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/*=====
| Covance Study Number      : 000000106343      |
| Program Name              : f_oxy_fas.sas      |
| Purpose                   : Figure 15.1.2.11.2  |
| Input Data                : tflds.t_15_02_04_66_02_f |
| Output Data              : F_15_01_02_11_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 tfldno=F_15_01_02_11_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/&tfldno..rtf" style=t106343_g startpage=yes headery=1440 footery=1440 ;

ods exclude all;

data gmean2;
length trta $25;
set tflds.t_15_02_04_66_02_f(drop=gmean);

if not missing(gmean1) then mean = round(gmean1,0.01);
if not missing(glci) then lclm = (0.01*floor(glci/0.01));
if not missing(guci) then uclm = (0.01*ceil(guci/0.01));
IF avisitn=100 THEN avisit1=0;
IF avisitn=106 THEN avisit1=5;
IF avisitn=190 THEN avisit1=8;
IF avisitn=191 THEN avisit1=8;
tpt=avisit1;
if TRT=2 then TRTA="mCC";
if TRT=1 then TRTA="THSm2.2";
if TRT=3 then TRTA="SA";

if TRTA="THSm2.2" then TRTAN=4 ;
if TRTA="mCC" then TRTAN=5;
if TRTA="SA" then TRTAN=3;
trtan=trt;
gmean=mean;
run;

proc sort;
by param;
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=gmean2;
by param;

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var uclm;
output out =axis1 max=max1;
run;

proc summary data=gmean2;
by paramn;
var lclm;
output out =axis2 min=min1;
run;

data maxaxis1;
merge axis1 axis2(drop=_type_ _freq_);
by paramn;
if not missing(max1) then do;
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;
x=mod(min2,2);
if mod(min2,2)=0 then min21=min2;
else if mod(min2,2)=-1 then min21=min2-1;
else if mod(min2,2)=1 then min21=min2-1;

inc1=ceil((max2-min21)/6);
inc=put(inc1,best.);
min=put(min21,best.);
max=put(max2,best.);
end;
run;

proc sort data=gmean2 out=par(keep=paramn) nodupkey;
by paramn;
run;

data par;
set par;
par=_n_;
run;

data adbx3;
merge gmean2 maxaxis1 par;
by paramn;
if par=1 then do;min="0";max="50";inc="5";end;
if par=2 then do;min="0";max="50";inc="5";end;
if par=3 then do;min="0";max="50";inc="5";end;
if par=4 then do;min="0";max="50";inc="5";end;
if par=5 then do;min="0";max="8";inc="1";end;
if par=6 then do;min="0";max="100";inc="10";end;
if par=7 then do;min="0";max="60";inc="6";end;
if par=8 then do;min="0";max="8";inc="1";end;
if par=9 then do;min="0";max="8";inc="1";end;
if par=10 then do;min="0";max="30";inc="3";end;
if par=11 then do;min="0";max="200";inc="20";end;
if par=12 then do;min="0";max="200";inc="20";end;
run;

PROC SQL;
CREATE TABLE ADBX3_X AS
SELECT PARAM,PAR, TRTA, AVISIT, 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;

PROC FORMAT;
VALUE XAXIS
4.5='1'
9='2'
13.5='3'
18='4'
22.5='5'
45='30'

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        67.5='60'
        90='90'
    0='Baseline'
;
RUN;

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

    set adbx3 end=last;
page=1;
    par1=put(par,2.);
    if last=1 then call symput("maxpage", par1);
    if trtan=3 then trtord=3;
else if trtan=4 then trtord=1;
else if trtan=5 then trtord=2;
    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;
    else if tpt=8 then newvis=90;
    else newvis=tpt;
run;

%put &maxpage;

%macro graph();

%do i=1 %to 1; /* paging can either be done through a do loop or multiple macro calls */
    %do j=1 %to 12 %by 1;

        data plot1;
            set paging;
        where par=&j;
        run;
proc sql noprint;
    select param into:param trimmed
        from plot1;
quit;
    data plot;
        set plot1;
        where page = &i;
        call symput("max1",max);
    call symput("min1",min);
    call symput("inc1",inc);

    run;
%let maxpage=&maxpage;
    proc template;
        define statgraph splot /store = work.templat;
            begingraph /;
                layout overlay / border=false
            %if &j=9 %then %do;
                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=0 end=8 increment=1)
                    viewmin=0 viewmax=8)
                    label="22(R)-hydroxycholesterol (ng/mL)" cycleattrs=false;
            %end;
            %else %do;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=&min1 end=&max1 increment=&inc1)
                    viewmin=&min1 viewmax=&max1)
                    label=" &param") cycleattrs=false;
            %end;

            seriesplot x=newvis y=gmean / index=trt primary=true group=trta display=(markers)
                legendlabel="mean" name="series";
            scatterplot x=newvis y=gmean / index=trt group=trta yerrorlower=lc1m yerrorupper=uc1m
                legendlabel="mean" name="scatter" ;
            discretelegend "series";
        endlayout;
    endgraph;
    endmacro;

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        endgraph;
    end;
run;

ods select all;

ODS ESCAPECHAR='^';
ODS RTF PREPAGE="^S={outputwidth=100% just=1 font_size=12pt font_weight=bold background=white foreground=black font_face=arial}^R/RTF'\QL' Figure 15.1.2.11.2 Oxysterol Parameters Arithmetic Mean and 95% CI - FAS";
ods rtf style=t106343_g;
proc sort data=plot; by trtord;run;

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

ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL' Note: mCC = Menthol conventional cigarettes; SA = Smoking abstinence; THSm2.2 = Tobacco Heating System 2.2 Menthol.";
ODS RTF TEXT="^S={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 or last assessment prior to 10:00 AM in SA a
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL'";

ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL' Appendix 15.2.4.66.2";

ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL' Study ID:&stud
yid Program: f_oxy_fas.sas &sysdate Status: &status. (Page &j of &maxpage)";

%end;
%end;
%mend graph;
%graph;
ods _all_ close;
ods graphics / reset;
%m_logchk;

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