Chargement des librairies

```
library(FactoMineR)
library(factoextra)
```

```
## Le chargement a nécessité le package : ggplot2
```

```
## Welcome! Want to learn more? See two factoextra-related books at https://goo.gl/ve3WBa
```

Chargement des données

```
# Importation des données
data <- read.csv("data/data.csv", sep = ",", dec=".")
```

Choix des variables à intégrer dans l'analyse factorielle

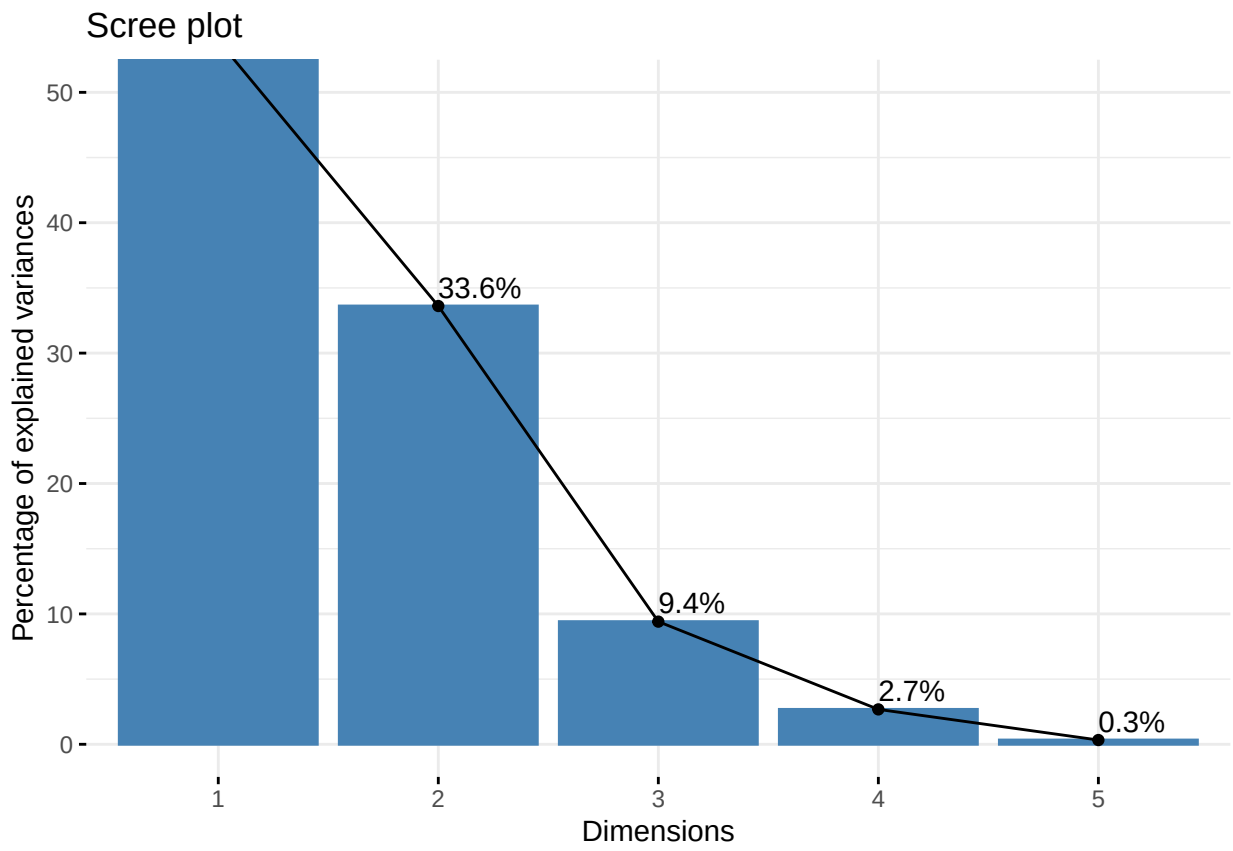
```
data_acp <- data[, c("nb_visite", "population_municipale_2021_x",
                             "taux_de_mortalite_annuel_moyen_2015_2021",
                             "taux_de_natalite_annuel_moyen_2015_2021",
                             "part_des_pers_agees_de_75_ans_ou_2021"
                     )]
```

