R Markdown

Initiation possible Statistical Analysis for Infertility Perception

Including Plots and Tables of Interest

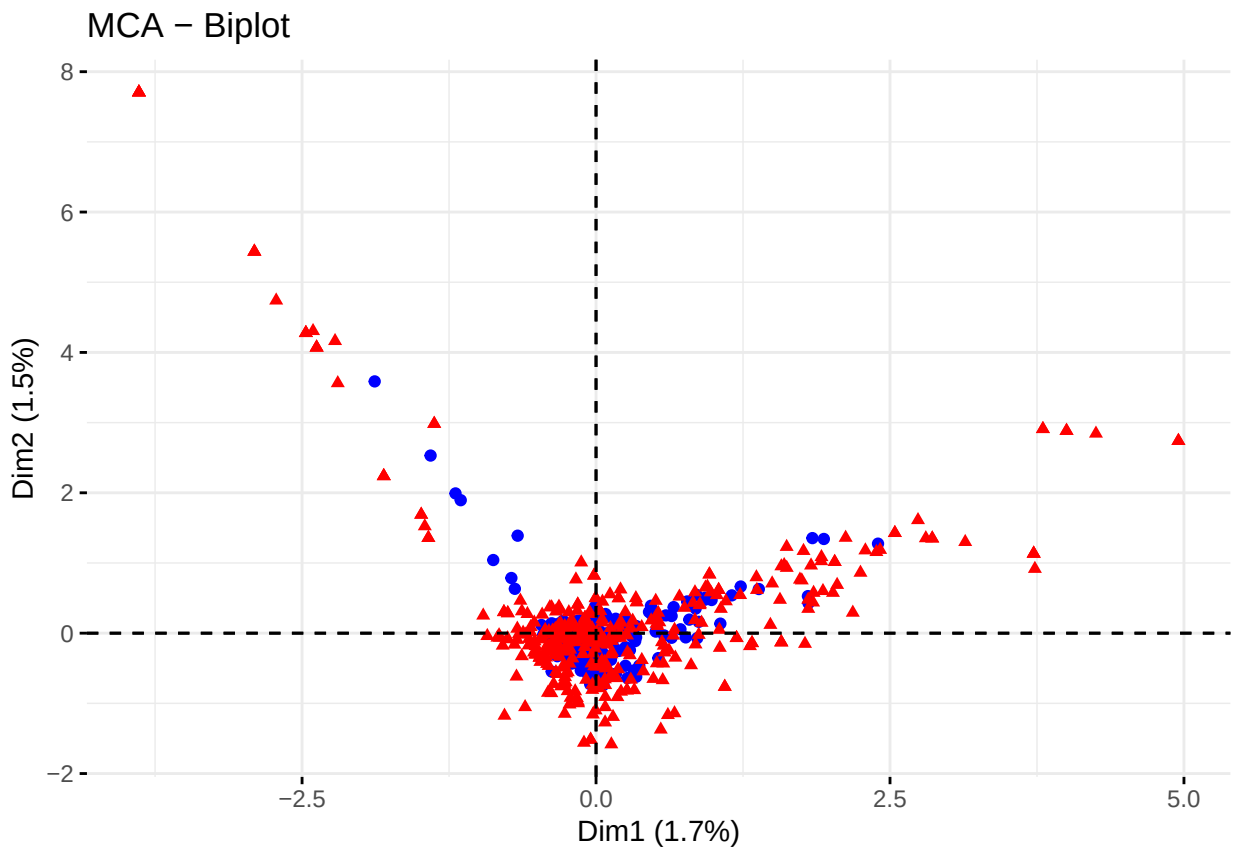
```
Perception_propt%>%count(SECTION.A..SOCIO.DEMOGRAPHIC)%>%
  mutate(P_Value=
              recode(SECTION.A..SOCIO.DEMOGRAPHIC,"26-35"="<0.001",
                     "36-45"="<0.001","<25 years"="<0.001",">45"="<0.001"))
```

```
##   SECTION.A..SOCIO.DEMOGRAPHIC  n P_Value
## 1                        26-35 88  <0.001
## 2                        36-45 93  <0.001
## 3                    <25 years 36  <0.001
## 4                          >45 29  <0.001
```

****Multiple Correspondence Analysis (MCA) of respondent to identify similarities or differences**

```
# Multiple Correspondence Analysis (MCA)

Perception_propt[,c(2:26)]%>%MCA(ncp=2,graph=FALSE)%>%
  fviz_mca_biplot(geom="point",repel=TRUE,ggtheme=theme_minimal())
```



**Again: preliminary test analysis

```
# Preliminary socio-demographics

newdat<-Perception_propt%>%mutate(Duration_infertility=
    X6..Duration.of.infertility,yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))

Perception_propt%>%mutate(Duration_infertility=
  X6..Duration.of.infertility,yes_no=ifelse(
  Duration_infertility=="Nil","Fertile","Infertile"))%>%group_by(yes_no)%>%
  count(age=SECTION.A..SOCIO.DEMOGRAPHIC)%>%
  pivot_wider(names_from = age,values_from = n)%>%
  column_to_rownames(var="yes_no")%>%mutate(p_value="=0.04")
```

```
##           26-35 36-45 <25 years >45 p_value
## Fertile      30    22        13   3   =0.04
## Infertile    58    71        23  26   =0.04
```

```
# Logistic Regression Analysis
glm(factor(yes_no)~SECTION.A..SOCIO.DEMOGRAPHIC+X2..Gender+X5..Level.of.education,data = newdat,family =
```

```
##
## Call:
```

```
## glm(formula = factor(yes_no) ~ SECTION.A..SOCIO.DEMOGRAPHIC +
##     X2..Gender + X5..Level.of.education, family = "binomial",
##     data = newdat)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -2.1688  -1.2295   0.6655   0.8758   1.1262
##
## Coefficients:
##                                  Estimate Std. Error z value Pr(>|z|)
## (Intercept)                        0.7686     1.1864   0.648  0.51709
## SECTION.A..SOCIO.DEMOGRAPHIC>45    2.2133     0.7639   2.897  0.00377 **
## SECTION.A..SOCIO.DEMOGRAPHIC26-35  0.4432     0.4574   0.969  0.33257
## SECTION.A..SOCIO.DEMOGRAPHIC36-45  1.0777     0.4821   2.236  0.02538 *
## X2..GenderMale                    -0.6386     0.3428  -1.863  0.06246 .
## X5..Level.of.educationPrimary     -0.6675     1.5263  -0.437  0.66185
## X5..Level.of.educationSecondary    0.4055     1.2627   0.321  0.74808
## X5..Level.of.educationTertiary    -0.4514     1.2017  -0.376  0.70721
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 290.06  on 245  degrees of freedom
## Residual deviance: 274.05  on 238  degrees of freedom
## AIC: 290.05
##
## Number of Fisher Scoring iterations: 4
```

Final

```
Do_Know_Infertility_Start_1Year<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
  yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%
  count(age=X7..Do.you.know.that.infertility.starts.to.count.after.1.year.of.unprotected.sexual.interco
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.32",""))

Who_Can_Infertile<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
  yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X8..Who.do.you.think.can.be.infertile)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.74","",""))

Who_is_To_Blamed<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
         yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X9..Who.is.being.blamed.for.infertility)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.03","","",""))
```

```
Primary_Infertility_Can_Affect_Who<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
  yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X10..Primary.infertility.can.affect.who)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(Fertile=str_replace_na(Fertile,"0"))%>%
  mutate(p_value=c("0.55","",""))
Primary_Infertility_Can_Affect_Who$Fertile<-as.integer(Primary_Infertility_Can_Affect_Who$Fertile)

