

/*=====*

Covance Study Number	: COV- 106331	
Client Protocol ID	: ZRHM-REXA-07-JP	
Program Name	: t_desc_nc.sas	
Purpose	: Table Descriptive statistics of plasma nicotine and cotinine	
Input Data	: ADBX ADSL	
Output Data	: T_15_02_04_19_01,19_02	
Macros Called	:	
Originally Performed by	: Seroan Zheng	
Date/Time billed	: 12May2015	

+=====+

Modification History	
Programmer	:
Date	:
Reason for Change	:

+=====*/

options noquotelenmax;

***Create log file;

proc printto new

log="/cvn/projects/prj/development/000000106343/dev/tables/log/t_desc_nc_pk.log" ;

```
run;
```

```
%macro t_desc_nc_pk(t_name=,l_name=,dsin=,conf1=,by_var1=,t_title=,t_title_l=,append=,pop=);
```

```
%let pgnam=t_desc_nc_pk.sas;
```

```
%let table=&tflout.;
```

```
%let tflno=&t_name;
```

```
%let TFL_Part=%scan(&_SASPROGRAMFILE,-3,%str(/));
```

```
*** Standard - leave this ;
```

```
data _null_;
```

```
    tmp="&TFL_Part";
```

```
        if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");
```

```
        call symput('TFLpath', compress("&_SASPROGRAMFILE",""));
```

```
run;
```

```
proc sql;
```

```
%if &pop= pp %then %do;
```

```
select count(distinct usubjid) into: N1THS from adam.adsl(where=(trt01an = 4 and pprot1fl = "Y"));
```

```
select count(distinct usubjid) into: N1MCC from adam.adsl(where=(trt01an = 5 and pprot1fl = "Y"));
```

```
select count(distinct usubjid) into: N1SAA from adam.adsl(where=(trt01an = 3 and pprot1fl = "Y"));
```

```
%end;
```

```
%else %do;
```

```
select count(distinct usubjid) into: N1THS from adam.adsl(where=(trt01an = 4 and fasfl = "Y"));
```

```
select count(distinct usubjid) into: N1MCC from adam.adsl(where=(trt01an = 5 and fasfl = "Y"));

select count(distinct usubjid) into: N1SAA from adam.adsl(where=(trt01an = 3 and fasfl = "Y"));

%end;
```

```
quit;
```

```
***Get raw data;
```

```
data anl1;
```

```
    set adam.&dsin;
```

```
    &conf1
```

```
***Calculate LOG;
```

```
    if aval not in (.,0) then do;
```

```
        logaval=log(aval);
```

```
    end;
```

```
run;
```

```
proc sort data=anl1;by &by_var1;run;
```

```
***Get decimal length;
```

```
data temp;
```

```
    set anl1;
```

```
    declen=lengthn(scan(strip(put(aval, best.)),2,"."));
```

```
run;
```

```
proc sql;
```

```
    create table dectemp
```

```
as select distinct paramn, max(declen) as declen  
from temp  
group by paramn;  
quit;
```

```
data dectemp;  
    set dectemp;  
    if declen >=3 then declen = 2;  
run;
```

```
proc sql;  
    select max(declen) into: last  
    from dectemp;  
quit;
```

```
data anl2;  
    set anl1 ;  
run;
```

```
proc sort data=anl2;  
    by trtan paramn param avalu avisitn avisit;  
run;
```

```
proc sort data=anl2;  
    by trtan paramn param avalu avalu avisitn avisit ;
```

```
run;
```

```
proc means data=anl2(where=(aval ne .)) noprint;
```

```
var aval;
```

```
by trtan paramn param avalu avisitn avisit;
```

```
output out=aval n = n mean = mean std = std median = median min = min max = max q1 = q1 q3  
= q3 lclm = lclm uclm = uclm;
```

```
run;
```

```
proc sort data=aval;by paramn;run;
```

```
%macro aa;
```

```
/*%let last = 13;*/
```

```
data aval1;
```

```
merge aval(in=a) dectemp;
```

```
by paramn;
```

```
if a;
```

```
%do i=0 %to &last.;
```

```
if declen=%eval(&i) then do;
```

```
%let fmt= %sysevalf(24 + (&i +1 )*0.1);
```

```
%if &i = 0 %then %let fmt1 = 24.;
```

```
%else
```

```
%let fmt1= %sysevalf(24 + (&i)*0.1);
```

```
%let fmt2= %sysevalf(24 + (&i +2 )*0.1);
```

```
if lclm ne . then lclmx = floor(10**(declen+1)*lclm)/10**(declen+1);
```

```
if uclm ne . then uclmx = ceil(10**(declen+1)*uclm)/10**(declen+1);
```

```
length median1 Q2575 Minmax Meansd CIAM n1 $50.;
```

```

        if median ne . then median1 = strip(put(round(median,1/10**(declen+1)), &fmt.));

        q2575 = strip(put(round(q1, 1/10**(declen+1)), &fmt.))||", "||strip(put(round(q3,
1/10**(declen+1)), &fmt.));

        minmax = strip(put(round(min, 1/10**(declen)), &fmt1.))||",
"||strip(put(round(max,1/10**(declen)), &fmt1.));

        if std ne . then meansd = strip(put(round(mean, 1/10**(declen+1)), &fmt.))||"
("||strip(put(ceil(10**(declen+2)*std)/10**(declen+2), &fmt2.))||"");

        else meansd = strip(put(round(mean, 1/10**(declen+1)),&fmt.))||" (NA)";

        if nmiss(lclm, uclm) = 0 then ciam = strip(put(lclmx, &fmt.))||", "||strip(put(uclmx, &fmt.));

        else if lclm = . and uclm ne . then ciam = "NA, "||strip(put(uclmx, &fmt.));

        else if lclm ne . and uclm = . then ciam = strip(put(lclmx, &fmt.))||", NA";

        else if lclm = . and uclm = . then ciam = "NA, NA";

        n1 = strip(put(n, best.));

        end;

        %end;

        if trtan = 3 then Num = &N1SAA;

        if trtan = 4 then Num = &N1THS;

        if trtan = 5 then Num = &N1MCC;

        missing = Num - n;

        if missing ne 0 then miss = strip(put(missing, best.))||"
("||strip(put(round((missing/Num)*100,0.1),10.1))||"");

        else miss = '0';

run;

%mend;

%aa;

proc sort data=aval1;

        by paramn param avalu avisitn avisit ;

