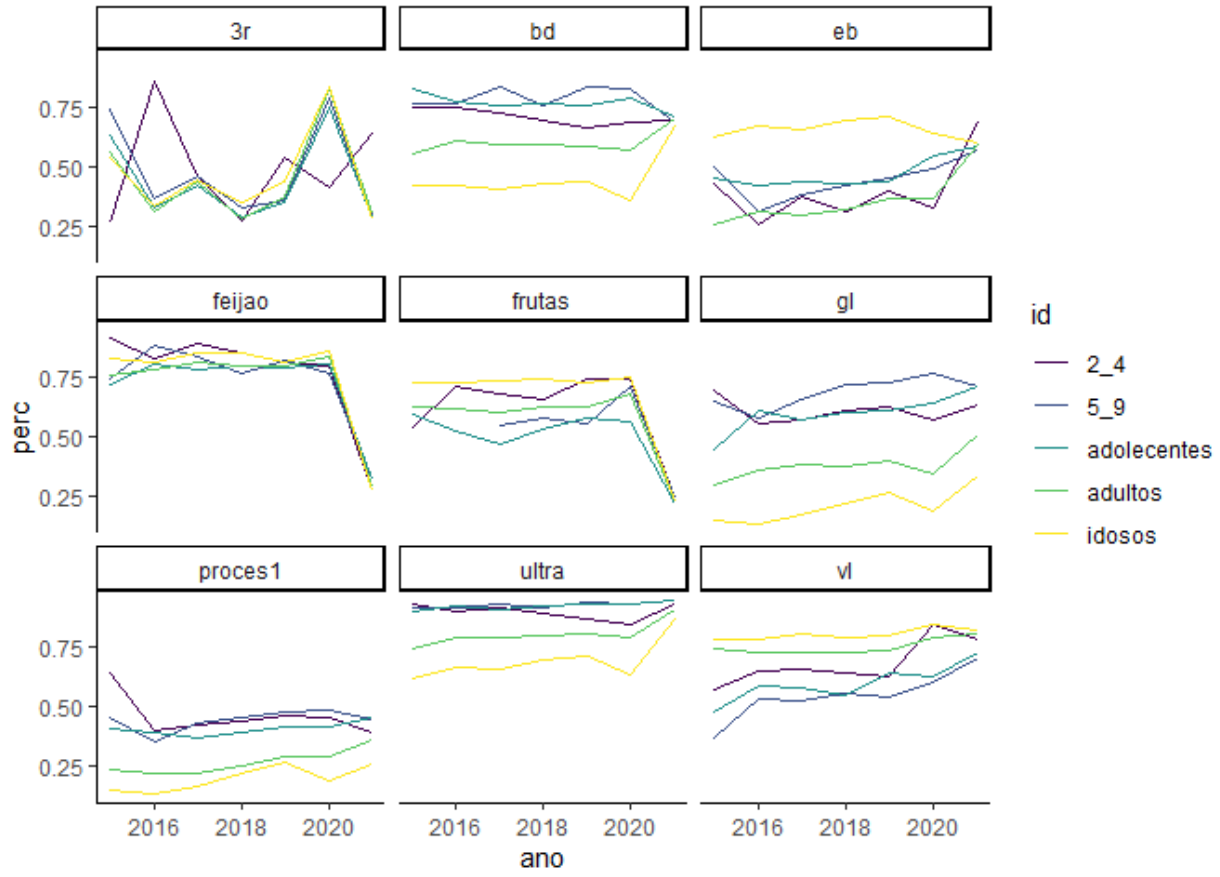
diagnosticos-pp

Carregando o banco de dados

```
`%>%` <- magrittr::`%>%`
saude <- readr::read_rds("data/saude.rds") %>%
  dplyr::mutate(tipo = stringr::str_to_lower(tipo))
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
```

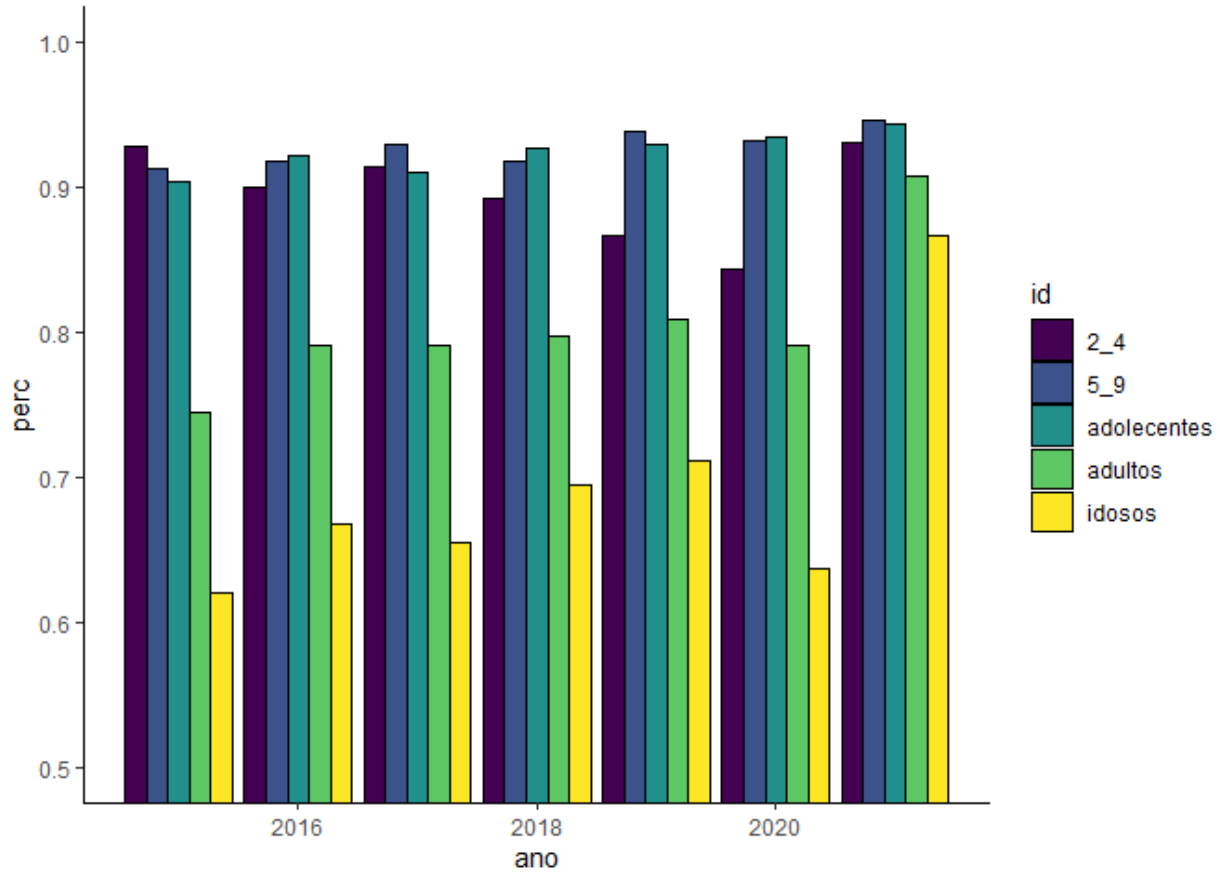
Visualizando a série temporal

```
saude %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,color=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_line() +
  ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_color_viridis_d()+
  ggplot2::theme_classic()
```

