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*****;
* Project          : ZRHM-REXA-07-JP
*
* Program name     : t15020448_ZRHM-REXA-07_V1.sas
*
* Author           : M. SUN
*
* Date created      : 06/18/2015
*
* Purpose          : Table 15.2.4.48 Descriptive Statistics of Filter Analysis from the THS 2.2 Menthol Products  FAS
*
* Revision History :
*
* Date            Author      Ref      Revision (Date in YYYYMMDD format)
*
*****;

%let prgname=T15020448_ZRHM_REXA_07_JP_V1;

options mprint;
ods escapechar='^';

options sasautos=("W:\pmp07\macros" sasautos) notes;
%init(delivery=9);
%titlecsv(prgname=&prgname., version=5);
%put &endpoint;

options missing="";

data adxt;
  set adam.adxt;
  where paramcd in (/FABUVTAB', 'FNICO', 'FNICOF', 'FNMUVABS', */'MABUVTAB', 'MNICO', 'MNICOF', 'MNMUVABS' /*, 'PABUVTAB',
  'PNICO', 'PNICOF', 'PNMUVABS'*/);
  *if avalc ne 'NA';
  if ablf1='Y' then avisitn=0;;
  * if aval>.;
  atptn=1;
  POS=index(reverse(strip(put(aval,best))),'.');

  IF AVAL>0 then logaval=log(aval);
run;

proc sql;
select paramcd,param, max(pos)-1 as maxdec from adxt group by paramcd,param order by paramcd,param;
quit;

proc sort data=adxt;
by usubjid paramn paramcd;
run;

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

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

%macro t_desc_ms_1(pop=,sec=,dec=4);

%let dec1=%eval(&dec+1);
%let dec2=%eval(&dec+2);

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

data _pop1 _pop2 _pop3 _pop4;
  set adam.adsl;
  if %if &pop=fas %then &pop.f1; %else &pop.&i.f1; ='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;

%do j=1 %to 1; /* 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) adxt(in=y);
  by usubjid;

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if x;
length atime $40;
if apuper=0 then atime='Baseline';
else atime=propcase(avisit);

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

proc means data = _data&j noprint;
by paramcd param avisitn atptn atime usubjid;
var aval;
output out=subjtot&j sum=sum;
run;

data subjtot&j;
set subjtot&j;
logsum=log(sum);
run;

proc means data = subjtot&j noprint;
where sum>.;
by paramcd param avisitn atptn atime;
var sum;
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 = subjtot&j noprint;
where logsum>.;
by paramcd param avisitn atptn atime;
var logsum;
output out=templog&j mean=logmean std=logstd lclm=loglclm uclm=loguclm;
run;

proc freq data=_data&j noprint;
tables paramcd*param*avisitn*atptn*atime/out=tempBL0&j(rename=(count=smkcnt));
run;

proc freq data=_data&j noprint;
tables paramcd*param*avisitn*atptn*atime/out=tempaul&j(rename=(count=anlcnt));
where aval>.;
run;

data _res&j.1;
merge temp&j templog&j tempBL0&j(where=(smkcnt>0)) tempaul&j(where=(anlcnt>0));
by paramcd param avisitn atptn atime;
length col&j.1 $20 stat $40;
ord=1; stat='n (THS 2.2 product smoked)';
if smkcnt>0 then col&j.1 = put(smkcnt, 8.);
else col&j.1='0'; output;
ord=2; stat='n (filters analysed)';
if anlcnt>0 then col&j.1 = put(anlcnt, 8.);
else col&j.1='0'; output;

ord=3; stat='n (subjects)'; col&j.1 = put(n, 8.); output;

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,1E-&dec1), 8.&dec1))||" ("||strip(put(round(ceil(C
Vperc*100)/100,0.01), 8.2)) ||")";
if min=0.0 then col&j.1='NC'; output;
ord=6; stat='95% CI of Geometric Mean'; col&j.1=strip(put(round(floor(geolCL*1E&dec1)/1E&dec1,1E-&dec1), 8.&dec1))||",
"||strip(put(round(ceil(geoUCL*1E&dec1)/1E&dec1,1E-&dec1), 8.&dec1));
if min=0.0 then col&j.1='NC'; output;

ord=7; stat='Median'; col&j.1 =put(round(median,1E-&dec1), 8.&dec1); output;
ord=8; stat='Q25, Q75'; col&j.1 =strip(put(round(q1,1E-&dec1),8.&dec1))||', '||strip(put(round(q3,1E-&dec1), 8.&dec
1)); output;
ord=9; stat='Min, Max'; col&j.1 = strip(put(round(min,1E-&dec), 8.&dec))||', '||strip(put(round(max,1E-&dec), 8.&dec))
; output;

ord=10; stat='Mean (SD)';
if std > . then col&j.1 = strip(put(round(mean,1E-&dec1), 8.&dec1))||' ('||strip(put(round(ceil(std*1E&dec2)/1E&dec2,
1E-&dec2), 8.&dec2))||')';
else col&j.1 = strip(put(round(mean,1E-&dec1), 8.&dec1))||' (NA)'; output;
ord=11; stat='95% CI of Mean';
col&j.1 =strip(put(round(floor(lclm*1E&dec1)/1E&dec1,1E-&dec1), 8.&dec1))||', '||strip(put(round(ceil(uclm*1E&dec1)/1E
&dec1,1E-&dec1), 8.&dec1)); output;

run;