```

```
run;
```

```
proc transpose data=aval1 out=aval_t prefix= trt_;  
    by paramn param avalu avisitn avisit ;  
    var n1 median1 q2575 minmax meansd ciam miss;  
    id trtan;  
run;
```

```
data aval_t;  
    length txt $200.;  
    set aval_t;  
    if upcase(_name_) = "N1" then do;  
        txtn = 1;  
        txt = "n";  
    end;  
    if upcase(_name_) = "MISS" then do;  
        txtn = 2;  
        txt = "Missing, n (%)";  
    end;  
    else if upcase(_name_) = "MEDIAN1" then do;  
        txtn = 7;  
        txt = "Median";  
    end;  
    else if upcase(_name_) = "Q2575" then do;
```

```

    txtn = 8;

    txt = "Q25, Q75";

    end;

    else if upcase(_name_) = "MINMAX" then do;

    txtn = 9;

    txt = "Min, Max";

    end;

    else if upcase(_name_) = "MEANSD" then do;

    txtn = 10;

    txt = "Mean (SD)";

    end;

    else if upcase(_name_) = "CIAM" then do;

    txtn = 11;

    txt = "95% CI of Mean";

    end;

run;

```

```

proc sort data=anl2;

    by trtan paramn param avalu avisitn avisit;

run;

```

```

proc means data=anl2 noprint;

    by trtan paramn param avalu avisitn avisit ;

    output out=aval_log mean = mean std = std lclm = lclm uclm = uclm;

    var logaval;

