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/*=====
=====*
```

```
| Covance Study Number   : 000000106343          |
| Program Name           : t_fager_fas.sas        |
| Purpose                 : Descriptive Statistics of Fagerström Test for Nicotine Dependence Results – PP Set
| Product Use Time Period: Period 4               |
| Input Data              : ADAM.ADSL, ADAM.ADBX   |
| Output Data             : T_15_02_04_51_02      |
| Macros Called           : %m_printto, %mmeans, %outrtf, %m_logchk2          |
| Originally Performed by : Ranju Gautam          |
| Date                    : 21MAY2015             |
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| Modification History    |
| Modified by            :                               |
| Modification Date       :                               |
| Modification Description :                               |
```

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+=====
=====*/
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```
proc datasets lib=work nolist memtype=data kill; quit;
```

```
%m_printto(route=yes);
```

```

data adsl;

    set adam.adsl(where=(fasfl ='Y'));

    if          trt01pn=4 then trt=1;

    else if trt01pn=5 then trt=2;

    else if trt01pn=3 then trt=3;

run;


proc freq data=adsl noprint;

    table trt/ out=tot(drop=percent rename=(count=total));

run;


data tot2;

    set tot;

    call symput('trt' || compress(put(trt,best.)), compress(put(total, best.)));

run;


%put THS=&trt1 mCC=&trt2 SA=&trt3;


%let sup_1  = %nrstr({\super (1)});


data ADQSND;

    set adam.ADQSND(where=(paramcd in ('FTNDSC') and (fasfl ='Y')));

    if abfl='Y' then do; avisit='Baseline'; avisitn=10; end;

    if avisitn in (10,190) and paramcd in ('FTNDSC');

```

```
run;
```

```
*macro for general mean stats(n mean std median min max Q25 Q75 lclm uclm)for each period per  
mock;;
```

```
%macro mmeans(pfl=, prd=, class=, var=, out=);
```

```
data ADQSND1;
```

```
    set ADQSND;
```

```
    where &prd.;
```

```
    if          trtan=4 then trt=1;
```

```
    else if trtan=5 then trt=2;
```

```
    else if trtan=3 then trt=3;
```

```
run;
```

```
proc means data=ADQSND1 noprint nway;
```

```
    var &var.;
```

```
    class &class. trt;
```

```
    output out=results02 n=n1 mean=mean1 std=std1 median=median1 min=min1 max=max1 q1=q1  
    q3=q3 lclm=lci1 uclm=uci1;
```

```
run;
```

```
data results03;
```

```
set results02;
```

```
attrib meansd length=$20.
```

```
minmax length=$20.
```

```
n length=$20.
```

```
miss length=$20.
```

```
median length=$20.
```

```
quart aci length=$20.;
```

```
n = left(compress(put(n1,8.)));
```

```
if trt=1 then do;
```

```
if &trt1.=n1 then miss="0";
```

```
else miss=strip(put((&trt1.-n1), 8.)) || '(' || strip(put(((&trt1.-  
n1)*100)/&trt1., 8.1)) || "');
```

```
end;
```

```
else if trt=2 then do;
```

```
if &trt2.=n1 then miss="0";
```

```
else miss=strip(put((&trt2.-n1), 8.)) || '(' || strip(put(((&trt2.-  
n1)*100)/&trt2., 8.1)) || "');
```

```
end;
```

```
else if trt=3 then do;
```

```
if &trt3.=n1 then miss="0";
```

```
else miss=strip(put((&trt3.-n1), 8.)) || '(' || strip(put(((&trt3.-  
n1)*100)/&trt3., 8.1)) || "');
```

```
end;
```

```
if not missing(median1) then median = left(compress(put(round(median1,0.01),8.2)));
```

```

    if not missing(mean1) and not missing(std1) then meansd =
left(compress(put(round(mean1,0.01),8.2))) || ' (' || left(compress(put(0.001*ceil(std1/0.001),8.3))) ||
');

```

```

    if not missing(min1) and not missing(max1) then minmax = left(compress(put(min1,8.1))) || ', ' ||
left(compress(put(max1,8.1)));

```

```

    if not missing(lci1) and not missing(uci1) then aci = strip(put(0.01*floor(lci1/0.01),8.2)) || ', ' ||
strip(put(0.01*ceil(uci1/0.01),8.2));