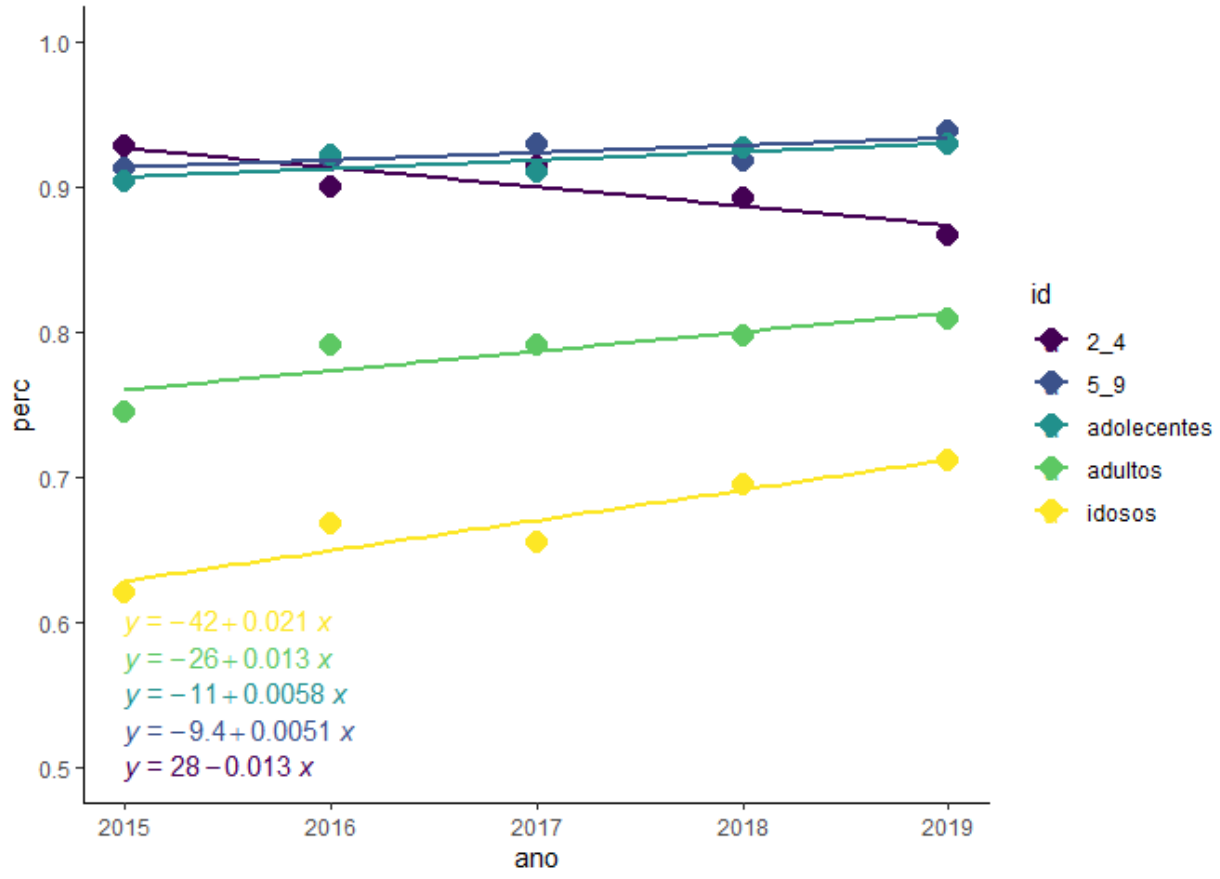


Consumo de ultraprocessados

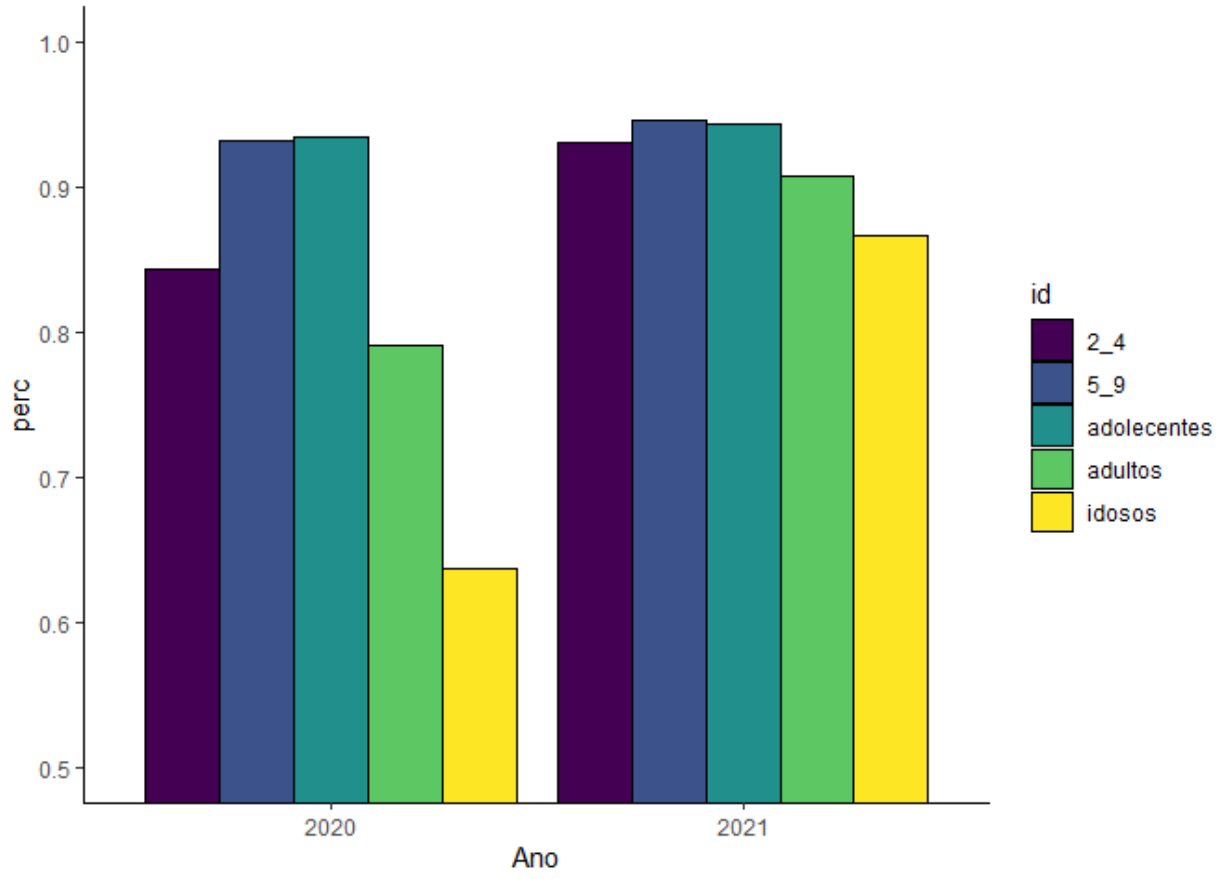
```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>%
  dplyr::filter(tipo == "ultra") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() +
  ggplot2::coord_cartesian(ylim=c(.5,1))
```




```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano <= 2019) %>%
  dplyr::filter(tipo == "ultra") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,color=id))+
  ggplot2::geom_point(shape=16,size=4) +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_color_viridis_d()+
  ggplot2::theme_classic() +
  ggplot2::coord_cartesian(ylim=c(.5,1))+
  ggplot2::geom_smooth(method = "lm",se=FALSE) +
  ggpubr::stat_regline_equation(label.y = seq(.5,.6,.025) )
```



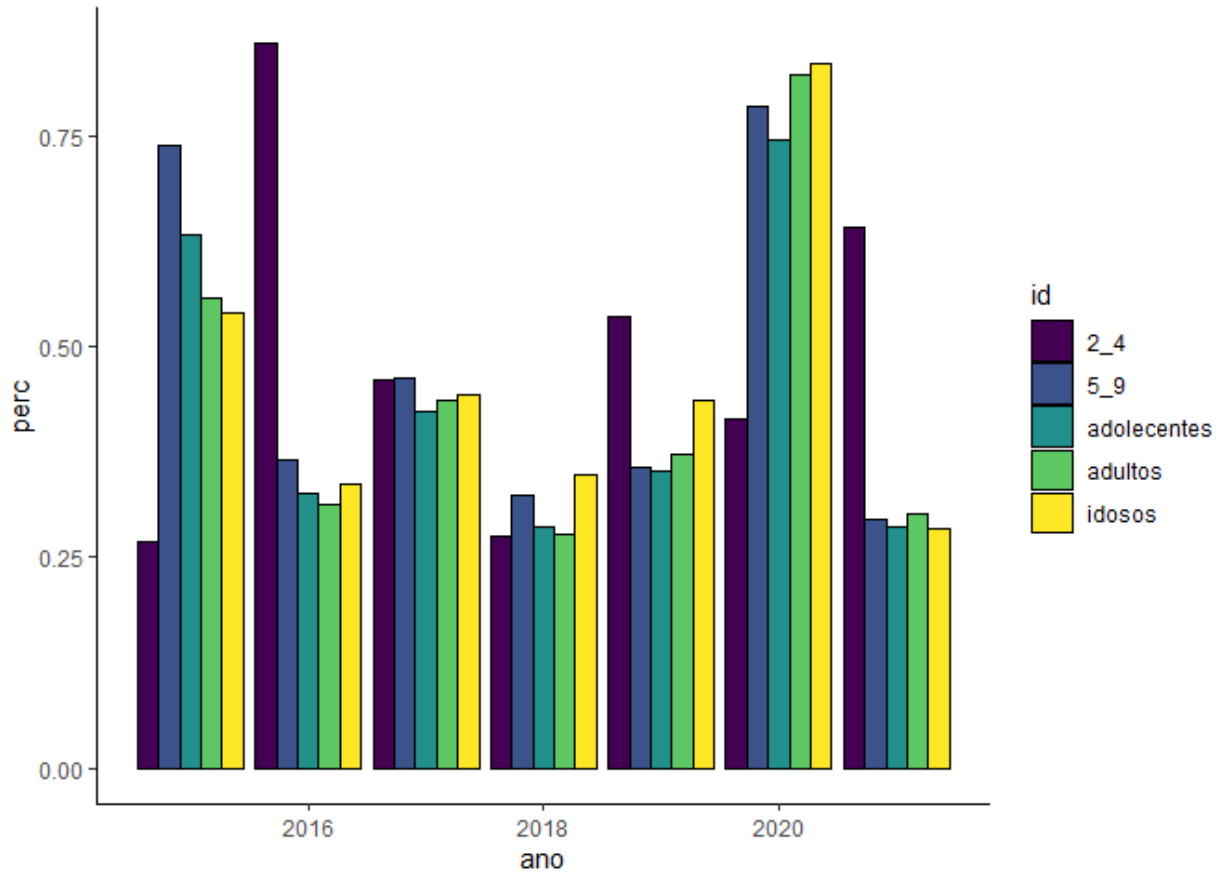

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "ultra") %>%
  ggplot2::ggplot(ggplot2::aes(x=as.factor(ano),y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() +
  ggplot2::coord_cartesian(ylim=c(.5,1)) +
  ggplot2::labs(x="Ano")
```