```



```

run;

proc sort data=aval_log;by paramn;run;

data aval_log1;

    length geocv CIGM $50.;

    merge aval_log(in=a) dectemp;

    by paramn;

    if a;

    %do i=0 %to &last.;

        if declen=%eval(&i) then do;

            %let fmt= %sysevalf(24 + (&i + 1 )*0.1);

            %if &i = 0 %then %let fmt1 = 24.;

            %else

                %let fmt1= %sysevalf(24 + (&i)*0.1);

                %let fmt2= %sysevalf(24 + (&i +2 )*0.1);

            if lclm ne . then lclm1 = exp(lclm);

            if uclm ne . then uclm1 = exp(uclm);

            if lclm1 ne . then lclmx = floor(10**(declen+1)*lclm1)/10**(declen+1);

            if uclm1 ne . then uclmx = ceil(10**(declen+1)*uclm1)/10**(declen+1);

            if std ne . then cv_pct=100*sqrt(exp(std*std)-1) ;

            if mean ne . then mean1 = exp(mean);

            if cv_pct ne . and mean1 ne . then geocv =
strip(put(round(mean1,1/10**(declen+1)), &fmt.))||"
("||strip(put(ceil(10**(declen+2)*cv_pct)/10**(declen+2), &fmt2.))||")";

            else if mean ne . then geocv = strip(put(round(mean,1/10**(declen+1)),
&fmt.))||" (NA)";

            if nmiss(lclmx, uclmx) = 0 then CIGM = strip(put(lclmx, &fmt.))||",
"||strip(put(uclmx, &fmt.));

        end;

    %end;

run;

```

```

        else if lclm = . and uclmx ne . then CIGM = "NA, " || strip(put(uclmx, &fmt.));

        else if lclmx ne . and uclm = . then CIGM = strip(put(lclmx, &fmt.)) || ", NA";

        else if lclm = . and uclm = . then CIGM = "NA, NA";

    end;

%end;

run;

proc sort data=aval_log1 ;

    by paramn param avalu avisitn avisit;

run;

proc transpose data=aval_log1 out=aval_log1_t prefix= trt_;

    by paramn param avalu avisitn avisit;

    var geocv cigm;

    id trtan;

run;

data aval_log1_t;

    length txt $200.;

    set aval_log1_t;

    if upcase(_name_) = "GEOCV" then do;

        txtn = 5;

        txt = "Geometric Mean (CV%)";

    end;

    else if upcase(_name_) = "CIGM" then do;

```

```

        txtn = 6;

        txt = "95% CI of Geometric Mean";

        end;

run;

data aval_f;

        set aval_t aval_log1_t;

        %if &t_name = T_15_02_04_19_01 or &t_name = T_15_02_04_19_02 %then %do;

        if txt in ('Mean (SD)' '95% CI of Mean' ) then delete;

        %end;

        %else %do;

        if txt in ('95% CI of Mean' 'Missing, n (%)') then delete;

        %end;

        if paramn in (3 6) and txt in ("Mean (SD)" "Geometric Mean (CV%)" "95% CI of Geometric
Mean") then delete;

run;

proc sort data=aval_f;

        by paramn param avalu avisitn avisit txtn txt;

run;

data final;

        set aval_f end=last;

        by paramn param avalu avisitn avisit txtn txt;

```

```

if index(param,'Nicotine') then do;

    param1 = 'Nicotine';

    page = 1;

end;

if index(param,'Cotinine') then do;

    param1 = 'Cotinine';

    page = 2;

end;

if index(param,'Average Conc') then param = "C\sub avg\nosupersub(ng/mL)";

else if index(param,'Max Conc') then param = "C\sub peak\nosupersub(ng/mL)";

else if index(param,'Time of CMAX') then param = "t\sub peak\nosupersub(h)\super
(1)\nosupersub";

if paramn in (1 2 4 5) then id = 1;

else if paramn in (3 6) then id = 2;


if last then call symputx("tpage", page);

run;


%put &tpage;


data tflds.&tflno.;

    set final;

run;


%let n4 = &n1ths;

%let n5 = &n1mcc;