Secondary_Infertility_can_Affect_Who<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
 yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X11..Secondary.infertility.can.affect.who)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.50","",""))


Can_Infertility_Treated<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
         yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X14..Do.you.think.infertility.can.and.should.be.treated.medically.)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.60","",""))

Causes_of_Infertility<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
         yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X15..Who.do.you.think.should.go.for.laboratory.investigation.before.trea
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(Fertile=str_replace_na(Fertile,"0"),p_value=c("0.48","",""))
Causes_of_Infertility$Fertile<-as.integer(Causes_of_Infertility$Fertile)

Whom_Would_You_Goto<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
         yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X16..Whom.would.you.go.to.for.your.treatment.)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(Fertile=str_replace_na(Fertile,"0"),
                                         p_value=c("0.27","","","",""))
Whom_Would_You_Goto$Fertile<-as.integer(Whom_Would_You_Goto$Fertile)

Social_Acceptability_to_Abortion<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
         yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X19..Do.you.think.it.is.socially.acceptable.to.have.a.baby.through.surro
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.015","",""))

Social_Acceptability_to_IVF<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
         yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X20..Do.you.think.it.is.socially.acceptable.to.have.a.baby.through.In.vi
  pivot_wider(names_from = yes_no,values_from = n)%>%
```

```
  column_to_rownames(var="age")%>%mutate(p_value=c("0.90","",""))

Negativity_Infertility_on_Gender<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
         yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X21..Infertility.has.more.negative.effect.on.who.more.)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.02","",""))


Social_Effect_of_Infertility_On_Gathering<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
         yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=X23..Do.staying.in.a.gathering.with.people.who.have.a.child.or.children.a
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.43","",""))


bind_rows(Do_Know_Infertility_Start_1Year=Do_Know_Infertility_Start_1Year,
          Who_Can_Infertile=Who_Can_Infertile,
          Who_is_To_Blamed=Who_is_To_Blamed,
          Primary_Infertility_Can_Affect_Who=Primary_Infertility_Can_Affect_Who,
          Secondary_Infertility_can_Affect_Who=Secondary_Infertility_can_Affect_Who,
          Can_Infertility_Treated=Can_Infertility_Treated,
          Causes_of_Infertility=Causes_of_Infertility,
          Whom_Would_You_Goto=Whom_Would_You_Goto,
          Social_Acceptability_to_Abortion=Social_Acceptability_to_Abortion,
          Social_Acceptability_to_IVF=Social_Acceptability_to_IVF,
          Negativity_Infertility_on_Gender=Negativity_Infertility_on_Gender,
          Social_Effect_of_Infertility_On_Gathering=Social_Effect_of_Infertility_On_Gathering,
          .id = "Variable")
```

```
##                                                 Variable Fertile
## No...1                        Do_Know_Infertility_Start_1Year      26
## Yes...2                       Do_Know_Infertility_Start_1Year      45
## Both men and women...3                   Who_Can_Infertile      62
## Men...4                                  Who_Can_Infertile       2
## Women...5                                Who_Can_Infertile       7
## Both Husband and wife                     Who_is_To_Blamed      22
## Husband                                   Who_is_To_Blamed       1
## Neither Husband or wife                   Who_is_To_Blamed       9
## Wife                                      