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/*=====
| Covance Study Number   : 000000106343
| Program Name           : t_neq24pp.sas
| Purpose                 : Program to table 14.2.4.18.1
| Input Data              : ADAM.ADSL, ADAM.ADBX
| Output Data             : T_14_02_04_18_01
| Macros Called           :
| Originally Performed by :Deepthi Pippalla
| Date                   : 28APR2015
|
|=====
| Modification History
|-----
| Modified by            :
| Modification Date      :
| Modification Description :
+=====*/

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

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%m_printto;
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proc sql;
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select count(distinct usubjid) into: N1THS from adam.adsl(where=(trt01an = 4 and pprot1f1 = "Y"));
select count(distinct usubjid) into: N1MCC from adam.adsl(where=(trt01an = 5 and pprot1f1 = "Y"));
select count(distinct usubjid) into: N1SAA from adam.adsl(where=(trt01an = 3 and pprot1f1 = "Y"));

select count(distinct usubjid) into: N2THS from adam.adsl(where=(trt01an = 4 and pprot2f1 = "Y"));
select count(distinct usubjid) into: N2MCC from adam.adsl(where=(trt01an = 5 and pprot2f1 = "Y"));
select count(distinct usubjid) into: N2SAA from adam.adsl(where=(trt01an = 3 and pprot2f1 = "Y"));

select count(distinct usubjid) into: N3THS from adam.adsl(where=(trt01an = 4 and pprot3f1 = "Y"));
select count(distinct usubjid) into: N3MCC from adam.adsl(where=(trt01an = 5 and pprot3f1 = "Y"));
select count(distinct usubjid) into: N3SAA from adam.adsl(where=(trt01an = 3 and pprot3f1 = "Y"));

select count(distinct usubjid) into: N4THS from adam.adsl(where=(trt01an = 4 and pprot4f1 = "Y"));
select count(distinct usubjid) into: N4MCC from adam.adsl(where=(trt01an = 5 and pprot4f1 = "Y"));
select count(distinct usubjid) into: N4SAA from adam.adsl(where=(trt01an = 3 and pprot4f1 = "Y"));

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quit;
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```
%macro table(where = , tfl = , title1 = );
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%let tflno=&tfl.;
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/* Standard - leave this */
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%let TFL_Part=%scan(&_SASPROGRAMFILE,-3,%str(/));
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/* Standard - leave this */
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data _null_;
    tmp="&TFL_Part";
    if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");
    call symput('TFLpath', compress("&_SASPROGRAMFILE", ""));
    call symput('TFLprg', reverse(scan(strip(reverse(compress("&_SASPROGRAMFILE", ""))),1,"/")));
run;

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```

data adbx_1;
set adam.adbx;
where (pprot1f1 = "Y" and 101<=avisitn <= 105) or (pprot2f1 = "Y" and avisitn = 130) or (pprot3f1 = "Y" and avisitn = 160) or (pprot4f1 = "Y" and avisitn = 190);
if &where. and an102f1 = "Y";
if pbasef1= "Y";
run;

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data adbx_2;
set adam.adbx;
if &where. and an102f1 = "Y";
if ab1f1 = "Y" and pprot1f1 = "Y" then do;
    avisitn = 10;

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avisit = "Baseline";
apuper = 1;
apuperc = "Period 1";
output;
end;
if ablf1 = "Y" and pprot2f1 = "Y" then do;
avisitn = 10;
avisit = "Baseline";
apuper = 2;
apuperc = "Period 2";
output;
end;
if ablf1 = "Y" and pprot3f1 = "Y" then do;
avisitn = 10;
avisit = "Baseline";
apuper = 3;
apuperc = "Period 3";
output;
end;
if ablf1 = "Y" and pprot4f1 = "Y" then do;
avisitn = 10;
avisit = "Baseline";
apuper = 4;
apuperc = "Period 4";
output;
end;
run;

data adbx;
set adbx_1 adbx_2;
run;

proc sort data=adbx;
by trtan paramn param apuper apuperc avisitn avisit atptn atpt;
run;

data n;
length txt $200.;
set adbx;
where aval = .;
txtn = 2;
txt = "<Missing, n(%)>";
output;
if index(avalc, "<") > 0 then do;
txtn = 3;
txt = "<BL00, n(%)>";
output;
end;
if index(avalc, ">") > 0 then do;
txtn = 4;
txt = "<AL00, n(%)>";
output;
end;
run;

proc sort data=n out=n1 nodupkey dupout=dup;
by usubjid paramn avisitn txtn ;
run;

proc freq data=n1 noprint;
tables paramn*param*apuper*apuperc*avisitn*avisit*atptn*atpt*txtn*txt*trtan/out=n_freq;
run;

data n_freq;
length countx $50.;
set n_freq;
countx = strip(put(count, best.));
run;

proc sort data=n_freq;
by paramn param apuper apuperc avisitn avisit atptn atpt txtn txt;
run;

proc transpose data=n_freq out=n_freq_t prefix=trt_;
by paramn param apuper apuperc avisitn avisit atptn atpt txtn txt;
var countx;
id trtan;
run;