```

```

    if not missing(q1) and not missing(q3) then quart = strip(strip(put(round(q1, 0.01),8.2)) || ', ' ||
strip(put(round(q3, 0.01),8.2)));

```

```

    drop n1 mean1 std1 median1 min1 max1 q1 q3 uci1 lci1 ;

```

```

run;

```

```

proc transpose data=results03 out=&out prefix=r name=varname;

```

```

    by &class.;

```

```

    var n miss meansd median minmax aci quart;

```

```

    id trt;

```

```

run;

```

```

data &out.;

```

```

    set &out.;

```

```

    length stat $200;

```

```

    if upcase(varname)='N'          then do; statord=1; stat='n'; end;

```

```

    if upcase(varname)='MISS'       then do; statord=2; stat='Missing, n(%)'; end;

```

```

    if upcase(varname)='MEANSD' then do; statord=3; stat='Mean (SD)'; end;

```

```

    if upcase(varname)='MEDIAN' then do; statord=7; stat='Median'; end;

```

```

    if upcase(varname)='QUART'    then do; statord=8; stat='Q25, Q75'; end;

```

```

    if upcase(varname)='MINMAX' then do; statord=9; stat='Min, Max'; end;

```

```

        if varname='aci'          then delete;

run;

%mend mmeans;


%mmeans( prd=(avisitn in (10 )), class=PARAMCD PARAM avisitn avisit , var=aval, out=out_p1);

%mmeans(prd=( avisitn in (190)), class=PARAMCD PARAM avisitn avisit , var=aval, out=out_p4);


%mmeans(prd=( avisitn in (190)), class=PARAMCD PARAM avisitn avisit , var=chg, out=out_c4);


%macro mmeans(prd=, class=, var=, by=, out=);


data ADQSND1;

    set ADQSND;

    where &prd.;


    if          trtan=4 then trt=1;

    else if trtan=5 then trt=2;

    else if trtan=3 then trt=3;


run;


proc means data=adqsnd1 noprint nway;

    &var;

    class &class. trt;

```

```

        output out=results02 n=n1;

run;

proc transpose data=results02 out=&out. prefix=trt name=varname;

    by &class.;

    var n1;

    id trt;

run;

data &out.;

    set &out.;

    length stat $200 r1 r2 r3 $ 20;

    if avalcat1='Mild' then statord1=0.5;

    if avalcat1='Moderate' then statord1=1.5;

    if avalcat1='Severe' then statord1=2.5;


    if avisitn = 10 then shift1="";

    if scan(shift1,-1)='Mild' then statord1=1;

    if scan(shift1,-1)='Moderate' then statord1=2;

    if scan(shift1,-1)='Severe' then statord1=3;


    if shift1='Mild to Mild' then do; statord=7; stat='Mild (0 - 3), n(%)'; end;

    if shift1='Moderate to Mild'      then do; statord=8; stat='Moderate (4 - 6), n(%)'; end;

    if shift1='Severe to Mild'        then do; statord=9; stat='Severe (7 - 10), n(%)'; end;

```

```

if shift1='Mild to Moderate' then do; statord=7; stat='Mild (0 - 3), n(%)'; end;

if shift1='Moderate to Moderate' then do; statord=8; stat='Moderate (4 - 6), n(%)'; end;

if shift1='Severe to Moderate' then do; statord=9; stat='Severe (7- 10), n(%)'; end;


if shift1='Mild to Severe' then do; statord=7; stat='Mild (0 - 3), n(%)'; end;

if shift1='Moderate to Severe' then do; statord=8; stat='Moderate (4 - 6), n(%)'; end;

if shift1='Severe to Severe' then do; statord=9; stat='Severe (7 - 10), n(%)'; end;


if trt1 ne . then r1=strip(put(trt1, best.))||' ('||put(trt1*100/&TRT1., 4.1)||');

if trt2 ne . then r2=strip(put(trt2, best.))||' ('||put(trt2*100/&TRT2., 4.1)||');

if trt3 ne . then r3=strip(put(trt3, best.))||' ('||put(trt3*100/&TRT3., 4.1)||');

if statord1 not in (0.5, 1.5, 2.5) then avalcat1 = "";

run;


proc sort data= &out.;

    by &by;

run;

%mend;


%mmeans(prd=(avisitn in (10)), class=paramcd param avisitn avisit avalcat1 , var=, by= avalcat1 statord
statord1 , out=out_gr1);

%mmeans(prd=(avisitn in (190)), class=paramcd param avisitn avisit avalcat1, var=, by= avalcat1 statord
, out=out_gr4);

%mmeans(prd=(avisitn in (190)), class=paramcd param avisitn avisit shift1, var=, by= statord1 statord,
out=out_chg_gr4);