Who_is_To_Blamed      39
## Both men and wome           Primary_Infertility_Can_Affect_Who      58
## Women...11                  Primary_Infertility_Can_Affect_Who      13
## Men...12                    Primary_Infertility_Can_Affect_Who       0
## Both men and women...13    Secondary_Infertility_can_Affect_Who      55
## Men...14                   Secondary_Infertility_can_Affect_Who       3
## Women...15                 Secondary_Infertility_can_Affect_Who      13
## No...16                              Can_Infertility_Treated       3
## Not sure...17                        Can_Infertility_Treated       9
## Yes...18                             Can_Infertility_Treated      59
## Both men and women...19                Causes_of_Infertility      67
## Women...20                             Causes_of_Infertility       4
```

```
## Men...21                                  Causes_of_Infertility       0
## Faith healers                               Whom_Would_You_Goto       1
## Gynaecologist                               Whom_Would_You_Goto      63
## Herbalist                                   Whom_Would_You_Goto       1
## Others:                                     Whom_Would_You_Goto       6
## Self treatment                              Whom_Would_You_Goto       0
## No...27                          Social_Acceptability_to_Abortion      34
## Not sure...28                    Social_Acceptability_to_Abortion      14
## Yes...29                         Social_Acceptability_to_Abortion      23
## No...30                               Social_Acceptability_to_IVF      10
## Not sure...31                         Social_Acceptability_to_IVF      16
## Yes...32                              Social_Acceptability_to_IVF      45
## Both men and women...33          Negativity_Infertility_on_Gender      22
## Men...34                         Negativity_Infertility_on_Gender       4
## Women...35                       Negativity_Infertility_on_Gender      45
## No...36                 Social_Effect_of_Infertility_On_Gathering      14
## Not sure...37           Social_Effect_of_Infertility_On_Gathering      14
## Yes...38                Social_Effect_of_Infertility_On_Gathering      43
##                         Infertile p_value
## No...1                         78    0.32
## Yes...2                        97
## Both men and women...3        157    0.74
## Men...4                         3
## Women...5                      15
## Both Husband and wife          63    0.03
## Husband                         2
## Neither Husband or wife         5
## Wife                          105
## Both men and wome             146    0.55
## Women...11                     26
## Men...12                        3
## Both men and women...13       136    0.50
## Men...14                        3
## Women...15                     36
## No...16                         5    0.60
## Not sure...17                  17
## Yes...18                      153
## Both men and women...19       160    0.48
## Women...20                     10
## Men...21                        5
## Faith healers                   5    0.27
## Gynaecologist                 162
## Herbalist                       1
## Others:                         5
## Self treatment                  2
## No...27                        99   0.015
## Not sure...28                  48
## Yes...29                       28
## No...30                        21    0.90
## Not sure...31                  41
## Yes...32                      113
## Both men and women...33        80    0.02
## Men...34                        2
## Women...35                     93
```

```
## No...36                          23    0.43
## Not sure...37                    37
## Yes...38                        115
```

Table 2, 3, and 4

```
age<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),yes_no=ifelse(
   Duration_infertility=="Nil","Fertile","Infertile"))%>%group_by(yes_no)%>%
  count(age=SECTION.A..SOCIO.DEMOGRAPHIC)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("=0.04","","",""))

