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/*=====
| Covance Study Number      : 000000106343      |
| Program Name              : f_mceq_ls_fas.sas  |
| Purpose                   : Figure 15.1.2.7.2   |
| Input Data                : tflds.t_15_02_04_55_02_f |
| Output Data               : F_15_01_02_07_02    |
| Macros Called             :                    |
| Originally Performed by   :Jyothsna Reddy      |
| Date                     : 28MAY2015          |
|=====
| Modification History
|-----
| Modified by              :
| Modification Date        :
| Modification Description :
+=====*/

options replace;
proc datasets lib=work kill memtype=data nolist;
run;
%m_printto;
%let tflno=F_15_01_02_07_02;

/* Standard - leave this */
%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;

options notes source source2 nofullstimer validvarname=upcase
nonumber nodate orientation=portrait missing=' ';
ods graphics on; /* As we are effectively using ODS graphics we need to ensure that it is turned on */
ods graphics / height=12cm width=16cm noborder; /* Removes border around the image */
ods path reset;
/* please include styles template */
%include "/cvn/projects/prj/development/000000106343/dev/figures/figtplt.sas";

ods rtf toc_data file="/cvn/projects/prj/data/000000106343/TFL/dev/Tables/&tflno..rtf" style=t106343_g1 startpage=yes headery=1440 footery=1440 ;

ods exclude all;

data forest;
    length trta $50;
    set tflds.t_15_02_04_55_02_f;
    trta=diffotyp;
if TRTA="THSm2.2vs.mCC" then TRTAN=1;
if TRTA="THSm2.2vs.SA" then TRTAN=2;

    if not missing(TRTA);
    output;
run;

proc sort data=forest out=forest1;
    by paramn ;
run;
proc sort data=forest out=uqparam nodupkey;
    by paramn ;
run;

data extra(keep=paramn param trta trtan avisitn);
    set uqparam;
    avisitn=100;
    TRTA="THSm2.2vs.mCC" ;
    TRTAN=1;
    output;
run;

data dforest1(keep= param paramn avisit1 trtan trta avisitn avisit mean LCLM UCLM gmean tpt);
format gmean 6.2;
length tpt 3 avisit1 8;
    set forest1(rename=(upper=uc1m lower=lclm ESTIMATE=mean)) extra;

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IF avisitn=100 THEN avisit1=0;
IF avisitn=98 THEN avisit1=0;
IF avisitn=10 THEN avisit1=0;
IF avisitn=101 THEN avisit1=1;
IF avisitn=102 THEN avisit1=2;
IF avisitn=103 THEN avisit1=3;
IF avisitn=104 THEN avisit1=4;
IF avisitn=105 THEN avisit1=5;
IF avisitn=130 THEN avisit1=6;
IF avisitn=160 THEN avisit1=7;
IF avisitn=190 THEN avisit1=8;
    if not missing(lclm) then lclmx = 0.1*floor(lclm/0.1);
    if not missing(uclm) then uclmx = 0.1*ceil(uclm/0.1);
tpt=avisit1;

    if not missing(mean) then mean=round(mean,0.1);
    gmean=mean;IF AVISITN=99 THEN DELETE;
run;
proc sort data=dforest1;
    by paramn ;
run;
/*Use a proc summary to find the maximum value of the Y axis which needs to be presented for the first plot*/
proc summary data=dforest1;
    by param ;
    var UCLM;
    output out =axis1  max=max1 ;
run;

proc summary data=dforest1;
    by param ;
    var lclm;
    output out =axis2  min=min1;
run;

data maxaxis1;
    merge axis1 axis2(drop=_type_ _freq_);
    by param ;
    max2=(ceil(max1));
    min2=floor(min1);
    /*Use mod 2 to ensure axis limit is an even number so the increment can be 2*/
    if mod(max2,2)=0 then max2=max2;
    else if mod(max2,2)=1 then max2=max2+1;
        if mod(min2,2)=0 then min2=min2;
    else if mod(min2,2)=1 then min2=min2-1;
        min=put(min2,best.);
        max=put(max2,best.);
run;

data adbx3;
    merge dforest1 maxaxis1;
    by param ;
par=paramn-17;
run;

PROC SQL;
CREATE TABLE ADBX3_X AS
SELECT PARAM, TRTA, AVISIT,/*MEAN, LCLMX, UCLMX*/ mean, lclm, uclm
FROM ADBX3;
QUIT;
PROC EXPORT DATA=ADBX3_X DBMS=XLSX OUTFILE="/cvn/projects/prj/data/000000106343/TFL/dev/Tables/&tflno..xlsx" REPLACE;
SHEET=Sheet1;

title;
footnote;
proc sort data=adbx3;
by par;
data paging; /* paging is derived normally as with RTF type TFL */

    set adbx3 end=last;
    page = 1;
    if tpt=1 then newvis=4.5;
    else if tpt=2 then newvis=9;
    else if tpt=3 then newvis=13.5;
    else if tpt=4 then newvis=18;
    else if tpt=5 then newvis=22.5;
    else if tpt=6 then newvis=45;
    else if tpt=7 then newvis=67.5;