```


*combining the upper part : baseline statistic with the severity part;

data part1;

 set out_p1(in=a) out_gr1(in=b);

 if a then ord=1;

 if b then ord=2;

 if avalcat1 ne " " then stat=avalcat1;

 if statord=11 then delete;

run;

*combining the lower part;

*combining the day 90 value and change side by side for statistic;

proc sort data=out_p4 out=ds1;

 by paramcd param avisitn avisit statord stat varname;

run;

proc sort data=out_c4 out=ds2;

 by paramcd param avisitn avisit statord stat varname;

run;

```
data part2a;

    merge ds1(in=a) ds2(in=b rename=(r1=c1 r2=c2 r3=c3));

    by paramcd param avisitn avisit statord stat varname;

run;
```

*combining the day 90 value and change side by side for grade;

```
proc sort data=out_gr4 out=gr4;

    by paramcd param avisitn avisit statord1 statord;

run;
```

```
proc sort data=out_chg_gr4 out=chg_gr4;

    by paramcd param avisitn avisit statord1 statord ;

run;
```

```
data part2b;

    merge gr4(in=a drop=shift1 varname stat trt1 trt2 trt3 _label_) chg_gr4(in=b drop=avalcat1
rename=(r1=c1 r2=c2 r3=c3));

    by paramcd param avisitn avisit statord1 statord;

    if shift1 ne " " then stat=shift1;

    if shift1 eq " " and avalcat1 ne " " then stat=avalcat1;

    keep paramcd param avisitn avisit r1 r2 r3 c1 c2 c3 stat statord1 statord ;

run;
```

```
data part2;
```

```
    set part2a(in=a) part2b(in=b);
```

```
    if a then ord=1;
```

```
    if b then ord=2;
```

```
    IF stat='Mild to Mild' then delete;
```

```
    IF stat='Moderate to Moderate' then delete;
```

```
    IF stat='Severe to Severe' then delete;
```

```
    if stat ne ";
```

```
run;
```

```
data final;
```

```
    set part1(in=p1) part2(in=p4) ;
```

```
    if p1 or p4 then period="4";
```

```
    if statord1=0.5 then stat='Mild (0 - 3), n(%)';
```

```
    if statord1=1.5 then stat='Moderate (4 - 6), n(%)';
```

```
    if statord1=2.5 then stat='Severe (7 - 10), n(%)';
```

```

if r1 ne " or r2 ne " or r3 ne " then do;

    if stat='Moderate (4 - 6), n(%)' then do;

        if r3=" then r3='0 ( 0.0)';

        end;

    if stat='Severe (7 - 10), n(%)' then do;

        if r3=" then r3='0 ( 0.0)';

        end;

end;

if stat='Moderate to Mild' then stat=' Moderate to Mild, n(%)';

if stat='Severe to Mild' then stat=' Severe to Mild, n(%)';

if stat='Mild to Moderate' then stat=' Mild to Moderate, n(%)';

if stat='Severe to Moderate' then stat=' Severe to Moderate, n(%)';

if stat='Mild to Severe' then stat=' Mild to Severe, n(%)';

if stat='Moderate to Severe' then stat=' Moderate to Severe, n(%)';

run;

*****
,

*create new page for each timepoint for report ;

```

*****,
*****,

proc sql;

create table page as

select distinct paramcd, period, avisitn

from final

order by paramcd desc, period, avisitn;

quit;

data page1;

set page;

by descending paramcd period avisitn ;

if _n_ = 0 then page = 0;

page + 1;

run;

proc sql;

create table final_page as

select distinct a.*, b.page

from final as a

left join page1 as b

on a.paramcd=b.paramcd and a.avisitn=b.avisitn and a.period=b.period

order by page,ord,statord1,statord ;

quit;

```

data final_page;

    set final_page;

    if avisitn=190 then do;

        if strip(stat) in ('Severe (7 - 10), n(%)', 'Moderate to Severe, n(%)' 'Mild to Severe, n(%)')
    then page=3;

        end;

run;