Gender<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),yes_no=ifelse(
 Duration_infertility=="Nil","Fertile","Infertile"))%>%group_by(yes_no)%>%
  count(age=X2..Gender)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.58",""))

Religion<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),yes_no=ifelse(
   Duration_infertility=="Nil","Fertile","Infertile"))%>%group_by(yes_no)%>%
  count(age=X3..Religion)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.51",""))

Occupation<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),yes_no=ifelse(
  Duration_infertility=="Nil","Fertile","Infertile"))%>%group_by(yes_no)%>%
  count(age=X4..Occupation)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(Fertile=str_replace_na(Fertile,"0"))%>%
  mutate(p_value=c("=0.03","","","","","",""))
Occupation$Fertile<-as.integer(Occupation$Fertile)
Occupation$Infertile<-as.integer(Occupation$Infertile)

Level_Education<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),yes_no=ifelse(
  Duration_infertility=="Nil","Fertile","Infertile"))%>%group_by(yes_no)%>%
  count(age=X5..Level.of.education)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%mutate(p_value=c("0.48","","",""))

Duration_of_Infertility<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
  yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  group_by(yes_no)%>%count(age=Duration_infertility)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="age")%>%
  mutate(Fertile=str_replace_na(Fertile,"0"),
  Infertile=str_replace_na(Infertile,"0"))%>%
```

```
  mutate(p_value=c("<0.001","","","",""))
Duration_of_Infertility$Fertile<-as.integer(Duration_of_Infertility$Fertile)
Duration_of_Infertility$Infertile<-as.integer(Duration_of_Infertility$Infertile)
  Fertile<-as.integer(Duration_of_Infertility$Fertile)
bind_rows(Age=age,
      Gender=Gender,
      Religion=Religion,Occupation=Occupation,Level_Education=Level_Education,
      Duration_of_Infertility=Duration_of_Infertility,.id = "Variable")
```

```
##                                          Variable Fertile Infertile p_value
## 26-35                                         Age      30        58   =0.04
## 36-45                                         Age      24        69
## <25 years                                     Age      13        23
## >45                                           Age       4        25
## Female                                     Gender      45       119    0.58
## Male                                       Gender      26        56
## Christian                                 Religion      41        90    0.51
## Muslim                                    Religion      30        85
## Civil servant                            Occupation       2         4   =0.03
## Civil servant: Public sector             Occupation      18        60
## Private sector                           Occupation      31        47
## Self employed                            Occupation      11        40
## Student                                  Occupation       6         9
## Unemployed                               Occupation       3        15
## Informal                           Level_Education       1         3    0.48
## Primary                            Level_Education       2         3
## Secondary                          Level_Education       6        28
## Tertiary                           Level_Education      62       141
## Nil                          Duration_of_Infertility      71         0  <0.001
## 1-5 years                    Duration_of_Infertility       0        98
## 11-15 years                  Duration_of_Infertility       0        17
## 16-20 years                  Duration_of_Infertility       0        10
## 6-10 years                   Duration_of_Infertility       0        50
```

```
# Table 2 Knowledge and common misconceptions about factors that
# may affect sterility

# Common missconception about infertility
Common_MisConcept_About_Infertility<-Perception_propt%>%
  separate(X13..Common.misconception.about.the.causes.of.infertility...Tick.as.many.as.apply.,c("an1","a
  select(an1,an2,an3,an4)%>%head(10)
```