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data n_freq_t;
set n_freq_t;
where paramn ne .;
run;

proc sort data=adbx;
by trtan paramn param apuper apuperc avisitn avisit atptn atpt ;
run;

proc means data=adbx(where=(aval ne .)) noprint;
var aval;
by trtan paramn param apuper apuperc avisitn avisit atptn atpt ;
output out=aval n =n mean = mean std = std median = median min = min max = max q1 = q1 q3 = q3 lclm = lclm uclm = uclm;
run;

data aval1;
set aval;
if lclm ne . then lclmx = 0.01*floor(100*lclm);
if uclm ne . then uclmx = 0.01*ceil(100*uclm);
length median1 Q2575 Minmax Meansd CIAM n1 $50.;
if median ne . then median1 = strip(put(round(median, 0.01), 15.2));
q2575 = strip(put(round(q1, 0.01), 15.2))||", "||strip(put(round(q3, 0.01), 15.2));
minmax = strip(put(round(min, 0.1), 15.1))||", "||strip(put(round(max, 0.1), 15.1));
if std ne . then meansd = strip(put(round(mean, 0.01), 15.2))||", "||strip(put(round(std, 0.001), 16.3))||", ";
else meansd = strip(put(round(mean, 0.01), 15.2))||", (NA)";
if nmiss(lclm, uclm) = 0 then ciam = strip(put(lclmx, 15.2))||", "||strip(put(uclmx, 15.2));
else if lclm = . and uclm ne . then ciam = "NA, "||strip(put(uclmx, 15.2));
else if lclm ne . and uclm = . then ciam = strip(put(lclmx, 15.2))||", NA";
else if lclm = . and uclm = . then ciam = "NA, NA";
n1 = strip(put(n, best.));
run;

proc sort data=aval1;
by paramn param apuper apuperc avisitn avisit atptn atpt ;
run;

proc transpose data=aval1 out=aval_t prefix= trt_;
by paramn param apuper apuperc avisitn avisit atptn atpt ;
var n1 median1 q2575 minmax meansd ciam;
id trtan;
run;

data aval_t;
length txt $200.;
set aval_t;
if upcase(_name_) = "N1" then do;
txtn = 1;
txt = "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 = "Arithmetic Mean (SD)";
end;
else if upcase(_name_) = "CIAM" then do;
txtn = 11;
txt = "95% CI of Arithmetic Mean";
end;
run;

data adbx_log;
set adbx;
if aval ne . then logaval = log(aval);
run;

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proc sort data=adbx_log;
by trtan paramn param apuper apuperc avisitn avisit atptn atpt ;
run;

proc means data=adbx_log noprint;
by trtan paramn param apuper apuperc avisitn avisit atptn atpt ;
output out=aval_log mean = mean std = std lclm = lclm uclm = uclm;
var logaval;
run;

data aval_log1;
set aval_log;
length geocv CIGM $50.;
if lclm ne . then lclmx = 0.01*floor(lclm * 100);
if uclm ne . then uclmx = 0.01*ceil(uclm * 100);
if std ne . then cv_pct=100*sqrt(exp(std*std)-1) ;
if cv_pct ne . then geocv = strip(put(round(mean,0.01), 15.2))||" ("||strip(put(round(cv_pct, 0.001), 16.3))||")";
else geocv = strip(put(round(mean,0.01), 15.2))||" (NA)";
if nmiss(lclm, uclm) = 0 then CIGM = strip(put(lclmx, 15.2))||", "||strip(put(uclmx, 15.2));
else if lclm = . and uclm ne . then CIGM = "NA, "||strip(put(uclmx, 15.2));
else if lclm ne . and uclm = . then CIGM = strip(put(lclmx, 15.2))||", NA";
else if lclm = . and uclm = . then CIGM = "NA, NA";
run;