```

```

***output figure dataset end;

options number nodate orientation=landscape /* papersize=&P_PGSize*/ missing=' ';

ods escapechar='$';

%let linetop = \brdrt\brdrs\brdrw30; * needs to be 1.5pt so calculated in twips (1/20 pt) ;

%let linebot = \brdrb\brdrs\brdrw30;


ods path stdlib.t106331 (read) ;

ods results off;

ods rtf toc_data/* contents*/ file="/cvn/projects/prj/data/000000106343/TFL/dev/Tables/&tflno..rtf"
style=t106331 startpage=yes headery=1440 footery=1440 ;

ods noproctitle;

%do i=1 %to &tpage;


title ;

footnote;

%let wd=0;

ods proclabel = ' ';


data comp;

    set final end=eof;

    where page=&i;

    _firtitl="&t_title";

    call symput('_FSRTITL', trim(left(_firtitl)));

    call symput('param1', strip(param1));

```

```

drop _firtitl ;

run;

ods listing close;

* most set up in template others below;

* title arial 12pt bold with 12pt paragraph space below;

* all headers to be arial 11pt bold;

* data arial 10pt;

* headers to be central, text values left aligned and numeric centered around decimal point;

/* Update with your variables as needed */

proc report data = comp headline headskip nowd spacing=1 split = '$' %if &i=1 %then %do; contents=' '
%end; %else %do; contents="" %end;;;

column page paramn avisitn param txtn txt trt_4 trt_5;

define paramn / order order = internal noprint;

define page / order order = internal noprint;

define avisitn / order order = internal noprint;

define txtn / order order = internal noprint;

define param /"Variable" order order=internal style={just=left cellwidth=0.9cm}
style(header)={just=left} ;

define txt /"Statistic" display style={just=left cellwidth=1.9cm}
style(header)={just=left} ;

define trt_4 /"THSm2.2$(N=&N4)" display style={JUST=c cellwidth=1.3cm}
style(header)={just=center} ;

```

```

        define trt_5      /"mCC$(N=&N5)" display style={just=c cellwidth=1.3cm}
style(header)={just=center} ;

compute after paramn;

        line " ";

endcomp;

compute before _page_ / style={just=left protectspecialchars=off};

        line "\b\fs24\sa24&_FSRTITL." ; * \b = bold, \fs24 is font size 12pt, \sa24 is space after 12pt;

        line "&linebot";

endcomp;

compute before page / style={just=left protectspecialchars=on fontweight=bold fontsize=11pt};

        line " &param1";

endcomp;

compute after _page_ / style={just=left protectspecialchars=off pretext="&linetop."};

        line 'Note: mCC = Menthol Conventional cigarettes; SA = Smoking abstinence; THSm2.2
= Tobacco Heating System 2.2 Menthol.';

        line "&append";

        line "Study ID: ZRHM-REXA-08-US" " " "Program: &pgname" " " "Status: &status"
" " "&sysdate" " " "(Page &i of &tpage)";

endcomp;

run;

%end;

ods rtf close;

ods results on;

```

```
ods path sashelp.tmplmst (read);
```

```
%mend;
```

```
***For table 15.2.4.20.1;
```

```
%t_desc_nc_pk(      t_name=T_15_02_04_21_01,
                    dsin=adpp,
                    pop=pp,
                    conf1=%str(if anl01fl = 'Y' and pprot1fl = 'Y' and avisitn = 105;),
                    by_var1=paramn paramcd param avisitn avisit,
                    append=%str(Appendix 15.3.3.4),
                    t_title=%str(Table 15.2.4.21.1 Descriptive Statistics of Plasma Nicotine and
Cotinine PK Parameters on Day 5 - PP Set))
```

```
;
```

```
***For table 15.2.4.20.1;
```

```
%t_desc_nc_pk(      t_name=T_15_02_04_21_02,
                    dsin=adpp,
                    pop=fas,
                    conf1=%str(if anl01fl = 'Y' and fasfl = 'Y' and avisitn = 105;),
                    by_var1=paramn paramcd param avisitn avisit,
                    append=%str(Appendix 15.3.3.4),
                    t_title=%str(Table 15.2.4.21.2 Descriptive Statistics of Plasma Nicotine and
Cotinine PK Parameters on Day 5 - FAS))
```


;

proc printto ;

run;

ods listing;

options quotelenmax;

proc datasets kill lib=work memtype=data;run;

***check the log, if there is any findings, please make sure to resolve;

%m_chklog(TFL_part=dev,pgm_type=tables,pgm_name=t_desc_nc_pk,serv=dev,covstudyid=000000106
343);