Just to clarify further my answer please see below my code:
DHSdesign<-svydesign(id= ~fin_df$PSU,
            strata= ~fin_df$STRATA,
            weights= ~fin_df$PERWEIGHT, # the weights have already been divided by
1000000
            data=fin_df)   # fin_df has already been subset by region of interest

This is the outcome I obtain by calling the summary of my survey design
summary(DHSdesign)

Stratified 1 - level Cluster Sampling design (with replacement)
With (36) clusters.

Therefore I need to use DEFF = "replace" to obtain the DEFF as below:
svymean(~fin_df$C_SEX2, design=DHSdesign, na = TRUE, deff = "replace")

I read in another comment that to change the design to "without replacement" I would need to
specify the fpc which is not provided by DHS and therefore doesn't need to be included.
Hope this helps clarify my answer! Thank you very much for the assistance.