Mise en oeuvre de l'Analyse factorielle

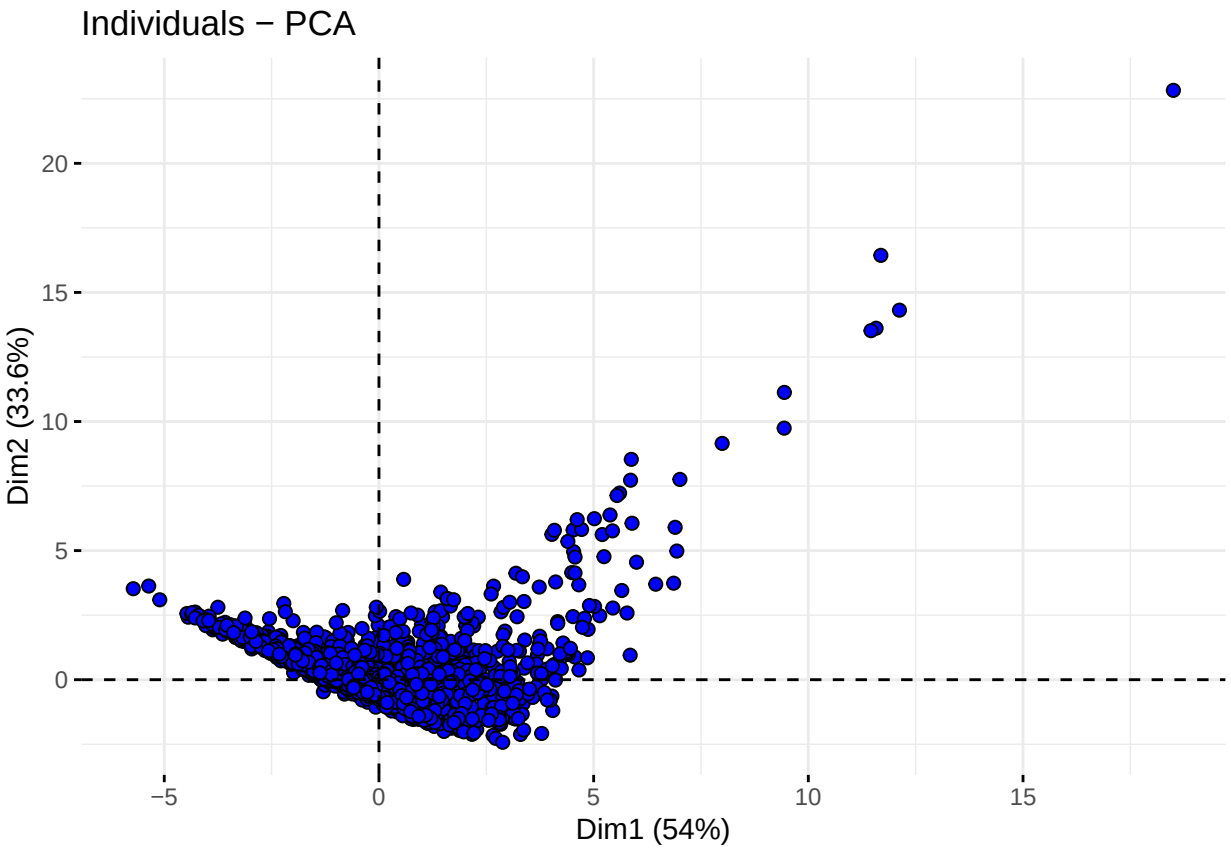
```
# Vérification du type des variables
str(data_acp)
```

```
## 'data.frame':    3273 obs. of  5 variables:
##  $ nb_visite                                : int  23587 3842 4368 4519 3953 4848 13495 12398 6082 484
##  $ population_municipale_2021_x             : int  14854 3409 3336 4065 3636 3434 16295 9239 4877 336
##  $ taux_de_mortalite_annuel_moyen_2015_2021: num  9.2 7.1 4.4 5.7 5.2 8.4 8.9 13.4 6 4.7 ...
##  $ taux_de_natalite_annuel_moyen_2015_2021 : num  15.4 8.8 10.9 11 10.9 14.5 13.7 10.2 8.8 12.6 ...
##  $ part_des_pers_agees_de_75_ans_ou_2021    : num  9 10 8.9 6.2 9.1 6.3 7.9 13.9 9 7.4 ...
```

