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*****;
* Project          : ZRHM-REXA-07-JP
*
* Program name     : t1502041901_ZRHM-REXA-07_V1.sas
*
* Author          : M. SUN
*
* Date created     : 06/3/2015
*
* Purpose         : Table 15.2.4.19.1
*
* Revision History :
*
* Date      Author      Ref      Revision (Date in YYYYMMDD format)
*
*****;

%let prgname=T1502041901_ZRHM_REXA_07_JP_V1;

options mprint;
ods escapechar='^';

options sasautos=( "W:\pmp07\macros" sasautos) notes;
%init(delivery=9);
%titlecsv(prgname=&prgname., version=3);
%put &endpoint;

*libname adam 'W:\pmp07\Data\ADAM' access=readonly;

%macro t_desc_ms_1(par=,pop=,period=,chg=,sec=);

proc sort data=adam.adpc(keep=usubjid paramcd param APUPER avisitn avisit ATPTN ATPT aval &chg ablf1 BLOQFL
anl01f1 anl02f1) out=_adbx;
where paramcd in ("&par") and anl01f1='Y';
by usubjid;
run;

%do i=1 %to 4; /* for 4 period*/

data _pop1 _pop2 _pop3 _pop4;
set adam.adsl;
if %if &pop=fas %then &pop.fl; %else &pop&i.fl; ='Y';
if trt01p='THSm2.2' then output _pop1;
else if trt01p='mCC' then output _pop2;
else if trt01p='SA' then output _pop3;
output _pop4;
keep usubjid;
run;

data _adbx&i;
set _adbx;
if _n_=1 then call symputx("para",param);
if aval ne 0 then logaval=log(AVAL);
if atptn=. then atptn=-999;
if APUPER=&i then output;
if ablf1='Y' then do;
APUPER=0;
output;
end;
run;

proc sort data=_adbx&i;
by usubjid APUPER avisitn atptn;
run;

%do j=1 %to 4; /* for 4 groups, including total*/

%global totn&i&j;
data _null_;
set _pop&j end=eof;
if eof then call symputx("totn&i&j",_n_);
run;

%let canotlog=0;
%put &canotlog;
data _data&j;
merge _pop&j(in=x) _adbx&i(in=y);
by usubjid;
if x;
length atime $60;
if apuper=0 then atime='Baseline, 08:00 PM - 09:30 PM';
else if atpt>' ' then atime=strip(propcase(avisit))||', '||strip(propcase(atpt));
else atime=propcase(avisit);

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    if aval=0 then call symputx('canotlog',1);
run;
%put &canotlog;
proc sort data=_data&j;
    by apuper avisitn atptn atime;
run;

proc means data = _data&j noprint;
    where aval>.;
    by apuper avisitn atptn atime;
    var aval;
    output out=temp&j n=n mean=mean std=std median=median min=min max=max q1=q1 q3=q3 lclm=lclm uclm=uclm;
run;

proc means data = _data&j noprint;
    where logaval>.;
    by apuper avisitn atptn atime;
    var logaval;
    output out=templog&j mean=logmean std=logstd lclm=loglclm uclm=loguclm;
run;

proc freq data=_data&j noprint;
    tables apuper*avisitn*atptn*atime/out=tempBLO&j(rename=(count=blcount));
    where BLOQFL='Y';
run;
/*
proc freq data=_data&j noprint;
    tables apuper*avisitn*atptn*atime/out=tempaul&j(rename=(count=auccount));
    where AULQFL='Y';
run;
*/
data _res&j.1;
merge temp&j templog&j tempBLO&j(where=(blcount>0)) /* tempaul&j(where=(auccount>0)) */;
    by apuper avisitn atptn atime;
    length col&j.1 $20 stat $40;
    ord=1; stat='n'; col&j.1 = put(n, 8.); output;
    if 0<n<&&totn&i&j then do;
        ord=2; stat='Missing, n (%)'; col&j.1 = put(&&totn&i&j-n, 8.)||' ('||strip(put((&&totn&i&j-n)/&&totn&i&j*100, 5.1))|
'|)'; output;
    end;
    if blcount=. then blcount=0;
    ord=3; stat='BLOQ, n (%)';
    if blcount>0 then col&j.1 = put(blcount, 8.)||' ('||strip(put(blcount/&&totn&i&j*100, 5.1))||)';
    else col&j.1 = put(blcount, 8.); output;
/*
    if auccount>0 then do;
        ord=4; stat='ALQ, n (%)'; col&j.1 = put(auccount, 8.)||' ('||strip(put(auccount/&&totn&i&j*100, 5.1))||)'; output;
    end;
*/
    geomean = exp(logmean); /* Ratio of geometric mean */
    geoLCL = exp(loglclm); /* 95% CI lower bound */
    geoUCL = exp(loguclm); /* 95% CI upper bound */
    CVperc=100*sqrt(exp(logstd**2)-1);