```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "ultra") %>%
  tidyr::pivot_wider(names_from = ano, values_from = perc,id_cols = id) %>%
  dplyr::mutate(dif = (`2021` - `2020`)*100)
#> # A tibble: 5 x 4
#>   id          `2020` `2021`   dif
#>   <chr>        <dbl>  <dbl> <dbl>
#> 1 2_4          0.843  0.931  8.74
#> 2 5_9          0.933  0.947  1.42
#> 3 adolecentes  0.935  0.944  0.912
#> 4 adultos      0.792  0.908 11.6
#> 5 idosos       0.637  0.866 22.9
```

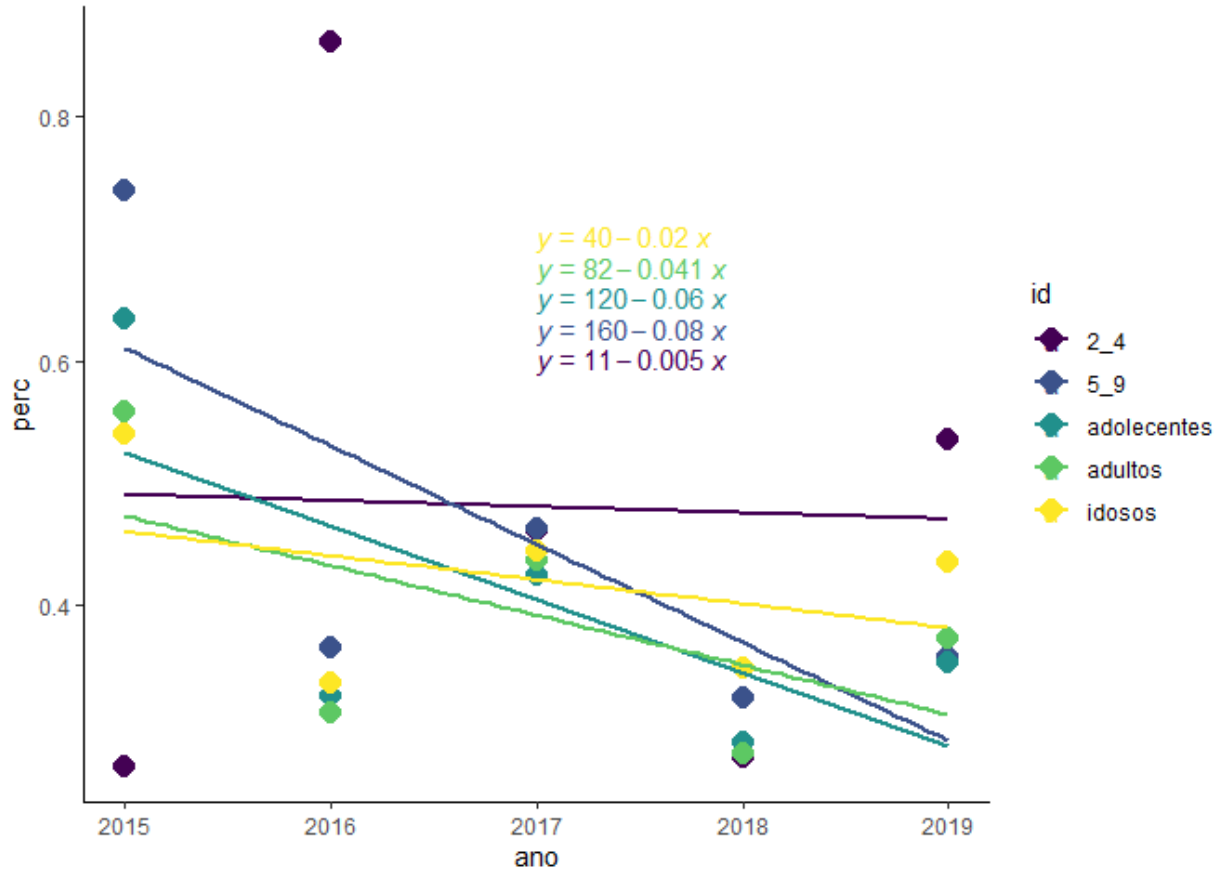
Três refeições ao dia

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>%
  dplyr::filter(tipo == "3r") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() #
```



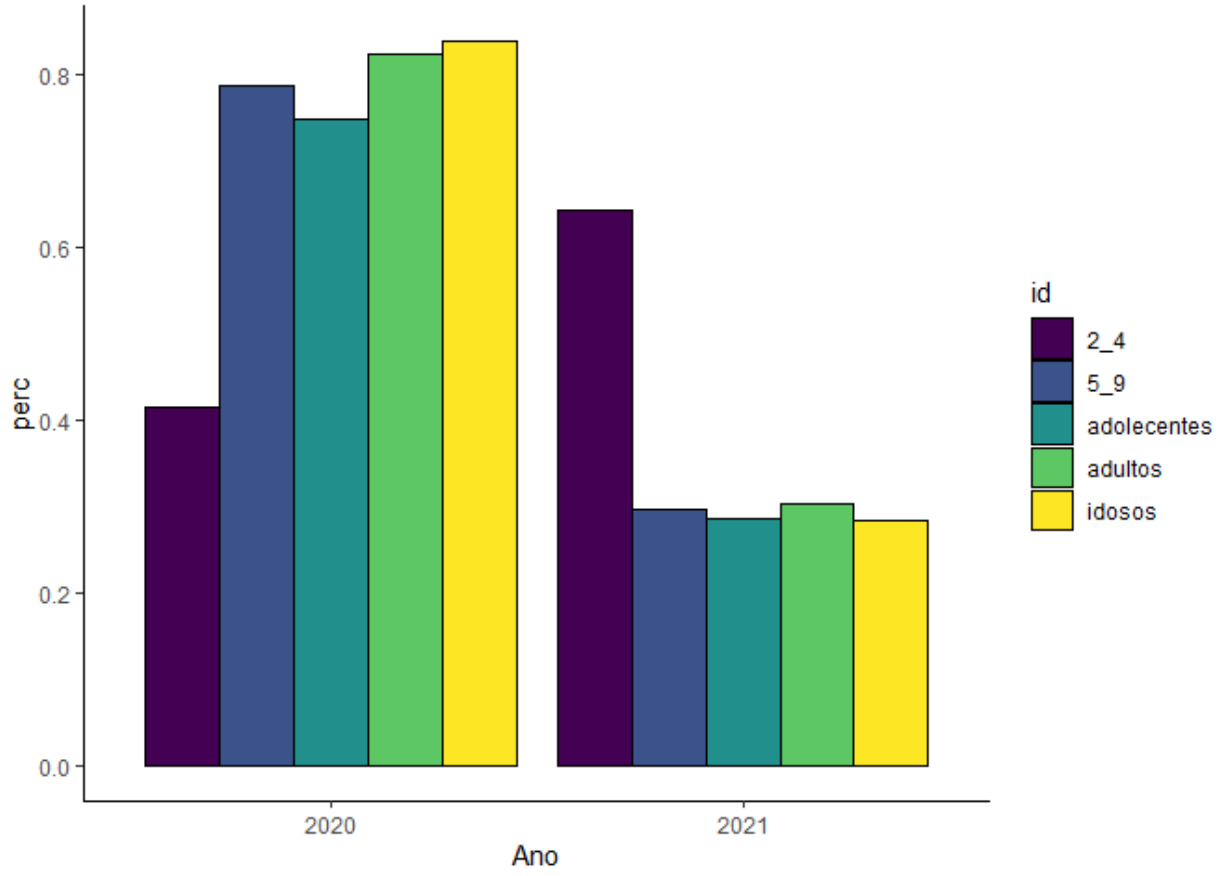

```
  #ggplot2::coord_cartesian(ylim=c(.5,1))
```

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano <= 2019) %>%
  dplyr::filter(tipo == "3r") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,color=id))+
  ggplot2::geom_point(shape=16,size=4) +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_color_viridis_d()+
  ggplot2::theme_classic() +
  # ggplot2::coord_cartesian(ylim=c(.5,1))+
  ggplot2::geom_smooth(method = "lm",se=FALSE) +
  ggpubr::stat_regline_equation(label.y = seq(.6,.7,.025),
                                label.x = rep(2017,5))
```



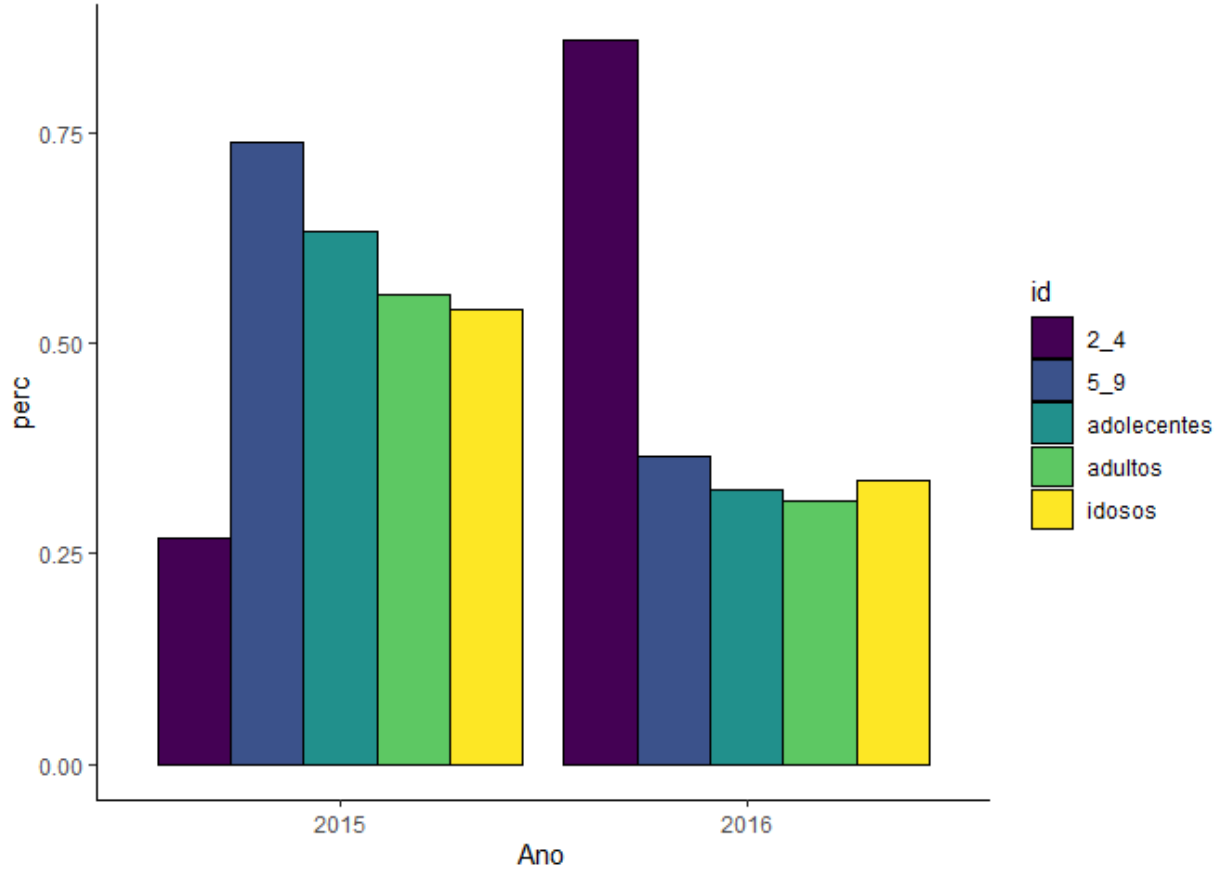