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    else if tpt=8 then newvis=90;
    else newvis=tpt;
run;

proc sort data=paging out=uniqpar nodupkey;by paramn;run;

%let maxpage=5;

PROC FORMAT;
VALUE XAXIS
  4.5='1'
  9='2'
  13.5='3'
  18='4'
  22.5='5'
      45='30'
      67.5='60'
      90='90'
  0='Baseline'
;
RUN;

%macro graph();
%do i=1 %to 5; /* paging can either be done through a do loop or multiple macro calls */
  %do j=1 %to 1 %by 1;

data plot1;
  set paging;
  where par=&i;
  parm=strip(param);
  drop param;
  rename parm=param;
run;

proc sql noprint;
  select param into:param trimmed
  from plot1;
quit;

data plot;
  set plot1;
  call symput("max1",max);
run;
proc sort data=plot; by avisitn;run;

proc template;
  define statgraph splot ;
    begingraph ;
  layout lattice;

    %if &i=3 %then %do;
      layout overlay / border=false
        xaxisopts=(linearopts=(tickvaluelist=(0 4.5 9 13.5 18 22.5 45 67.5 90) TICKVALUEFITPOLICY=ROTATE ) label="Study
Day")
        yaxisopts=(linearopts=(tickvaluesequence=(start=-3 end=&max1 increment=1) viewmin=-3 viewmax=&max1)
          label=" ") cycleattrs=false;
    %end;
    %else %do;
      layout overlay / border=false
        xaxisopts=(linearopts=(tickvaluelist=(0 4.5 9 13.5 18 22.5 45 67.5 90) TICKVALUEFITPOLICY=ROTATE ) label="Study
Day")
        yaxisopts=(linearopts=(tickvaluesequence=(start=-3 end=&max1 increment=1) viewmin=-3 viewmax=&max1)
          label="&param") cycleattrs=false;
    %end;

    referenceline y=0 / lineattrs=(pattern=solid);

    seriesplot x=newvis y=mean / index=trtan primary=true group=trta display=(markers) legendlabel="mean" name="series";
    scatterplot x=newvis y=gmean / index=trtan group=trta yerrorlower=/*lclmx*/lclm yerrorupper=/*uclmx*/uclm legendlabel="mean"
      name="scatter" ;
    discretelegend "series";

  endlayout;
%if &i=3 %then %do;

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rowaxes;
rowaxis / griddisplay=on display=(tickvalues);
endrowaxes;

rowheaders;
  layout gridded / columns=2 ;
  entry "Enjoyment of Respiratory Tract" / textattrs=GraphLabelText rotate=90 ;
  entry "Sensation Subscale" / textattrs=(size=11) rotate=90 ;
endlayout;
endrowheaders;
%end;
  endlayout;
  endgraph;
end;
run;

ods select all;

ODS ESCAPECHAR='^';
ODS RTF PREPAGE="{outputwidth=100% just=1 font_size=12pt font_weight=bold background=white foreground=black font_face=arial}^R/RTF\QL' Figure 15.1.2.7.2 MCEQ Subscales Least Squares Means Differences and 95% CI - FAS";

ods rtf style=t106343_g1;

proc sgrender data=plot template=splot; /* applies the above template to the specified data */
FORMAT newvis XAXIS.;
run;

ODS RTF TEXT="{outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF\QL'";
ODS RTF TEXT="{outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF\QL' Note: mCC = Menthol conventional cigarettes; THSm2.2 = Tobacco Heating System 2.2 Menthol.";
ODS RTF TEXT="{outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF\QL' Note: Baseline is the last assessment prior to first product use in mCC/THS 2.2 arms on Day 1.";
ODS RTF TEXT="{outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF\QL' Note: Scores of MCEQ subscales are reported on a 7-point scale. Higher scores indicate greater intensity on that scale.";
ODS RTF TEXT="{outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF\QL' ";
ODS RTF TEXT="{outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF\QL' Appendix 15.2.4.55.2";
%let tflprg=f_mceq_ls_fas;

ODS RTF TEXT="{outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF\QL' Study ID:ZRHM-REXA-08-US Program: &tflprg..sas &sysdate Status: &status. (Page &i of &maxpage)";

%end;
%end;
%mend graph;
%graph;

ods _all_ close;
ods graphics / reset;
%m_logchk;

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