```
## Warning: Expected 4 pieces. Additional pieces discarded in 10 rows [19, 26, 36, 51, 58,
## 59, 124, 173, 237, 238].
```

```
## Warning: Expected 4 pieces. Missing pieces filled with `NA` in 191 rows [3, 4, 5, 6, 7,
## 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 25, 27, ...].
```

```
Common_MisConcept_About_Infertility
```

```
##             an1          an2                          an3
```

```
## 1       Natural    Spiritual                    Black magic
## 2  Supernatural    Spiritual                    Black magic
## 3     Spiritual         <NA>                           <NA>
## 4     Spiritual  Black magic Curses by ancestors or deities
## 5       Natural Supernatural                      Spiritual
## 6       Natural    Spiritual                    Black magic
## 7     Spiritual  Black magic Curses by ancestors or deities
## 8       Natural Supernatural                    Black magic
## 9     Spiritual  Black magic        Curses from individuals
## 10    Spiritual  Black magic                           <NA>
##                               an4
## 1  Curses by ancestors or deities
## 2  Curses by ancestors or deities
## 3                            <NA>
## 4                            <NA>
## 5                            <NA>
## 6                            <NA>
## 7                            <NA>
## 8  Curses by ancestors or deities
## 9                            <NA>
## 10                           <NA>
```

```
# Causes of Infertility Known by Respondent

Causes_Infertility_Known<-Perception_propt%>%
  separate(X12..What.are.the.causes.of.infertility.that.you.know..Tick.as.many.as.apply.,c("an1","an2",'
  select(an1,an2,an3,an4,an5,an6,an7,an8,an9,an10,an11)%>%head(10)
```

```
## Warning: Expected 11 pieces. Missing pieces filled with `NA` in 233 rows [3, 5, 6, 7, 8,
## 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, ...].
```

```
Causes_Infertility_Known
```

```
##                            an1                                          an2
## 1    Hormonal imbalance in Men                   Hormonal imbalance in women
## 2  Hormonal imbalance in women History of infection of genital tract in women
## 3    Hormonal imbalance in Men                   Hormonal imbalance in women
## 4    Hormonal imbalance in Men                   Hormonal imbalance in women
## 5    Hormonal imbalance in Men                   Hormonal imbalance in women
## 6  Hormonal imbalance in women  History of infection of genital tract  in men
## 7    Hormonal imbalance in Men                   Hormonal imbalance in women
## 8    Hormonal imbalance in Men                   Hormonal imbalance in women
## 9    Hormonal imbalance in men                   Hormonal imbalance in women
## 10   Hormonal imbalance in men                   Hormonal imbalance in women
##                                          an3
## 1   History of infection of genital tract  in men
## 2                                     Smoking
## 3   History of infection of genital tract  in men
## 4   History of infection of genital tract  in men
## 5   History of infection of genital tract  in men
## 6  History of infection of genital tract in women
## 7   History of infection of genital tract  in men
## 8   History of infection of genital tract  in men
```

```
## 9   History of infection of genital tract  in men
## 10  History of infection of genital tract  in men
##                                             an4
## 1  History of infection of genital tract in women
## 2                            Environmental factor
## 3  History of infection of genital tract in women
## 4  History of infection of genital tract in women
## 5  History of infection of genital tract in women
## 6                                        Smoking
## 7  History of infection of genital tract in women
## 8  History of infection of genital tract in women
## 9  History of infection of genital tract in women
## 10 History of infection of genital tract in women
##                                       an5                          an6
## 1                                  Smoking          Environmental factor
## 2  Use of family planning device by women          Psychological stress
## 3                                  Smoking          Environmental factor
## 4  Use of family planning device by women          Psychological stress
## 5                    Environmental factor          