

## **Research question:**

**Please investigate what factors are associated with THE HAZARD RATE of dying among breast cancer patients.**

## **Technical Description**

Describe step-by-step your analysis to reach the final model.

- 1) Describe whether you have found any peculiarities in variables, such as errors, problems or inaccuracies in univariate analysis. If there are any issues, how you addressed them.
- 2) Describe in brief relationships (bivariable analysis) between the outcome variable and exposure variables, as well as, relationships among exposure variables. You should clearly explain why you have chosen a certain statistical test in doing bivariable analysis.
- 3) clearly outline how you chose your final model, and a reason for including/excluding each variable. Discuss whether you have checked for multicollinearity, confounding and interaction. Lastly, you should summarize whether assumptions for the selected model were checked and how well the model fit.

## **Data/Methods**

- i. Describe/define what is your outcome variable.
- ii. Describe what exposure variables were collected. How they were measured or categorized. If definitions for each category is needed, please do so.
- iii. Statistical analysis plan: all steps utilized to perform analysis, such as, type of numeric summaries in univariate analysis, types of bivariate analysis tests used and what was done in multivariate analysis. You should also mention whether you checked for assumptions, interaction, multicollinearity and goodness of fit of the final model.
- iv. DAG. Draw Direct Acyclic graph to get better understanding of relationships between variables and selecting important variables in the model. Give a brief description why variables were chosen for the model building, from epidemiological, clinical or public health perspectives.

## **Results**

Summarizing the analyses and findings. Better to look at each of variables separately, then investigate associations of an outcome variable with response variables. So, you start with describing overall the study sample in terms of demographical characteristics, then move to clinical/epidemiological or other characteristics. In general, flow should be logical from describing important findings from tables starting from univariate to bivariable to multivariable analysis. You do not need to describe all study results here, only the most important ones.

Graphs or tables should be included. They help describe the results. Make sure that tables and figures have been appropriately titled and axes have labels; legends, notations or explanations/footnotes are provided for ease of interpreting graphical results.

Example Table for univariate and bivariable analysis (Linear):

Variable	Total, # (%) or mean±sd	Mean±sd for each group or correlation coefficient	p-value

Example Table for univariate and bivariable analysis (Logistic, Survival analysis):

Variable	Total, N=	Y=1 group, n=	Y=0 group, n=	p-value
Numeric variable	Mean±sd	Mean±sd	Mean±sd	
Categorical variable	n(%)	n(%)	n(%)	

Figure. Kaplan-Meier Survival Curves (Survival Analysis)

Example Table for multivariable analysis (Linear regression):

Variable	Unadjusted coefficient (95% CI)	p-value	Adjusted coefficient (95% CI)	p-value

Example Table for multivariable analysis (Logistic regression):

Variable	Unadjusted OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value

Example Table for multivariable analysis (Cox regression):

Variable	Unadjusted HR (95% CI)	p-value	Adjusted HR (95% CI)	p-value

Example Table for effect modification/interaction (if you needed)

Variable		Unadjusted/Adjusted coefficient	p-value
Var1=0	&		
Var2=0			
Var1=1	&		
Var2=0			
Var1=0	&		
Var2=1			
Var1=1	&		
Var2=1			

**Discussion** - interpreting the results and where they sit in the bigger picture. Make sure it was enough discussion of the study findings: previous studies, underlying explanation for the results, conclusion and recommendations based on the study findings.

- i. What you have found interesting – main finding(s).
- ii. Are your findings similar to previous studies. Why are they different? Do you have any explanation for your findings (biological, clinical social, public health)
- iii. What you can conclude?