```
dplyr::glimpse(saude)
#> Rows: 315
```

```
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "3r") %>%
  ggplot2::ggplot(ggplot2::aes(x=as.factor(ano),y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() +
  #ggplot2::coord_cartesian(ylim=c(.5,1)) +
  ggplot2::labs(x="Ano")
```




```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
```

```
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano < 2017) %>%
  dplyr::filter(tipo == "3r") %>%
  ggplot2::ggplot(ggplot2::aes(x=as.factor(ano),y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() +
  #ggplot2::coord_cartesian(ylim=c(.5,1)) +
  ggplot2::labs(x="Ano")
```




```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
```

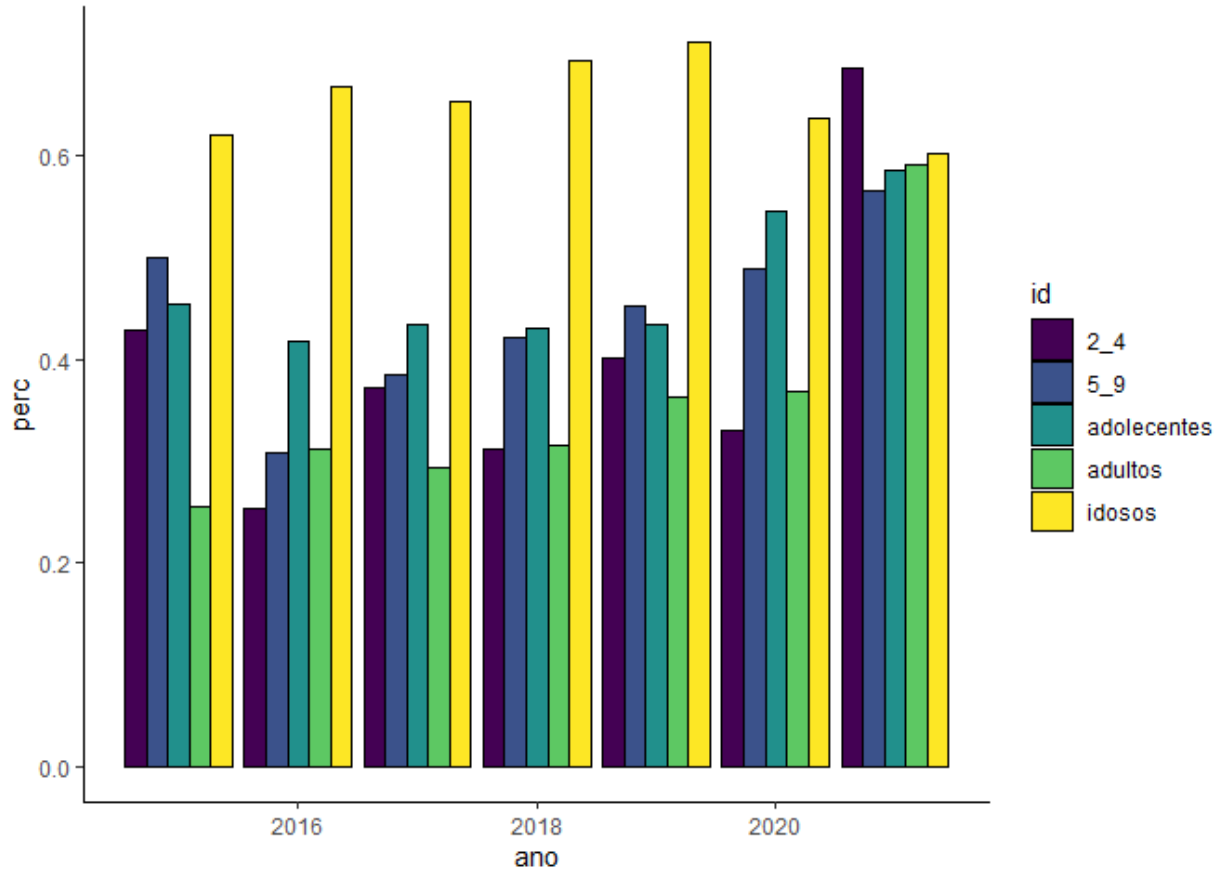
```
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "3r") %>%
  tidyr::pivot_wider(names_from = ano, values_from = perc,id_cols = id) %>%
  dplyr::mutate(dif = (`2021` - `2020`)*100)
#> # A tibble: 5 x 4
#>   id          `2020` `2021`   dif
#>   <chr>        <dbl>  <dbl> <dbl>
#> 1 2_4          0.414  0.643  22.8
#> 2 5_9          0.787  0.295 -49.1
#> 3 adolecentes  0.747  0.286 -46.1
#> 4 adultos      0.824  0.301 -52.3
#> 5 idosos       0.838  0.284 -55.4
```

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano < 2017) %>%
  dplyr::filter(tipo == "3r") %>%
  tidyr::pivot_wider(names_from = ano, values_from = perc,id_cols = id) %>%
  dplyr::mutate(dif = (`2016` - `2015`)*100)
#> # A tibble: 5 x 4
#>   id          `2015` `2016`   dif
#>   <chr>        <dbl>  <dbl> <dbl>
#> 1 2_4          0.269  0.861  59.2
#> 2 5_9          0.739  0.366 -37.3
#> 3 adolecentes  0.634  0.325 -30.9
#> 4 adultos      0.559  0.313 -24.6
#> 5 idosos       0.540  0.337 -20.4
```

Consumo de embutidos

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>%
```

```
  dplyr::filter(tipo == "eb") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() #+
```



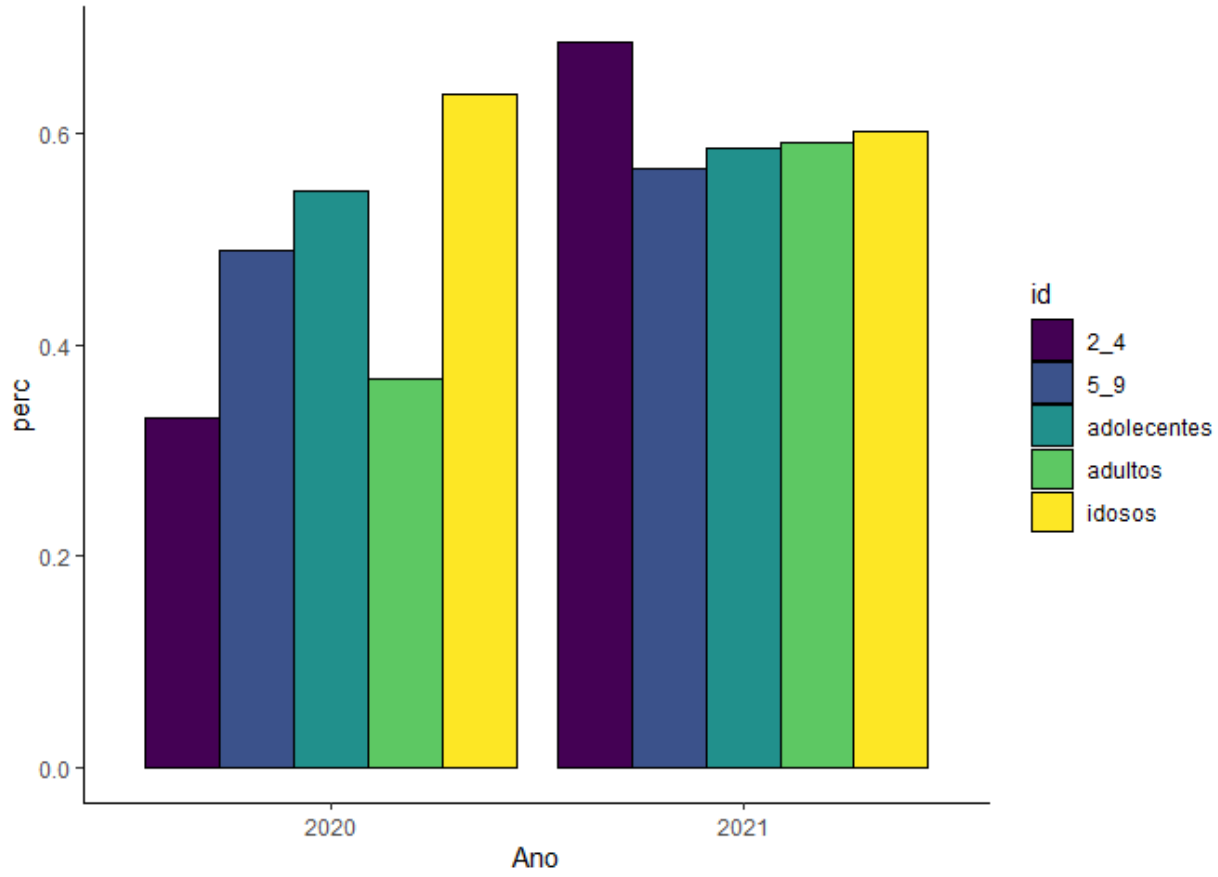