Psychological stress
## 6  Use of family planning device by women          Psychological stress
## 7  Use of family planning device by women          Psychological stress
## 8  Use of family planning device by women Obesity in both men and wome
## 9                             Blocked tube                         Drugs
## 10 Use of family planning device by women        Natural (will of God)
##                              an7                          an8
## 1          Psychological stress Obesity in both men and wome
## 2  Obesity in both men and wome        Natural (will of God)
## 3  Obesity in both men and wome                 Blocked tube
## 4  Obesity in both men and wome        Natural (will of God)
## 5  Obesity in both men and wome        Natural (will of God)
## 6  Obesity in both men and wome        Natural (will of God)
## 7  Obesity in both men and wome        Natural (will of God)
## 8         Natural (will of God)       Rhesus incompatibility
## 9                           <NA>                         <NA>
## 10                Blocked tube                        Drugs
##                         an9         an10  an11
## 1   Natural (will of God) Blocked tube Drugs
## 2  Rhesus incompatibility Blocked tube Drugs
## 3                   Drugs         <NA>  <NA>
## 4  Rhesus incompatibility Blocked tube Drugs
## 5            Blocked tube         <NA>  <NA>
## 6  Rhesus incompatibility Blocked tube  <NA>
## 7            Blocked tube        Drugs  <NA>
## 8            Blocked tube        Drugs  <NA>
## 9                    <NA>         <NA>  <NA>
## 10                   <NA>         <NA>  <NA>
```

```
# Awareness of Hormonal Laboratory Investigation in Treatment of Infertility

Awareness_of_Hormonal_Laboratory_Investigation<-Perception_propt%>%
  separate(X17..Are.you.aware.of.these.hormonal.laboratory.investigations.that.can.be.conducted.for.inf
  select(an1,an2,an3,an4,an5,an6,an7)%>%head(10)
```

```
## Warning: Expected 7 pieces. Missing pieces filled with `NA` in 216 rows [1, 2, 3, 4, 6,
```

```
## 8, 9, 10, 11, 12, 13, 15, 16, 18, 19, 20, 21, 22, 23, 24, ...].
```

```
Awareness_of_Hormonal_Laboratory_Investigation
```

```
##                                 an1                                an2
## 1            Leutinizing Hormone (LH)                          Prolactin
## 2  Follicle Stimulating Hormone (FSH)                          Prolactin
## 3            Leutinizing Hormone (LH) Follicle Stimulating Hormone (FSH)
## 4  Follicle Stimulating Hormone (FSH)                           Estrogen
## 5            Leutinizing Hormone (LH) Follicle Stimulating Hormone (FSH)
## 6            Leutinizing Hormone (LH) Follicle Stimulating Hormone (FSH)
## 7            Leutinizing Hormone (LH) Follicle Stimulating Hormone (FSH)
## 8            Leutinizing Hormone (LH) Follicle Stimulating Hormone (FSH)
## 9            Leutinizing Hormone (LH) Follicle Stimulating Hormone (FSH)
## 10           Leutinizing Hormone (LH) Follicle Stimulating Hormone (FSH)
##              an3          an4          an5                          an6
## 1      Estrogen Progesterone Testosterone Anti-Mullerian hormone (AMH)
## 2      Estrogen Progesterone Testosterone                          <NA>
## 3     Prolactin     Estrogen Progesterone                 Testosterone
## 4  Progesterone         <NA>         <NA>                          <NA>
## 5     Prolactin     Estrogen Progesterone                 Testosterone
## 6     Prolactin Testosterone         <NA>                          <NA>
## 7     Prolactin     Estrogen Progesterone                 Testosterone
## 8      Estrogen Progesterone Testosterone                          <NA>
## 9          <NA>         <NA>         <NA>                          <NA>
## 10    Prolactin     Estrogen Progesterone                 Testosterone
##                            an7
## 1                         <NA>
## 2                         <NA>
## 3                         <NA>
## 4                         <NA>
## 5  Anti-Mullerian hormone (AMH)
## 6                         <NA>
## 7  Anti-Mullerian hormone (AMH)
## 8                         <NA>
## 9                         <NA>
## 10                        <NA>
```

```
Feeling_After_Failing_Conception<-Perception_propt%>%
  separate(X22..How.do.you.feel.when.you.are.not.able.to.conceive.after.1.year.of.unprotected.sexual.in
  select(an1,an2,an3,an4,an5)%>%head(10)
```