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%end;

data _res&i;
  set _res1;
  by paramcd param avisitn atptn atime ord;
run;

%end;
/*
data &par;
  set _res1;
  by period apuper avisitn atptn atime ord;
run;

data &par;
  set &par;
  by period apuper avisitn atptn atime ord;
  length para $100;
  para="&para";
  sec=&sec;

  lagcol11=lag(col11);
  lagcol12=lag(col12);
  lagcol21=lag(col21);
  lagcol22=lag(col22);
  lagcol31=lag(col31);
  lagcol32=lag(col32);

  array cols[6] col11 col12 col21 col22 col31 col32;
  array lagcols[6] lagcol11 lagcol12 lagcol21 lagcol22 lagcol31 lagcol32;

  if ord in (2) then do;
    if atime='Baseline' then do i=1,3,5;
      if cols[i]='' and lagcols[i]>' ' then cols[i]='0';
    end;
    else do i=1 to 6;
      if cols[i]='' and lagcols[i]>' ' then cols[i]='0';
    end;
  end;
  keep sec period apuper avisitn atptn atime ord stat para col;;
run;

data &par;
  set &par;
  by period apuper avisitn atptn atime ord;
  length para $100;
  para="&para";
  sec=&sec;

  lagcol11=lag(col11);
  lagcol12=lag(col12);
  lagcol21=lag(col21);
  lagcol22=lag(col22);
  lagcol31=lag(col31);
  lagcol32=lag(col32);

  array cols[6] col11 col12 col21 col22 col31 col32;
  array lagcols[6] lagcol11 lagcol12 lagcol21 lagcol22 lagcol31 lagcol32;

  if ord in (3) then do i=1,3,5;
    if cols[i]='' and lagcols[i]>' ' then cols[i]='0';
  end;
  keep sec period apuper avisitn atptn atime ord stat para col;;
run;
*/

%mend;

%t_desc_ms_1(pop=fas,sec=1);

%macro doreport;
data final;
  set _res1;
  by paramcd param avisitn atptn;
  array cols col;;
  do over cols;
    cols=strip(cols);
  end;
run;

data fstrow;
  set final;
  by paramcd param avisitn atptn;
  if first.atptn;
  ord=0; stat=''; col11='';

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run;

data final;
  set fstrow final;
  by paramcd param avisitn atptn ord;
run;

data final;
  set final;
  by paramcd param avisitn atptn;
  if first.atptn then pagen+1;
  /*
  if first.atptn then ctpg+1;
  if ctpg>2 or _n_=1 then do;
    pagen+1;
    ctpg=1;
  end;
  */
run;

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

data odata.&prgname.;
retain pagen paramcd param avisitn atptn atime ord stat col11;
set final;
run;

%trtrtf(g(mname=&outname., pgmid=1, new=0, style=, bookmark=%lowercase(&outname.));

%do i=1 %to &totalpage;

data final&i;
  set final;
  where pagen=&i;

run;

title; footnote;
/*
title1 bold j=1 "&title1 &title2";
title2 " ";

title3 j=1 h=9pt "Parameter (units): &getpara";
title4 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 "Note: * % change from baseline, where baseline is defined as the last assessment prior to first ran
domized product use "
"in mCC / THS 2.2 Menthol arms or the last assessment prior to 10 AM on Day 1 in the SA arm.";
footnote4 j=1 h=9pt " ";
footnote5 h=9pt j=1 "&APPENDIX.";
footnote6 h=9pt j=1 "Study ID:ZRHM-REXA-07-JP Program: &prgname...sas Status: &repversion./&date.
Page: &i. of &totalpage";
*/

proc report data=final&i headskip headline nowd split='-' style=[outputwidth=100%] style(header column)=[protectspecial
chars=off];
  column pagen paramcd param avisitn atptn atime ord stat col11;
  define pagen /order order=internal noprint;
  define paramcd /order order=internal noprint;
  define param /order 'Variable(units)' style(column)=[cellwidth=12% just=1 font_weight=bold] style(header)=[just=1];
  define avisitn /order order=internal noprint;
  define atptn /order order=internal noprint;
  define atime /order "Timepoint" style(column)=[cellwidth=12% just=1 vjust=b] style(header)=[just=1];
  define ord /order order=internal noprint;
  define stat /display "Statistic" style(column)=[cellwidth=17% just=1 vjust=b] style(header)=[just=1];
  define col11 /display "THSm2.2-(N=&totn11)" style(column)=[cellwidth=15% 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 " ^R/RTF'\brdrb\brdrs\brdrw30\brsp20\b ' ";
endcomp;

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compute after _page_/style=[fontsize=1.75];
line @1 "Note: THS = Tobacco Heating System.";
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;

ods listing;
ods rtf close;
%mend;

%doreport;
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