```
 # ggplot2::coord_cartesian(ylim=c(.5,1))
```

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano <= 2019) %>%
  dplyr::filter(tipo == "eb") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,color=id))+
  ggplot2::geom_point(shape=16,size=4) +
```

```
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_color_viridis_d()+
  ggplot2::theme_classic() +
  # ggplot2::coord_cartesian(ylim=c(.5,1))+
  ggplot2::geom_smooth(method = "lm",se=FALSE) +
  ggpubr::stat_regline_equation(label.y = seq(.5,.6,.025),
                                label.x= rep(2016,5))
```


```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "eb") %>%
  ggplot2::ggplot(ggplot2::aes(x=as.factor(ano),y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
```

```
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() +
  # ggplot2::coord_cartesian(ylim=c(.5,1)) +
  ggplot2::labs(x="Ano")
```

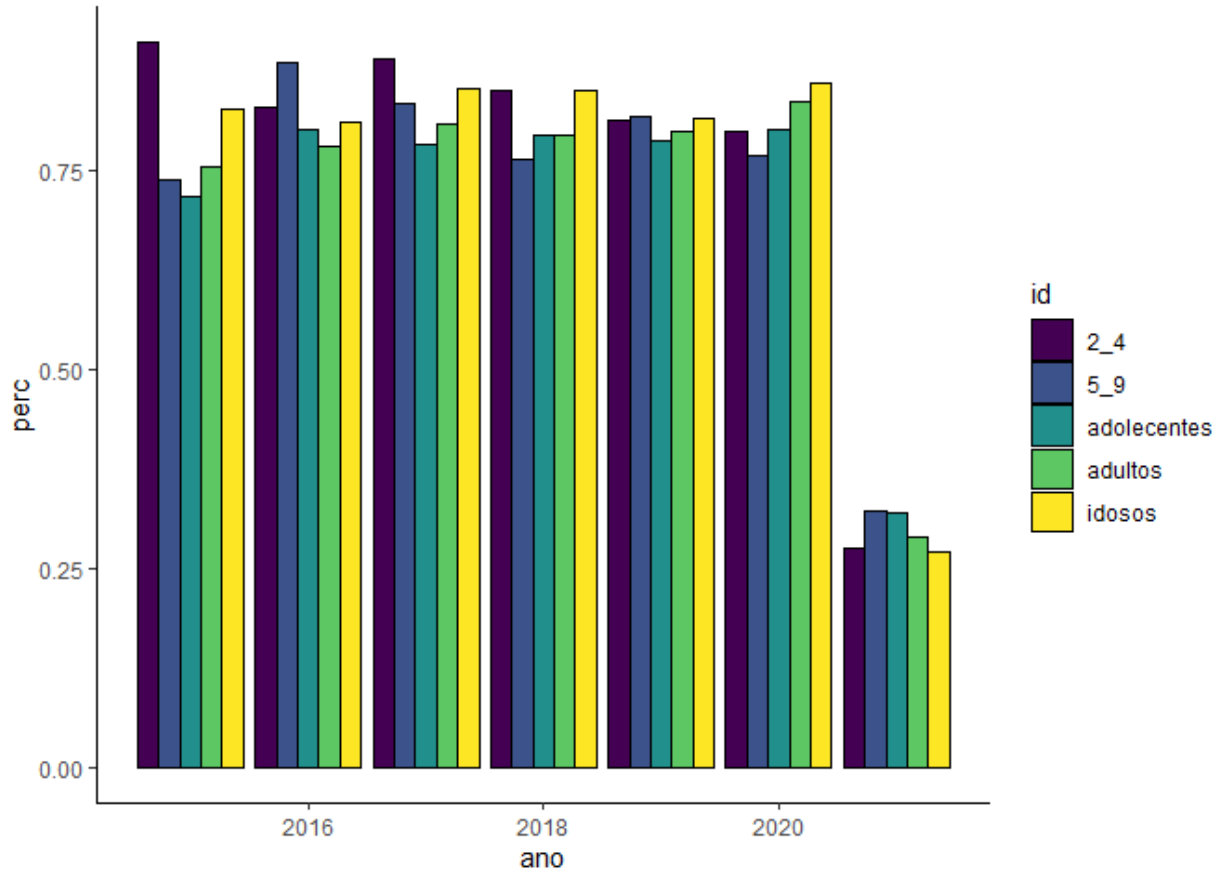



```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "eb") %>%
  tidyr::pivot_wider(names_from = ano, values_from = perc,id_cols = id) %>%
  dplyr::mutate(dif = (`2021` - `2020`)*100)
#> # A tibble: 5 x 4
#>   id          `2020` `2021`   dif
#>   <chr>        <dbl>  <dbl> <dbl>
#> 1 2_4          0.330  0.686 35.6
#> 2 5_9          0.489  0.566  7.74
```

```
#> 3 adolecentes  0.545  0.587  4.15
#> 4 adultos      0.368  0.591 22.3
#> 5 idosos       0.637  0.602 -3.44
```