```

```

proc sort data=final_page;

    by paramcd avisitn period page ord statord1 statord;

run;

```

```

data final_page(rename=(r1=THSm c1=THSm_chg r2=mCC c2=mCC_chg r3=SA c3=SA_chg));

    set final_page end=last;

    by paramcd avisitn period page ord statord1 statord;

    if last then call symputx("page", page);

run;

```

```

%let tfld=T_15_02_04_51_02;

```

```

data tflds.&tfld(keep=paramcd param avisitn avisit stat THSm1 mCC1 SA1 THSm_chg1 mCC_chg1
SA_chg1 statord period page);

    set final_page;

    length THSm1 mCC1 SA1 THSm_chg1 mCC_chg1 SA_chg1 $ 30;

```

```

        if THSm ne " then THSm1=THSm;

        if mCC ne " then mCC1=mCC;

        if SA ne " then SA1=SA;

        if THSm_chg ne " then THSm_chg1=THSm_chg;

        if mCC_chg ne " then mCC_chg1=mCC_chg;

        if SA_chg ne " then SA_chg1=SA_chg;

run;

*****
,

*create output report ;

*****
,

options number nodate orientation=landscape missing=' ';

ods escapechar='$';

%let linetop = \brdrt\brdrs\brdrw30;

%let linebot = \brdrb\brdrs\brdrw30;

%macro outrtf(blankn=130, halfblnk=N, dsn=);

%let title1 = %nrstr(Table 15.2.4.51.2 Descriptive Statistics of Fagerstrom Test for Nicotine Dependence
Results - FAS);

%let TFL_Part=%scan(&_SASPROGRAMFILE,-3,%str(/));

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;


%if &halfblnk=N %then %let halfblnk=;

%else %if &halfblnk=Y %then %let halfblnk=~;


ods path stdlib.t106343 (read) ;

ods results off;

ods rtf toc_data file="/cvn/projects/prj/data/000000106343/TFL/&TFL_Part./Tables/&tflno..rtf"
style=t106343 startpage=yes 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;

        _firtitl="&title1.";

```



```

define stat      /"Statistic" display style={cellwidth=2.1cm asis =on}
style(header)={just=left} ;

define THSm      /"Value" display style={just=c
cellwidth=1.2cm} style(header)={just=center} ;

define mCC      /"Value" display style={just=c cellwidth=1.2cm}
style(header)={just=center} ;

define SA      /"Value" display style={just=c cellwidth=1.2cm}
style(header)={just=center};

define THSm_chg  /"Change/$Shift &sup_1" display
style={JUST=c cellwidth=1.2cm} style(header)={just=center};

define mCC_chg  /"Change/$Shift &sup_1" display style={just=c
cellwidth=1.2cm} style(header)={just=center};

define SA_chg  /"Change/$Shift &sup_1" display style={just=c
cellwidth=1.2cm} style(header)={just=center};

break after page/page;

compute after ord;

line " ";

endcomp;

compute before _page_ / style={just=left protectspecialchars=off};

line "\b\fs24\sa24&_FSRTITL." ;

line " ";

line "Parameter: &param";

line " ";

```

```

        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: [1] %change/shift from baseline, where baseline is defined
as the last assessment prior to first randomized product use in mCC / THS 2.2 Menthol ';

        line 'arms or the last assessment prior to 10 AM on Day 1 in the SA
arm.';

        line " ";

        line 'Appendix 15.3.6.13';

        line "Study ID: ZRHM-REXA-08-US   Program: &TFLprg   Status:
&status" &_blankn.*"\~\~" "&sysdate" &_blankn.*"\~\~" "(Page &i of &page)";

    endcomp;

run;

%end;

ods rtf close;

ods results on;

ods path sashelp.tmplmst (read);

%mend outrtf;

%outrtf(blankn=36, halfblank=N);

ods listing;

```

%m_logchk2;