proc sort data=aval_log1 ;
by paramn param apuper apuperc avisitn avisit atptn atpt;
run;

proc transpose data=aval_log1 out=aval_log1_t prefix= trt_;
by paramn param apuper apuperc avisitn avisit atptn atpt ;
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 n_freq_t aval_log1_t;
run;

proc sort data=aval_f;
by paramn param apuper apuperc avisitn avisit atptn atpt txtn txt;
run;

proc sort data=adbx;
by trtan paramn param apuper apuperc avisitn avisit atptn atpt ;
run;

data n_chg;
length txt $200.;
set adbx;
where pchg = .;
txtn = 2;
txt = "<Missing, n(%)>";
output;
run;

proc sort data=n_chg out=n1_chg nodupkey dupout=dup;
by usubjid paramn avisitn txtn ;
run;

proc freq data=n1 noprint;
tables paramn*param*apuper*apuperc*avisitn*avisit*txtn*txt*trtan*atptn*atpt/out=n_chg_freq;
run;

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data n_chg_freq;
length countx $50.;
set n_chg_freq;
countx = strip(put(count, best.));
run;

proc sort data=n_chg_freq;
by paramn param apuper apuperc avisitn avisit atptn atpt txtn txt;
run;

proc transpose data=n_chg_freq out=n_chg_freq_t prefix=chg_;
by paramn param apuper apuperc avisitn avisit atptn atpt txtn txt;
var countx;
id trtn;
run;

data n_chg_freq_t;
set n_chg_freq_t;
where paramn ne .;
run;

proc means data=adbx(where=(pchg ne . and ablfl ne "Y")) noprint;
var pchg;
by trtn paramn param apuper apuperc avisitn avisit atptn atpt;
output out=chg n = n mean = mean std = std median = median min = min max = max q1 = q1 q3 = q3 lclm = lclm uclm = uclm;
run;

data chg1;
set chg;
if lclm ne . then lclmx = 0.01*floor(100*lclm);
if uclm ne . then uclmx = 0.01*ceil(100*uclm);
length median1 Q2575 Minmax Meansd CIAM n1 $50.;
if median ne . then median1 = strip(put(round(median, 0.01), 15.2));
q2575 = strip(put(round(q1, 0.01), 15.2))||", "||strip(put(round(q3, 0.01), 15.2));
minmax = strip(put(round(min, 0.1), 15.1))||", "||strip(put(round(max, 0.1), 15.1));
if std ne . then meansd = strip(put(round(mean, 0.01), 15.2))||" ("||strip(put(round(std, 0.001), 16.3))||")";
else meansd = strip(put(round(mean, 0.01), 15.2))||" (NA)";
if nmiss(lclm, uclm) = 0 then ciam = strip(put(lclmx, 15.2))||", "||strip(put(uclmx, 15.2));
else if lclm = . and uclm ne . then ciam = "NA, "||strip(put(uclmx, 15.2));
else if lclm ne . and uclm = . then ciam = strip(put(lclmx, 15.2))||", NA";
else if lclm = . and uclm = . then ciam = "NA, NA";
n1 = strip(put(n, best.));
run;

proc sort data=chg1;
by paramn param apuper apuperc avisitn avisit atptn atpt ;
run;

proc transpose data=chg1 out=chg_t prefix= chg_;
by paramn param apuper apuperc avisitn avisit atptn atpt ;
var n1 median1 q2575 minmax meansd ciam;
id trtn;
run;

