 (13%)	
LivePartner	560 (7.7%)	531 (8.2%)	29 (3.9%)	
Married	3,945 (55%)	3,519 (54%)	426 (57%)	
NeverMarried	1,380 (19%)	1,313 (20%)	67 (9.0%)	
Separated	183 (2.5%)	159 (2.5%)	24 (3.2%)	
Widowed	456 (6.3%)	361 (5.6%)	95 (13%)	
Unknown	2,629	3	19	
<b>HHIncome</b>				<0.001
0-4999	182 (2.0%)	169 (2.0%)	13 (1.9%)	
5000-9999	250 (2.8%)	223 (2.7%)	27 (3.9%)	
10000-14999	537 (5.9%)	472 (5.6%)	65 (9.3%)	
15000-19999	515 (5.7%)	461 (5.5%)	54 (7.8%)	
20000-24999	605 (6.7%)	546 (6.5%)	59 (8.5%)	