    ord=5; stat='Geometric Mean (CV%)'; col&j.1=strip(put(round(geomean,0.01), 8.2))||' ("||strip(put(round(ceil(CVperc*10
0)/100,0.01), 8.2))||)"; output;
    ord=6; stat='95% CI of Geometric Mean'; col&j.1=strip(put(round(floor(geoLCL*100)/100,0.01), 8.2))||', '||strip(put(ro
und(ceil(geoUCL*100)/100,0.01), 8.2)); output;

    ord=7; stat='Median'; col&j.1 =put(round(median,0.01), 8.2); output;
    ord=8; stat='Q25, Q75'; col&j.1 =strip(put(round(q1,0.01),8.2))||', '||strip(put(round(q3,0.01), 8.2)); output;
    ord=9; stat='Min, Max'; col&j.1 = strip(put(round(min,0.1), 8.1))||', '||strip(put(round(max,0.1), 8.1)); output;
    ord=10; stat='Mean (SD)';
    if std > . then col&j.1 = strip(put(round(mean,0.01), 8.2))||' ('||strip(put(round(ceil(std*1000)/1000,0.001), 8.3))|
'|)';
    else col&j.1 = strip(put(round(mean,0.01), 8.2))||' (NA)'; output;
    ord=11; stat='95% CI of Mean';
    col&j.1 =strip(put(round(floor(lclm*100)/100,0.01), 8.2))||', '||strip(put(round(ceil(uclm*100)/100,0.01), 8.2)); outp
ut;
run;

/***** change*****/

proc means data = _data&j noprint;
    where &chg>. and apuper>0;
    by apuper avisitn atptn atime;
    var &chg;
    output out=tempc&j n=n mean=mean std=std median=median min=min max=max q1=q1 q3=q3 lclm=lclm uclm=uclm;
run;

data _res&j.2;
set tempc&j;
    by apuper avisitn atptn atime;
    length col&j.2 $20 stat $40;
    ord=1; stat='n'; col&j.2 = put(n, 8.); output;
    if 0<n<&&totn&i&j then do;

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ord=2; stat='Missing, n (%)'; col&j.2 = put(&&totn&i&j-n, 8.)||' ('||strip(put((&&totn&i&j-n)/&&totn&i&j*100, 5.1))|
|')'; output;
end;

ord=7; stat='Median'; col&j.2 =put(round(median,0.01), 8.2); output;
ord=8; stat='Q25, Q75'; col&j.2 =strip(put(round(q1,0.01),8.2))||', '||strip(put(round(q3,0.01), 8.2)); output;
ord=9; stat='Min, Max'; col&j.2 = strip(put(round(min,0.1), 8.1))||', '||strip(put(round(max,0.1), 8.1)); output;
ord=10; stat='Mean (SD)';
if std > . then col&j.2 = strip(put(round(mean,0.01), 8.2))||' ('||strip(put(round(ceil(std*1000)/1000,0.001), 8.3))|
|')';
else col&j.2 = strip(put(round(mean,0.01), 8.2))||' (NA)'; output;
ord=11; stat='95% CI of Mean';
col&j.2 =strip(put(round(floor(lclm*100)/100,0.01), 8.2))||', '||strip(put(round(ceil(uc1m*100)/100,0.01), 8.2)); outp
ut;
keep apuper avisitn atptn atime ord col&j.2;
run;

%end;

data _res&i;
merge _res11 _res21 _res31 _res12 _res22 _res32;
by apuper avisitn atptn atime ord;
period=&i;
run;

%end;

data &par;
set _res1-_res4;
by period apuper avisitn atptn atime ord;
length para $100;
para="&para";
sec=&sec;
if ord in (4) then delete;

keep sec period apuper avisitn atptn atime ord stat para col;;
run;

data &par;
set &par;
by period apuper avisitn atptn atime ord;

lagcol11=lag(col11);
lagcol21=lag(col21);
lagcol31=lag(col31);

array cols[3] col11 col21 col31 ;
array lagcols[3] lagcol11 lagcol21 lagcol31 ;

if ord in (2) then do i=1 to 3;
if cols[i]='' and lagcols[i]>' then cols[i]='0';
end;
keep sec period apuper avisitn atptn atime ord stat para col;;
run;

proc datasets library=work memtype=data nolist;
delete _: temp;;
run;quit;