data chg_t;
length txt $200.;
set chg_t;
if upcase(_name_) = "N1" then do;
txtn = 1;
txt = "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 = "Arithmetic Mean (SD)";
end;

```

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else if upcase(_name_) = "CIAM" then do;
txtn = 11;
txt = "95% CI of Arithmetic Mean";
end;
run;

data chg_f;
set chg_t n_chg_freq_t ;
run;

proc sort data=chg_f;
by paramn param apuper apuperc avisitn avisit atptn atpt txtn txt;
run;

proc sort data=aval_f;
by paramn param apuper apuperc avisitn avisit atptn atpt txtn txt;
run;

data final;
length period $200.;
merge aval_f chg_f(drop=_name_);
by paramn param apuper apuperc avisitn avisit atptn atpt txtn txt;
if apuper = 1 then do;
period = "Period 1";
THS = &N1THS;
mcc = &N1mcc;
sa = &N1saa;
end;
else if apuper = 2 then do;
period = "Period 2";
ths = &n2ths;
mcc = &n2mcc;
sa = &n2saa;
end;
else if apuper = 3 then do;
period = "Period 3";
ths = &n3ths;
mcc = &n3mcc;
sa = &n3saa;
end;
else if apuper = 4 then do;
period = "Period 4";
ths = &n4ths;
mcc = &n4mcc;
sa = &n4saa;
end;
if txtn in (2,3,4) then do;
if trt_3 ne " " then num_3 = input(trt_3, best.);
if trt_4 ne " " then num_4 = input(trt_4, best.);
if trt_5 ne " " then num_5 = input(trt_5, best.);
if num_3 ne . then pp_3 = strip(put(round((num_3/sa)* 100, 0.1), 15.1));
if num_4 ne . then pp_4 = strip(put(round((num_4/ths)*100, 0.1), 15.1));
if num_5 ne . then pp_5 = strip(put(round((num_5/mcc)*100, 0.1), 15.1));
trt_3 = strip(trt_3)||" ("||strip(pp_3)||)";
trt_4 = strip(trt_4)||" ("||strip(pp_4)||)";
trt_5 = strip(trt_5)||" ("||strip(pp_5)||)";

if chg_3 ne " " then chgnum_3 = input(chg_3, best.);
if chg_4 ne " " then chgnum_4 = input(chg_4, best.);
if chg_5 ne " " then chgnum_5 = input(chg_5, best.);
if chgnum_3 ne . then ppnum_3 = strip(put(round((chgnum_3/sa)* 100, 0.1), 15.1));
if chgnum_4 ne . then ppnum_4 = strip(put(round((chgnum_4/ths)*100, 0.1), 15.1));
if chgnum_5 ne . then ppnum_5 = strip(put(round((chgnum_5/mcc)*100, 0.1), 15.1));
chg_3 = strip(chg_3)||" ("||strip(ppnum_3)||)";
chg_4 = strip(chg_4)||" ("||strip(ppnum_4)||)";
chg_5 = strip(chg_5)||" ("||strip(ppnum_5)||)";

end;

run;

proc sql;
create table page as
select distinct apuper, apuperc, paramn, avisitn
from final
order by paramn, apuper, avisitn;
quit;

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data page1;
set page;
by paramn apuper avisitn;
if _n_ = 0 then page = 0;
page+ 1;
run;

/*data page;*/
/*set page;*/
/*if avisitn in (10,101) then seq = 1;*/
/*else if avisitn in (102, 103) then seq = 2;*/
/*else if avisitn in (104, 105) then seq = 3;*/
/*else if avisitn in (129,130) then seq = 4;*/
/*else if avisitn in (159,160) then seq = 5;*/
/*else if avisitn in (189,190) then seq = 6;*/
/*run;*/
/**/
/*proc sql;*/
/*create table page1 as*/
/*select distinct paramn, seq*/
/*from page */
/*order by paramn, seq;*/
/*quit;*/
/**/
/*data page1;*/
/*set page1;*/
/*by paramn seq;*/
/*if _n_ = 0 then page = 0;*/
/*page + 1;*/
/*run;*/

proc sql;
/*create table page2 as*/
/*select distinct a.*, page*/
/*from page as a*/
/*left join page1 as b*/
/*on a.paramn = b.paramn and a.seq = b.seq*/
/*order by paramn, apuper, avisitn;*/

create table final_page as
select distinct a.*, b.page
from final as a
left join page1 as b
on a.paramn = b.paramn and a.avisitn = b.avisitn and a.apuper = b.apuper
order by paramn, apuper, avisitn, txtn;
quit;

data final_page;
set final_page end=last;
by paramn apuper avisitn txtn;
if last then call symputx("page", page);
run;

data tflds.&tfldno(keep=txt txtn avisitn avisit paramn param trt_3 trt_4 trt_5 chg_3 chg_4 chg_5);
set final_page;
run;

%put &page;

/* Standard - leave this */
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;
/* Standard - macro for paging */
%macro outrtf(blankn=130, halfblnk=N);

%if &halfblnk=N %then %let halfblnk=;
%else %if &halfblnk=Y %then %let halfblnk=-;

ods path stdlib.t106343 (read) ;
ods results off;