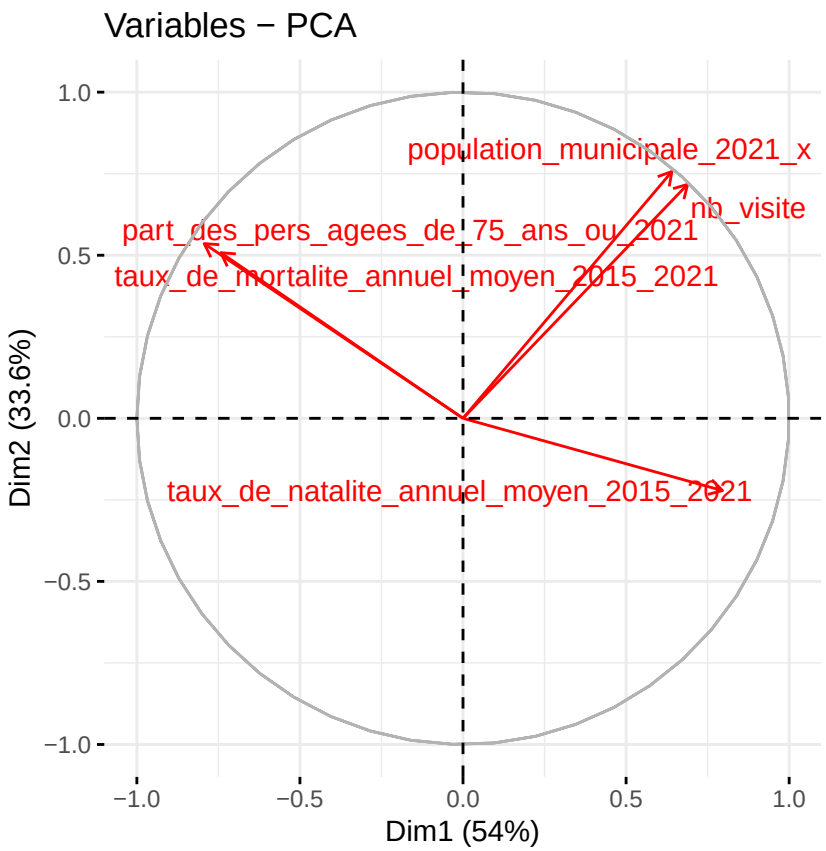
```
# Réaliser l'ACP
resultat_acp <- PCA(data_acp, scale.unit = TRUE, ncp = 5, graph = FALSE)

# Afficher le diagramme des valeurs propres
fviz_eig(resultat_acp, addlabels = TRUE, ylim = c(0, 50))
```



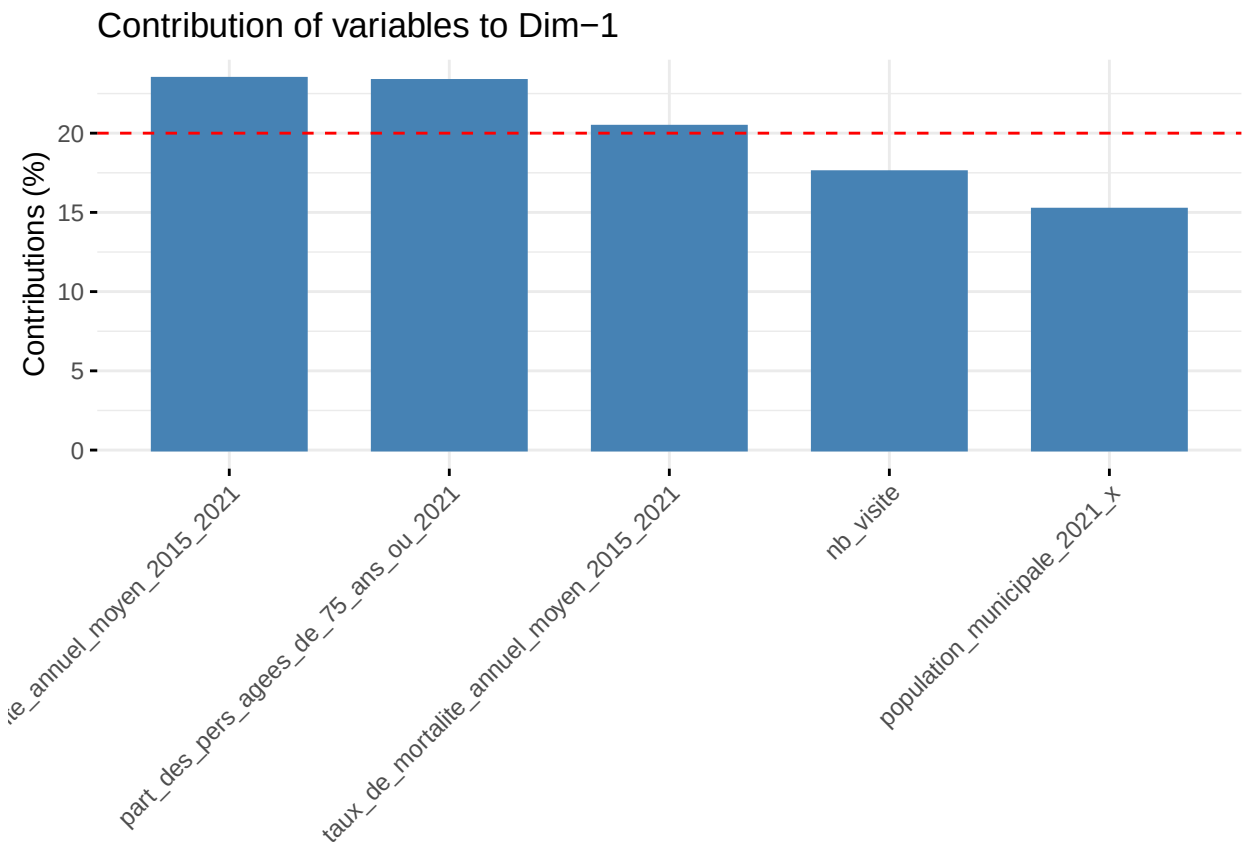

```
# Visualiser les résultats
fviz_pca_ind(resultat_acp, geom.ind = "point", pointshape = 21, pointsize = 2,
             fill.ind = "blue", col.ind = "black", repel = TRUE)
```