%mend;

options missing="";

%t_desc_ms_1(par=NIC,pop=pprot,period=%str(1,2,3,4),chg=PCHG,sec=1);
%t_desc_ms_1(par=COT,pop=pprot,period=%str(1,2,3,4),chg=PCHG,sec=2);

%macro doreport;
data final;
set nic cot;
array cols col;;
do over cols;
cols=strip(cols);
end;
atime=tranwrd(atime,'Pm','PM');
atime=tranwrd(atime,'Am','AM');
if substr(atime,length(atime),1)='H' then substr(atime,length(atime),1)='h';
run;

proc sort data=final;
by sec period apuper avisitn atptn ord;
run;

data final;
set final;
by sec period apuper avisitn atptn ord;
if first.atptn then pagen+1;

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run;

data final;
  set final end=eof;
  by pagen;
  if eof then call symputx("totalpage",pagen);
run;

data odata.&prgname.;
retain pagen para apuper avisitn atptn atime ord stat col11 col21 col31 ;
set final;
run;

%trtrtfpg(pgmname=&outname., pgmid=1, new=0, style=, bookmark=%lowercase(&outname.));

%do i=1 %to &totalpage;

data final&i;
  set final;
  where pagen=&i;
  call symputx("getpara",para);
  call symputx("period",period);
run;

title; footnote;
/*
title1 bold j=1 "&title1 &title2";
title2 " ";
title3 j=1 h=9pt "Product Use Time Period: Period &period";

footnote1 bold h=12pt "_____";
footnote2 j=1 h=9pt "Note: mCC = Menthol conventional cigarettes; SA = Smoking abstinence; THSm2.2 = Tobacco Heating Sys
tem 2.2 Menthol.";
footnote3 j=1 h=9pt " ";
footnote4 h=9pt j=1 "&APPENDIX.";
footnote5 h=9pt j=1 "Study ID:ZRHM-REXA-07-JP          Program: &prgname..sas          Status: &repversion./&fdate.
Page: &i. of &totalpage";
*/

proc report data=final&i headskip headline nowd split='- ' style=[outputwidth=100%] style(header column)=[protectspecialc
hars=off];

  column pagen para apuper avisitn atptn atime ord stat col11 col21 col31;
  define pagen /order order=internal noprint;
  define para /order order=internal noprint;
  define apuper /order order=internal noprint;
  define avisitn /order order=internal noprint;
  define atptn /order order=internal noprint;
  define atime /order "Timepoint" style(column)=[cellwidth=17% just=l] style(header)=[just=l];
  define ord /order order=internal noprint;
  define stat /display "Statistic" style(column)=[cellwidth=11% just=l vjust=b] style(header)=[just=l];
  define col11 /display "THSm2.2~(N=&&totn&period.1)" style(column)=[cellwidth=9% just=c vjust=b];
  define col21 /display "mCC~(N=&&totn&period.2)" style(column)=[cellwidth=9% just=c vjust=b];
  define col31 /display "SA~(N=&&totn&period.3)" style(column)=[cellwidth=9% just=c vjust=b];

COMPUTE before pagen;
LINE @1 " ";
ENDCOMP;

COMPUTE after atptn;
LINE @1 " ";
ENDCOMP;

compute before _page_ /style=[fontweight=bold fontsize=3.75];
line @1 "&title1 &title2";
line @1 " ";
line @1 "Parameter (units): &getpara";
line @1 "Product Use Time Period: Period &period";
line @1 "<R/RTF'<brdrb\brdrs\brdrw30\brsp20\b ' ";
endcomp;

compute after _page_/style=[fontsize=1.75];
line @1 "Note: mCC = Menthol conventional cigarettes; SA = Smoking abstinence; THSm2.2 = Tobacco Heating System 2.2 Ment
hol.";
line @1 "Note: T0 is the time of first product use on the Day";
line @1 " ";
line @1 "&APPENDIX.";
line @1 "Study ID:ZRHM-REXA-07-JP          Program: &fprgname..sas          Status: &repversion./&fdate.          Page: &i.
of &totalpage";

endcomp;

run;
%end;

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ods listing;  
ods rtf close;  
%mend;  
  
%doreport;
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