```
## Warning: Expected 5 pieces. Missing pieces filled with `NA` in 235 rows [1, 2, 3, 4, 6,
## 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 20, 21, 22, 23, 24, ...].
```

```
Feeling_After_Failing_Conception
```

```
##          an1       an2      an3      an4              an5
## 1        Sad Depressed  Anxious Distress             <NA>
## 2        Sad Depressed  Anxious Distress             <NA>
## 3    Anxious      <NA>     <NA>     <NA>             <NA>
## 4        Sad Depressed  Anxious Distress             <NA>
```

```
## 5        Sad Depressed  Anxious Distress Suicidal thought
## 6        Sad   Anxious     <NA>     <NA>             <NA>
## 7        Sad Depressed  Anxious Distress             <NA>
## 8  Depressed      <NA>     <NA>     <NA>             <NA>
## 9        Sad Depressed  Anxious Distress             <NA>
## 10       Sad   Anxious Distress     <NA>             <NA>
```

Table on the knowledge of the various treatment option available (18)

```
#Treatment Options Known to respondence

Treatment_Options_Know<-Perception_propt%>%
  mutate(Duration_infertility=recode(X6..Duration.of.infertility,"Nil:"="Nil"),
  yes_no=ifelse(Duration_infertility=="Nil","Fertile","Infertile"))%>%
  separate(X18..What.type.of.treatment.options.do.you.know..Tick.as.many.as.apply.,c("an1","an2","an3",
  select(an1,an2,an3,an4,an5,an6,an7,yes_no)
```

```
## Warning: Expected 7 pieces. Additional pieces discarded in 18 rows [1, 3, 5, 8, 14, 20,
## 25, 40, 53, 131, 136, 152, 156, 161, 192, 198, 203, 240].
```

```
## Warning: Expected 7 pieces. Missing pieces filled with `NA` in 212 rows [2, 6, 7, 9, 10,
## 11, 12, 13, 15, 16, 17, 18, 19, 22, 23, 24, 26, 27, 28, 29, ...].
```

```
# Treatment option of first respondence


treat1<-Treatment_Options_Know%>%group_by(yes_no)%>%
  count(an1)%>%pivot_wider(names_from = yes_no,values_from = n)%>%
  column_to_rownames(var="an1")%>%
  mutate(Fertile=str_replace_na(Fertile,"0"),
         Infertile=str_replace_na(Infertile,"0"),p_value=c("0.16","","","","",""))
 treat1$Fertile<-as.integer(treat1$Fertile)
 treat1$Infertile<-as.integer(treat1$Infertile)

 treat2<-Treatment_Options_Know%>%
   group_by(yes_no)%>%
   count(an2)%>%
   pivot_wider(names_from = yes_no,values_from = n)%>%
   mutate(an2=str_replace_na(an2,"Not Selected"),Fertile=str_replace_na(Fertile,"0"),
          Infertile=str_replace_na(Infertile,"0"),p_value=c("0.23","","","","","","",""))%>%
   column_to_rownames(var="an2")
 treat2$Fertile<-as.integer(treat2$Fertile)
 treat2$Infertile<-as.integer(treat2$Infertile)

 treat3<-Treatment_Options_Know%>%
   group_by(yes_no)%>%
   count(an3)%>%
   pivot_wider(names_from = yes_no,values_from = n)%>%
   mutate(an3=str_replace_na(an3,"Not Selected"),Fertile=str_replace_na(Fertile,"0"),
          Infertile=str_replace_na(Infertile,"0"),p_value=c("0.03","","","","","","",""))%>%
   column_to_rownames(var="an3")
```

```
treat3$Fertile<-as.integer(treat3$Fertile)
treat3$Infertile<-as.integer(treat3$Infertile)

treat4<-Treatment_Options_Know%>%
  group_by(yes_no)%>%
  count(an4)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  mutate(an4=str_replace_na(an4,"Not Selected"),Fertile=str_replace_na(Fertile,"0"),
         Infertile=str_replace_na(Infertile,"0"),p_value=c("0.14","","","","","",""))%>%
  column_to_rownames(var="an4")
treat4$Fertile<-as.integer(treat4$Fertile)
treat4$Infertile<-as.integer(treat4$Infertile)

treat5<-Treatment_Options_Know%>%
  group_by(yes_no)%>%
  count(an5)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  mutate(an5=str_replace_na(an5,"Not Selected"),Fertile=str_replace_na(Fertile,"0"),
         Infertile=str_replace_na(Infertile,"0"),p_value=c("0.14","","","","","",""))%>%
  column_to_rownames(var="an5")
treat5$Fertile<-as.integer(treat5$Fertile)
treat5$Infertile<-as.integer(treat5$Infertile)

treat6<-Treatment_Options_Know%>%
  group_by(yes_no)%>%
  count(an6)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  mutate(an6=str_replace_na(an6,"Not Selected"),Fertile=str_replace_na(Fertile,"0"),
         Infertile=str_replace_na(Infertile,"0"),p_value=c("0.52","","","","","",""))%>%
  column_to_rownames(var="an6")
treat6$Fertile<-as.integer(treat6$Fertile)
treat6$Infertile<-as.integer(treat6$Infertile)