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ods rtf toc_data/* contents*/ file="/cvn/projects/prj/data/000000106343/TFL/&TFL_Part./Tables/&tflno..rtf" style=t106343 startpage=y
es headery=1440 footery=1440 ;
ods noproctitle;
%do i=1 %to &page;

title ;
footnote;
%let wd=0;
ods proclabel = ' ';

data comp;
    set final_page end=eof;
    where page=&i;

    /* Amend title as needed */
    _firtitl="%title1.";
    _upcas=(length("Path: &TFLpath.")-length(compress("Path:&TFLpath.",'ABCDEFGHIJKLMNOPQRSTUVWXYZ')))/2;
    len=&blankn.-length("(page &i of &page)");
    if eof then do;
        call symput('_FSRTITL', trim(left(_firtitl)));
        call symput('_blankn', compress(put(len,best.)));
        call symput('period', strip(apuperc));
        call symput('param', strip(param));
        call symput('N3', strip(put(sa, best.)));
        call symput('N4', strip(put(ths, best.)));
        call symput('N5', strip(put(mcc, best.)));
    end;
    drop _firtitl _upcas len;
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 split = '$' %if &i=1 %then %do; contents=' ' %end; %else %do; contents='' %end;;;
column page paramn apuper avisitn avisit txtn txt ("THSm2.2$(N=&N4)$&linebot" trt_4 chg_4 ) ("mCC$(N=&N5)$&linebot" trt_5 chg_5)
("SA$(N=&N3)$&linebot" trt_3 chg_3);
define paramn / order order = internal noprint;
define page / order order = internal noprint;
define avisitn / order order = internal noprint;
define apuper / order order = internal noprint;

define txtn / order order = internal noprint;
define avisit / "Timepoint" 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_3 / "Value" display style={JUST=c cellwidth=1.2cm} style(header)={just=center} ;
define trt_4 / "Value" display style={just=c cellwidth=1.2cm} style(header)={just=center} ;
define trt_5 / "Value" display style={just=c cellwidth=1.2cm} style(header)={just=center};
define chg_3 / "% Change(*)" display style={JUST=c cellwidth=1cm} style(header)={just=center};
define chg_4 / "% Change(*)" display style={just=c cellwidth=1cm} style(header)={just=center};
define chg_5 / "% Change(*)" display style={just=c cellwidth=1cm} style(header)={just=center};

/* break before page/ page %if &i=1 %then %do; */
/* contents="&_fsrtitl" %end; %else %do; contents='' %end;;*/

compute after avisitn;
line " ";
endcomp;

/* compute before page / style={protectspecialchars=off};*/
/* line "&linetop";*/
/* 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;

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line " ";
line "Parameter (units):&param";
LINE "Product Use Time Period: &period";
line "&linebot";
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 'Note: * % Change from baseline, where baseline is defined as the last assessment prior to first randomized product use in mC
C / THS 2.2 Menthol arms or the last assessment prior to 10AM on Day 1 in the SA arm';
line 'Appendix 15.3.x.x';
line "Study ID:ZRHM-REXA-07-JP      Program:&TFLprg      Status: &status" &_blankn.*"\~\~" "&sysdate" &_blankn.*"\~\~" "(Page &
i of &page)";
/* line "Path: &TFLpath." &_blankn.*"\~\~" "(Page &i of &page)"; */
/* line "Program Run: &sysdate &sysuserid Program Status: &status"; */
endcomp;
run;
%end;
ods rtf close;
ods results on;
ods path sashelp.tmplmst (read);

%mend ;

%outrtf(blankn=36, halfblnk=N);
ods listing;

%mend;

%table(where = %str(paramcd in ("UNEQ24U" "UNEQCRE")), tfl = %str(T_15_02_04_18_01), title1 = %str(Table 15.2.4.18.1 Descriptive Sta
tistics of NEQ in 24-hour Urine Collection - PP Set));
/*%table(where = %str(paramcd in ("USBMA24U" "USBMACRE")), tfl = %str(T_15_02_04_17_01), title1 = %str(Table 15.2.4.17.1 Descriptive
Statistics of S-BMA in 24-hour Urine Collection - PP Set));*/
/*%table(where = %str(paramcd in ("UHMPMCRE" "UHMPM24U")), tfl = %str(T_15_02_04_16_01), title1 = %str(Table 15.2.4.16.1 Descriptive
Statistics of HMPMA in 24-hour Urine Collection - PP Set));*/
/*%table(where = %str(paramcd in ("UBAPCRE" "UBAP24U")), tfl = %str(T_15_02_04_15_01), title1 = %str(Table 15.2.4.15.1 Descriptive S
tatistics of B[a]P in 24-hour Urine Collection - PP Set));*/

%m_logchk;

```