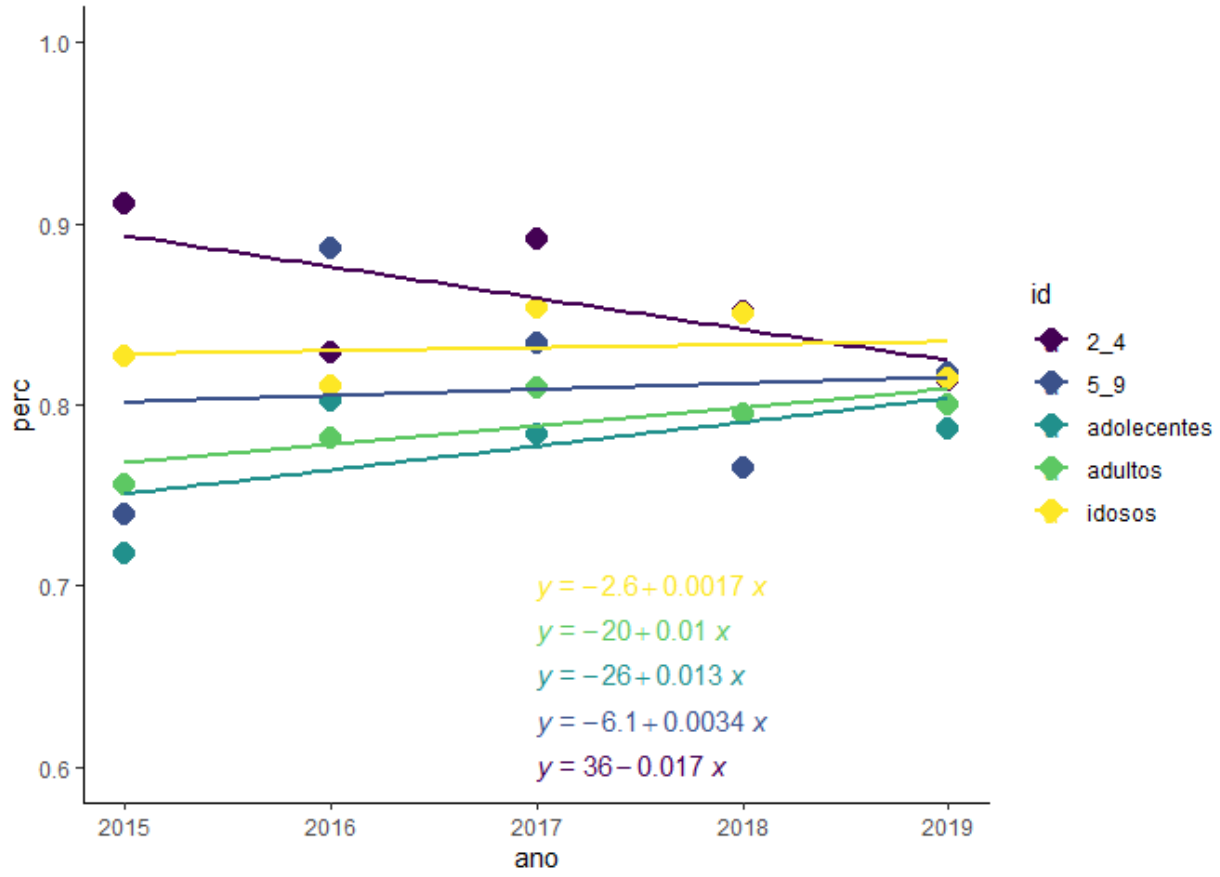
Feijão

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>%
  dplyr::filter(tipo == "feijao") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() #+
```

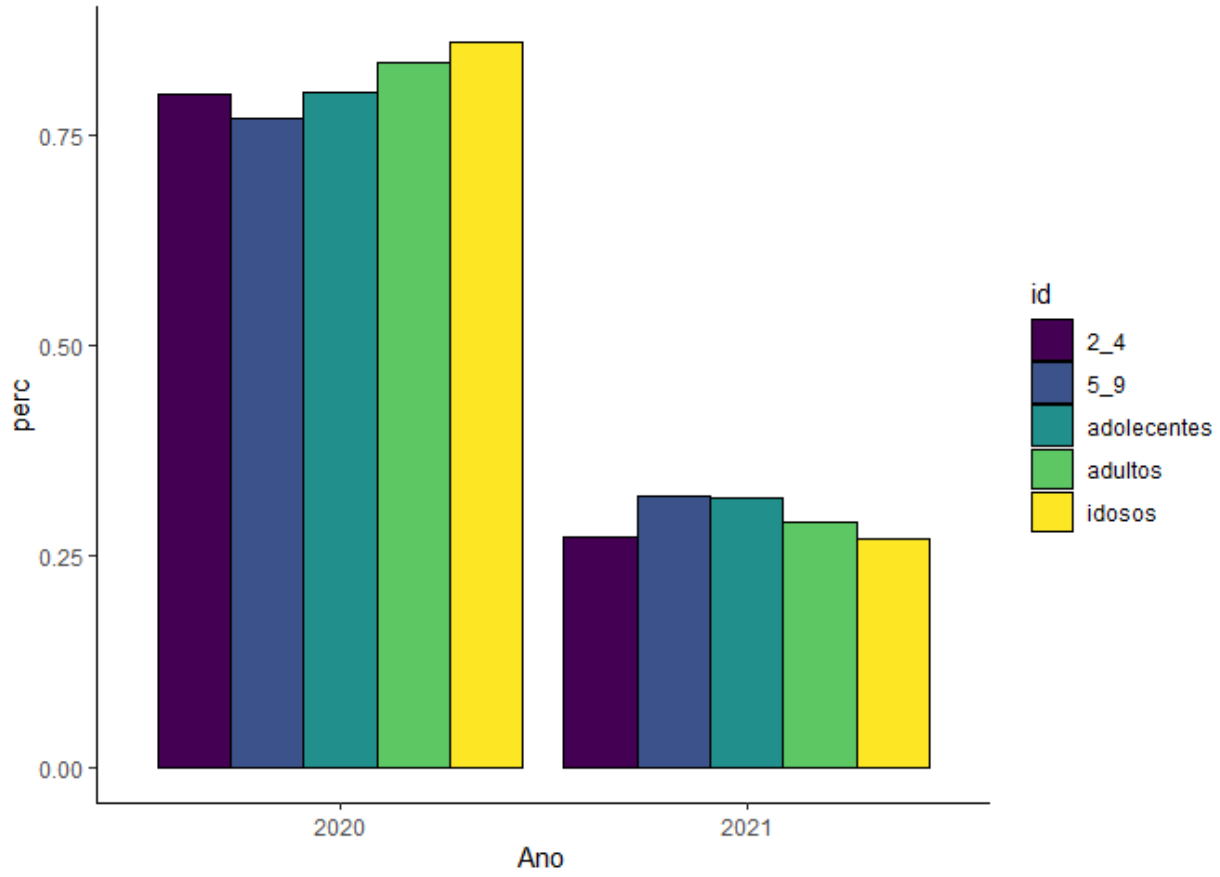



```
  #ggplot2::coord_cartesian(ylim=c(.5,1))
```

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano <= 2019) %>%
  dplyr::filter(tipo == "feijao") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,color=id))+
  ggplot2::geom_point(shape=16,size=4) +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_color_viridis_d()+
  ggplot2::theme_classic() +
  ggplot2::coord_cartesian(ylim=c(.6,1))+
  ggplot2::geom_smooth(method = "lm",se=FALSE) +
  ggpubr::stat_regline_equation(label.y = seq(.6,.7,.025),
                                label.x = rep(2017,5))
```



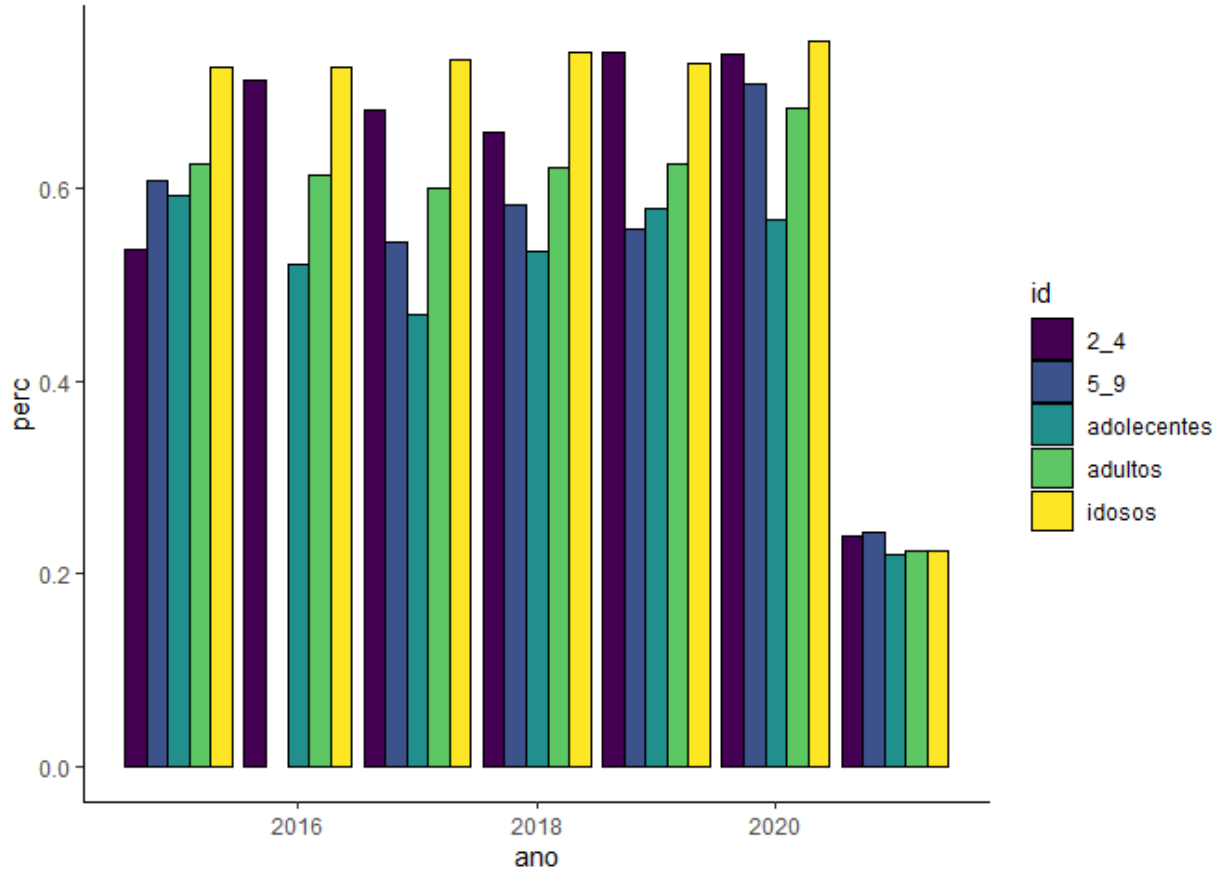

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "feijao") %>%
  ggplot2::ggplot(ggplot2::aes(x=as.factor(ano),y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() +
  # ggplot2::coord_cartesian(ylim=c(.5,1)) +
  ggplot2::labs(x="Ano")
```




```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "feijao") %>%
  tidyr::pivot_wider(names_from = ano, values_from = perc,id_cols = id) %>%
  dplyr::mutate(dif = (`2021` - `2020`)*100)
#> # A tibble: 5 x 4
#>   id          `2020` `2021`   dif
#>   <chr>        <dbl>  <dbl> <dbl>
#> 1 2_4          0.8    0.274 -52.6
#> 2 5_9          0.770  0.323 -44.7
#> 3 adolecentes  0.801  0.318 -48.3
#> 4 adultos      0.837  0.290 -54.8
#> 5 idosos       0.860  0.271 -59.0
```

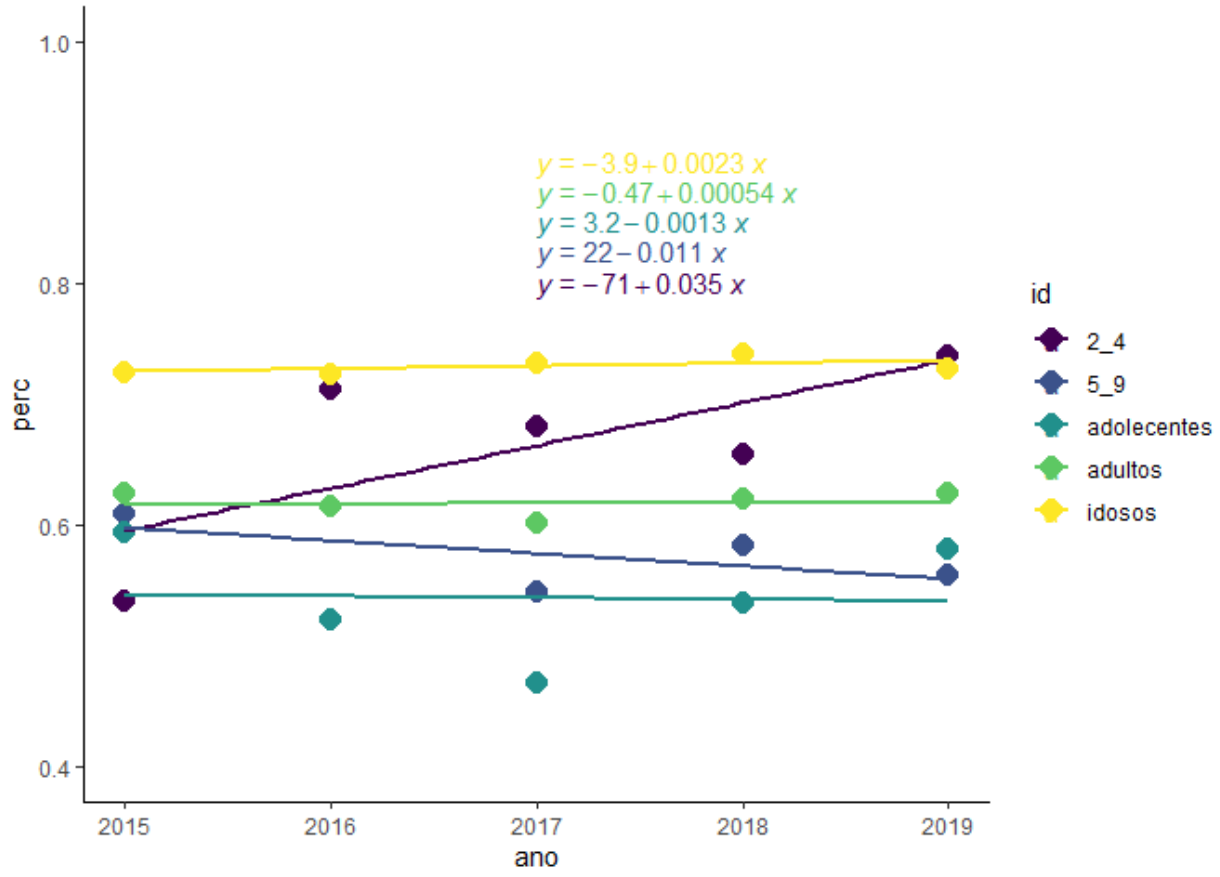
Frutas

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>%
  dplyr::filter(tipo == "frutas") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() #+
```