treat7<-Treatment_Options_Know%>%
  group_by(yes_no)%>%
  count(an7)%>%
  pivot_wider(names_from = yes_no,values_from = n)%>%
  mutate(an7=str_replace_na(an7,"Not Selected"),Fertile=str_replace_na(Fertile,"0"),
         Infertile=str_replace_na(Infertile,"0"),p_value=c("0.04","","","","",""))%>%
  column_to_rownames(var="an7")
treat7$Fertile<-as.integer(treat7$Fertile)
treat7$Infertile<-as.integer(treat7$Infertile)
bind_rows(ans_1=treat1,ans_2=treat2,ans_3=treat3,
          ans_4=treat4,ans_5=treat5,ans_6=treat6,ans_7=treat7,.id = "Variables")
```

```
##                                          Variables Fertile Infertile p_value
## In-vito fertilization (IVF)...1              ans_1       7        14    0.16
## Intra uterine insemination (IUI)...2         ans_1       2         0
## Intracytoplasmic sperm injection (ICS)...3   ans_1       1         0
## Sperm donor...4                              ans_1       2         6
## Use of medication (Hormonal drugs)           ans_1      59       154
## Surrogacy...6                                ans_1       0         1
## In-vito fertilization (IVF)...7              ans_2      43       127    0.23
```

```
## Laparascopic/hysteroscopic surgery...8          ans_2       2         1
## Ova donor...9                                   ans_2       2         3
## Sperm donor...10                                ans_2       8        15
## Surrogacy...11                                  ans_2       2         2
## Varicocelectomy...12                            ans_2       1         0
## Not Selected...13                               ans_2      13        26
## Intra uterine insemination (IUI)...14           ans_2       0         1
## Intracytoplasmic sperm injection (ICS)...15     ans_3       2         0    0.03
## Laparascopic/hysteroscopic surgery...16         ans_3       2        14
## Ova donor...17                                  ans_3       6        13
## Sperm donor...18                                ans_3      33        55
## Surrogacy...19                                  ans_3       8        29
## Not Selected...20                               ans_3      20        54
## Intra uterine insemination (IUI)...21           ans_3       0         1
## Varicocelectomy...22                            ans_3       0         9
## Intra uterine insemination (IUI)...23           ans_4       4         6    0.14
## Laparascopic/hysteroscopic surgery...24         ans_4       2        17
## Ova donor...25                                  ans_4      21        40
## Ovarian stimulation...26                        ans_4       1         0
## Surrogacy...27                                  ans_4      13        25
## Varicocelectomy...28                            ans_4       1         9
## Not Selected...29                               ans_4      29        78
## Intra uterine insemination (IUI)...30           ans_5       5        10    0.14
## Intracytoplasmic sperm injection (ICS)...31     ans_5       2         0
## Laparascopic/hysteroscopic surgery...32         ans_5       1        13
## Surrogacy...33                                  ans_5      19        33
## Not Selected...34                               ans_5      44       112
## Ovarian stimulation...35                        ans_5       0         1
## Varicocelectomy...36                            ans_5       0         6
## Intra uterine insemination (IUI)...37           ans_6      12        20    0.52
## Laparascopic/hysteroscopic surgery...38         ans_6       3         5
## Ovarian stimulation...39                        ans_6       2         3
## Not Selected...40                               ans_6      54       139
## Intracytoplasmic sperm injection (ICS)...41     ans_6       0         1
## Tubal surgeries                                 ans_6       0         1
## Varicocelectomy...43                            ans_6       0         6
## Intra uterine insemination (IUI)...44           ans_7       2         3    0.04
## Intracytoplasmic sperm injection (ICS)...45     ans_7       6         2
## Laparascopic/hysteroscopic surgery...46         ans_7       2         6
## Varicocelectomy...47                            ans_7       2        11
## Not Selected...48                               ans_7      59       153
```