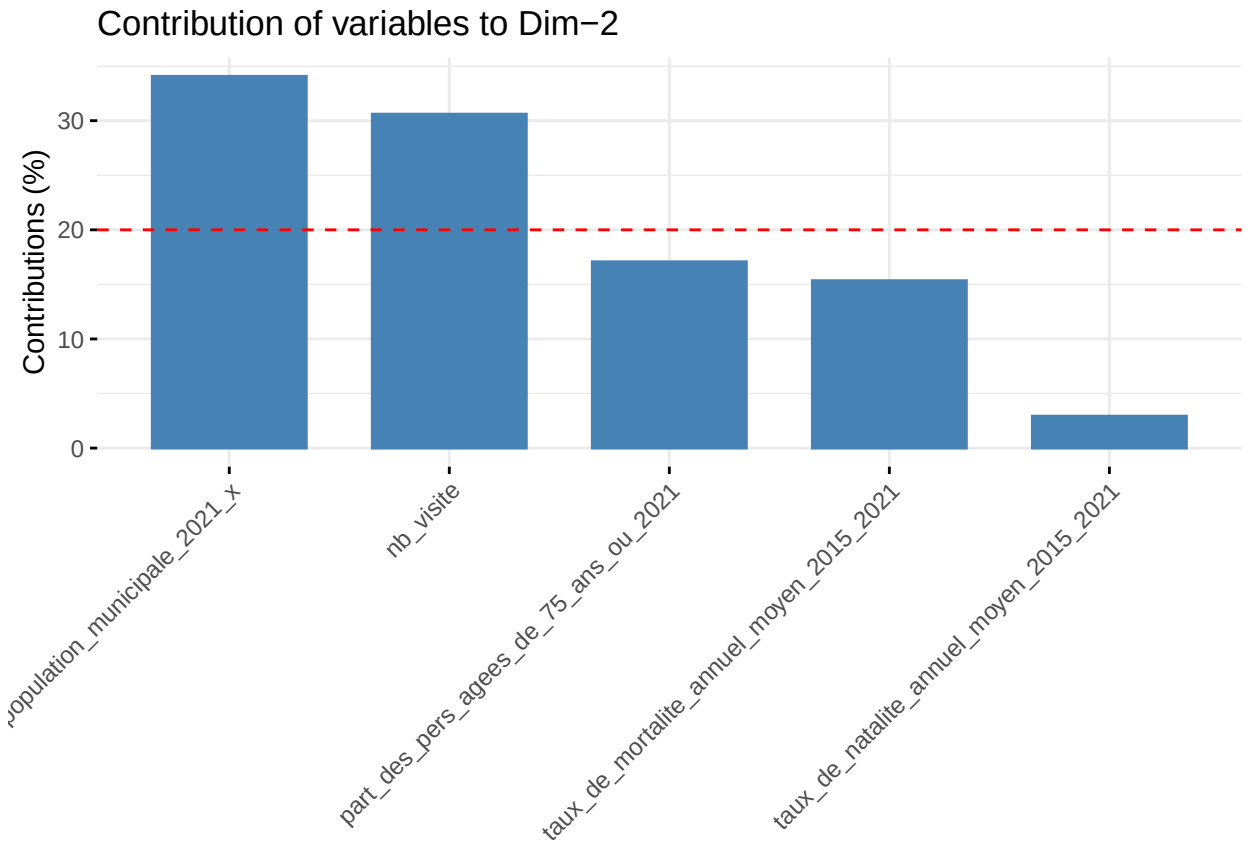

```
fviz_pca_var(resultat_acp, col.var = "red", repel = TRUE)
```




```
# Afficher les contributions des variables
fviz_contrib(resultat_acp, choice = "var", axes = 1)
```




```
fviz_contrib(resultat_acp, choice = "var", axes = 2)
```


Contribution of variables to Dim−2
Contributions (%)
30
20
10
0
population_municipale_2021_x
nb_visite
part_des_pers_agees_de_75_ans_ou_2021
taux_de_mortalite_annuel_moyen_2015_2021
taux_de_natalite_annuel_moyen_2015_2021