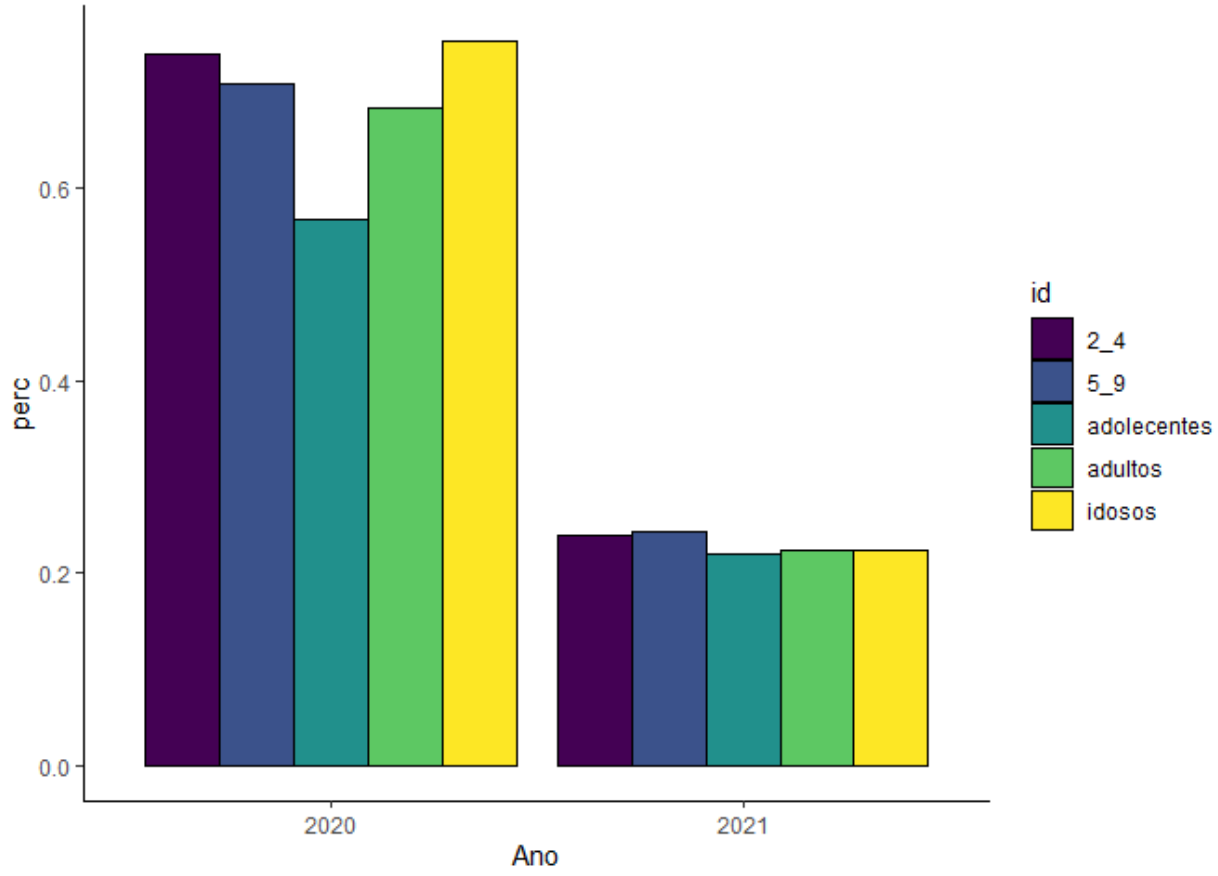

```
  #ggplot2::coord_cartesian(ylim=c(.5,1))
```

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano <= 2019) %>%
  dplyr::filter(tipo == "frutas") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,color=id))+
  ggplot2::geom_point(shape=16,size=4) +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_color_viridis_d()+
  ggplot2::theme_classic() +
  ggplot2::coord_cartesian(ylim=c(.4,1))+
  ggplot2::geom_smooth(method = "lm",se=FALSE) +
  ggpubr::stat_regline_equation(label.y = seq(.8,.9,.025),
                                label.x = rep(2017,5))
```




```
dplyr::glimpse(saude)
#> Rows: 315
```

```
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "frutas") %>%
  ggplot2::ggplot(ggplot2::aes(x=as.factor(ano),y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() +
  # ggplot2::coord_cartesian(ylim=c(.5,1)) +
  ggplot2::labs(x="Ano")
```

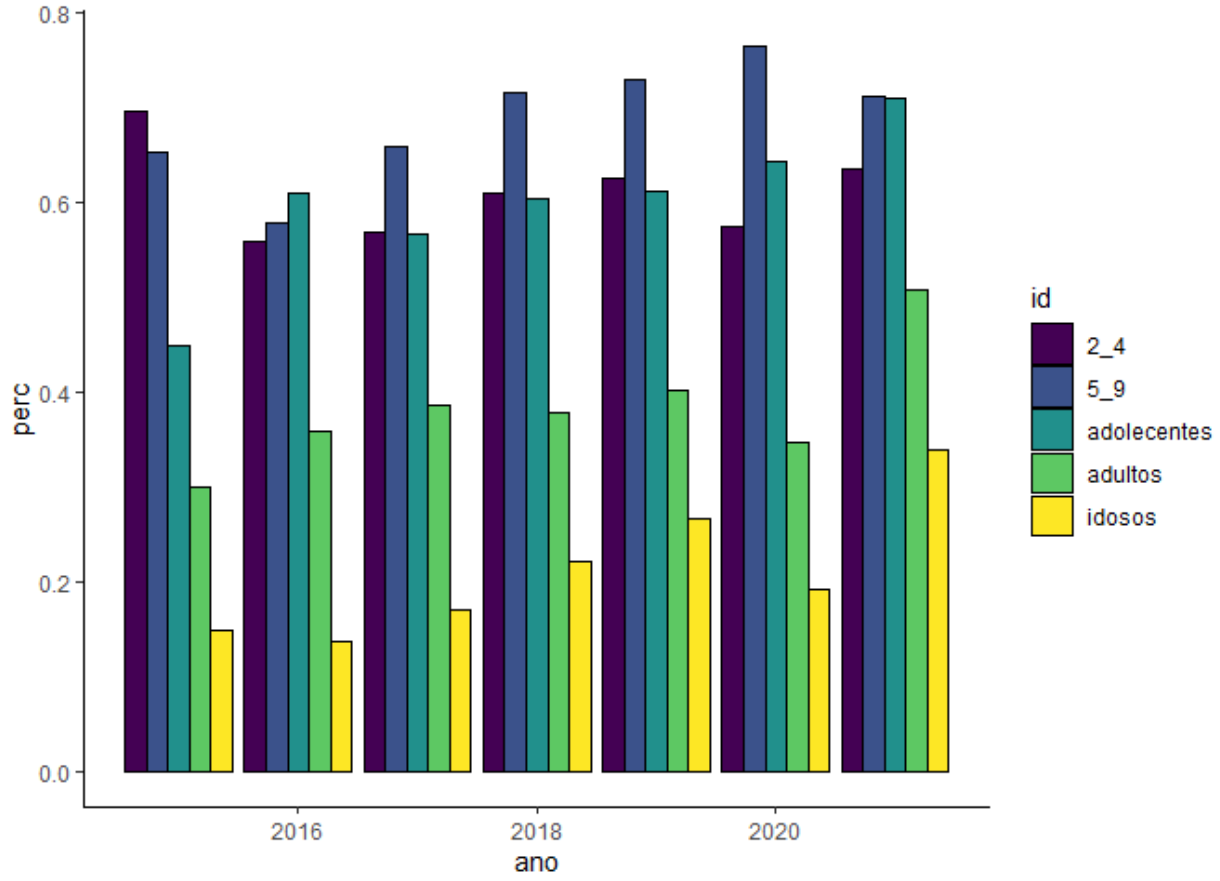



```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
```

```
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "frutas") %>%
  tidyr::pivot_wider(names_from = ano, values_from = perc,id_cols = id) %>%
  dplyr::mutate(dif = (`2021` - `2020`)*100)
#> # A tibble: 5 x 4
#>   id          `2020` `2021`   dif
#>   <chr>        <dbl>  <dbl> <dbl>
#> 1 2_4          0.739  0.239 -50.0
#> 2 5_9          0.708  0.242 -46.6
#> 3 adolecentes  0.567  0.219 -34.8
#> 4 adultos      0.683  0.224 -45.8
#> 5 idosos       0.752  0.224 -52.8
```

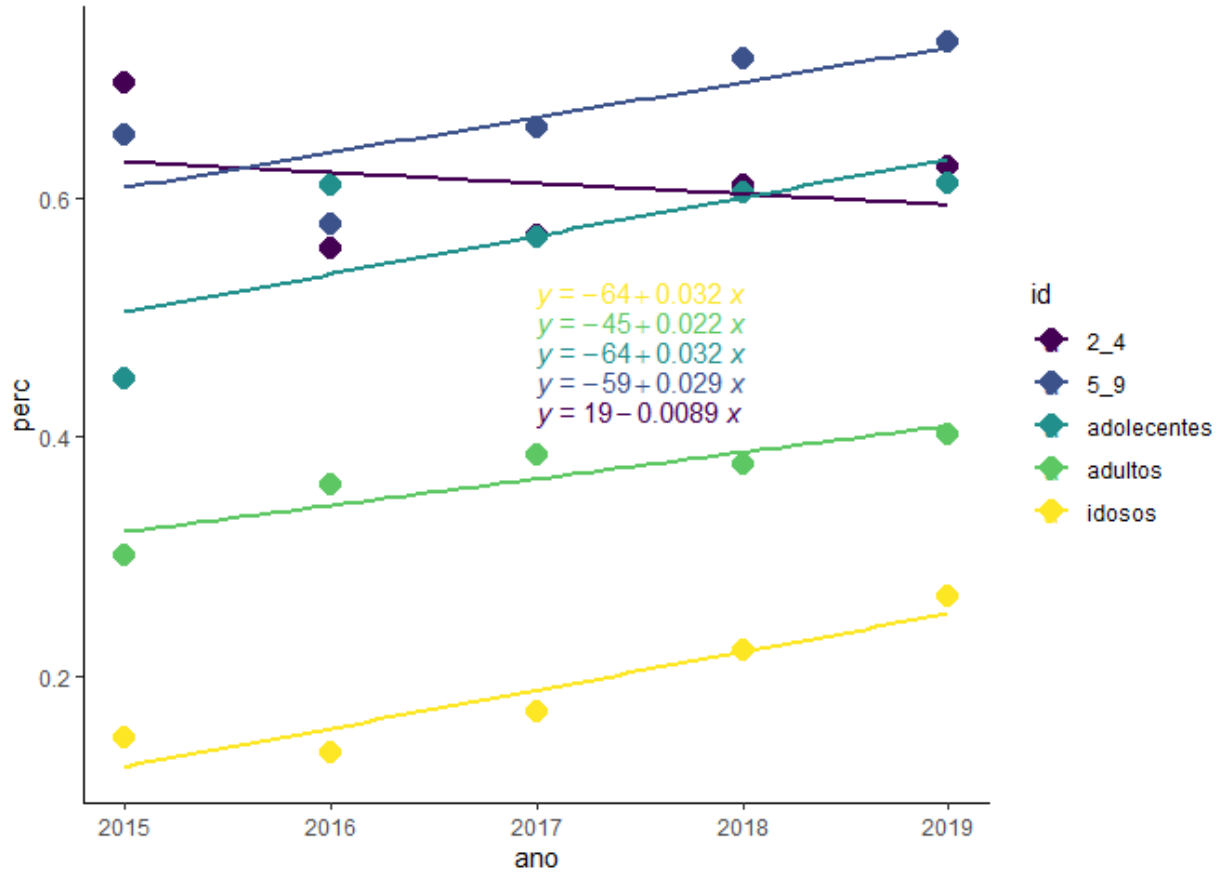
Guloseimas

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>%
  dplyr::filter(tipo == "gl") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() #+
```

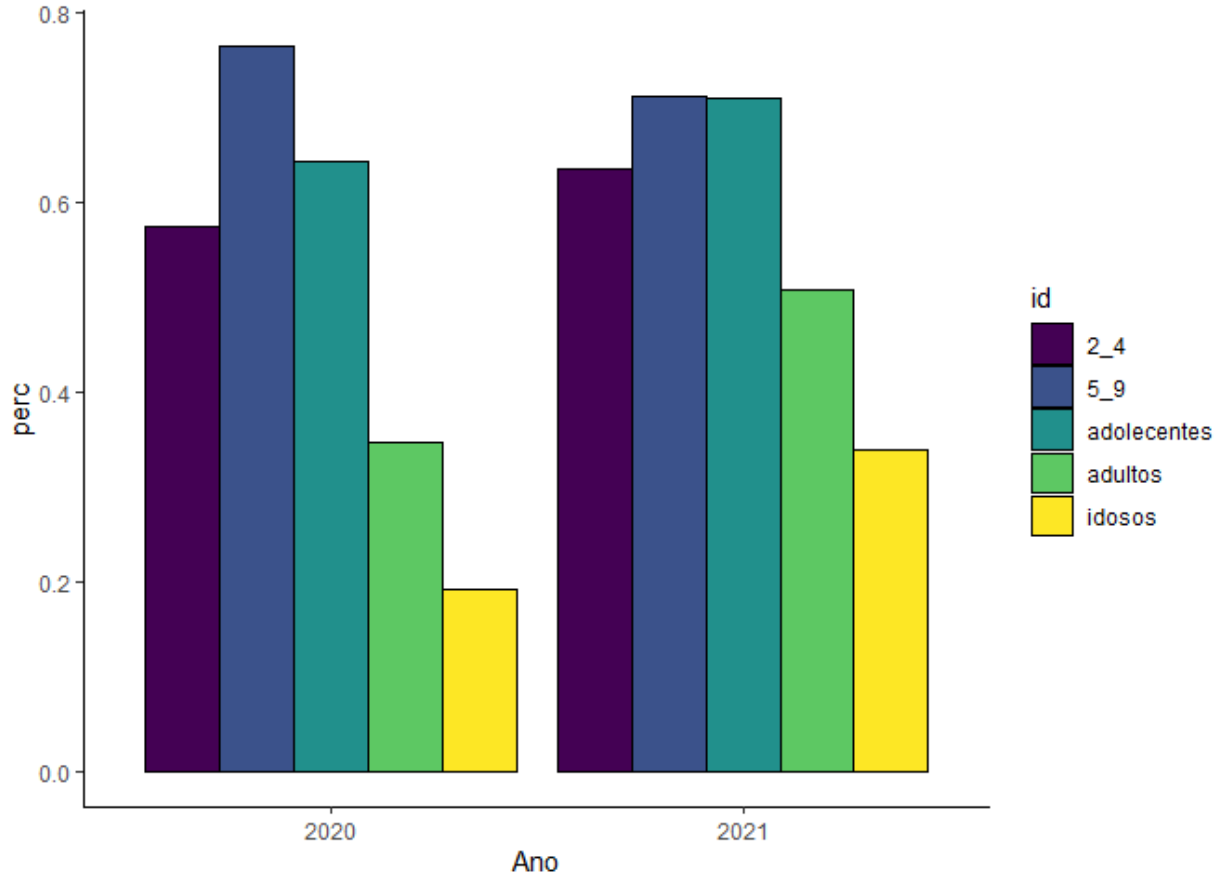



```
  #ggplot2::coord_cartesian(ylim=c(.5,1))
```

```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano <= 2019) %>%
  dplyr::filter(tipo == "gl") %>%
  ggplot2::ggplot(ggplot2::aes(x=ano,y=perc,color=id))+
  ggplot2::geom_point(shape=16,size=4) +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_color_viridis_d()+
  ggplot2::theme_classic() +
  #ggplot2::coord_cartesian(ylim=c(.6,1))+
  ggplot2::geom_smooth(method = "lm",se=FALSE) +
  ggpubr::stat_regline_equation(label.y = seq(.42,.52,.025),
                                label.x = rep(2017,5))
```




```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "gl") %>%
  ggplot2::ggplot(ggplot2::aes(x=as.factor(ano),y=perc,fill=id))+
  #ggplot2::geom_col(position = "dodge")+
  ggplot2::geom_col(position="dodge",color="black") +
  # ggplot2::facet_wrap(~tipo,ncol=3)+
  ggplot2::scale_fill_viridis_d()+
  ggplot2::theme_classic() +
  # ggplot2::coord_cartesian(ylim=c(.5,1)) +
  ggplot2::labs(x="Ano")
```




```
dplyr::glimpse(saude)
#> Rows: 315
#> Columns: 7
#> $ cidade  <chr> "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru", "Bauru",~
#> $ ano     <dbl> 2015, 2015, 2015, 2015, 2015, 2016, 2016, 2016, 2016, 2016, 20~
#> $ id      <chr> "2_4", "5_9", "adolecentes", "adultos", "idosos", "2_4", "5_9"~
#> $ tipo    <chr> "ultra", "ultra", "ultra", "ultra", "ultra", "ultra", "ultra",~
#> $ total   <dbl> 56, 46, 145, 687, 311, 181, 123, 369, 2390, 1444, 220, 270, 56~
#> $ amostra <dbl> 52, 42, 131, 512, 193, 163, 113, 340, 1889, 965, 201, 251, 517~
#> $ perc    <dbl> 0.9285714, 0.9130435, 0.9034483, 0.7452693, 0.6205788, 0.90055~
saude %>% dplyr::filter(ano > 2019) %>%
  dplyr::filter(tipo == "gl") %>%
  tidyr::pivot_wider(names_from = ano, values_from = perc,id_cols = id) %>%
  dplyr::mutate(dif = (`2021` - `2020`)*100)
#> # A tibble: 5 x 4
#>   id          `2020` `2021`   dif
#>   <chr>        <dbl>  <dbl> <dbl>
#> 1 2_4          0.574  0.636  6.17
#> 2 5_9          0.764  0.711 -5.28
#> 3 adolecentes  0.643  0.709  6.69
#> 4 adultos      0.346  0.507 16.1
#> 5 idosos       0.192  0.339 14.7
```