

COVID DEATHS CORRELATIONS WITH POPULATION SPECIFICS

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BACKGROUND AND CONSIDERATIONS

- Data gathered from DGE (Dirección general de epidemiología)
- From January 2020-June 2021 (Before vaccines)
- More than 1 million data were analyzed and selected randomly for practicity.
- There is enough bibliography available to verify our results.

HYPOTHESES AND METHODOLOGY

First hypothesis: Demographics are a cause of death factor.

Second hypothesis: Morbidities are a cause of death factor.

Applied Methodology

The p-value is a measure that helped us determine if the relationship between death is "real" or simply "by chance".

- **Null Hypothesis (H₀): There is no relationship between the two variables.**
- **Alternative Hypothesis (H₁): There is a significant relationship between the variables**

If the p-value is greater than 0.05, we cannot claim that the relationship is "real" or "significant."

ANALYZED PARAMETERS

Demographics:

City of treatment

Gender

Pregnancy

Age

Treatment Specifics:

Lab result

Patient classification

Hospital Category

Intubated Patients

Morbidities:

Epoc

Asma

CardioVascular Illness

Diabetes

Hypertension

Obesity

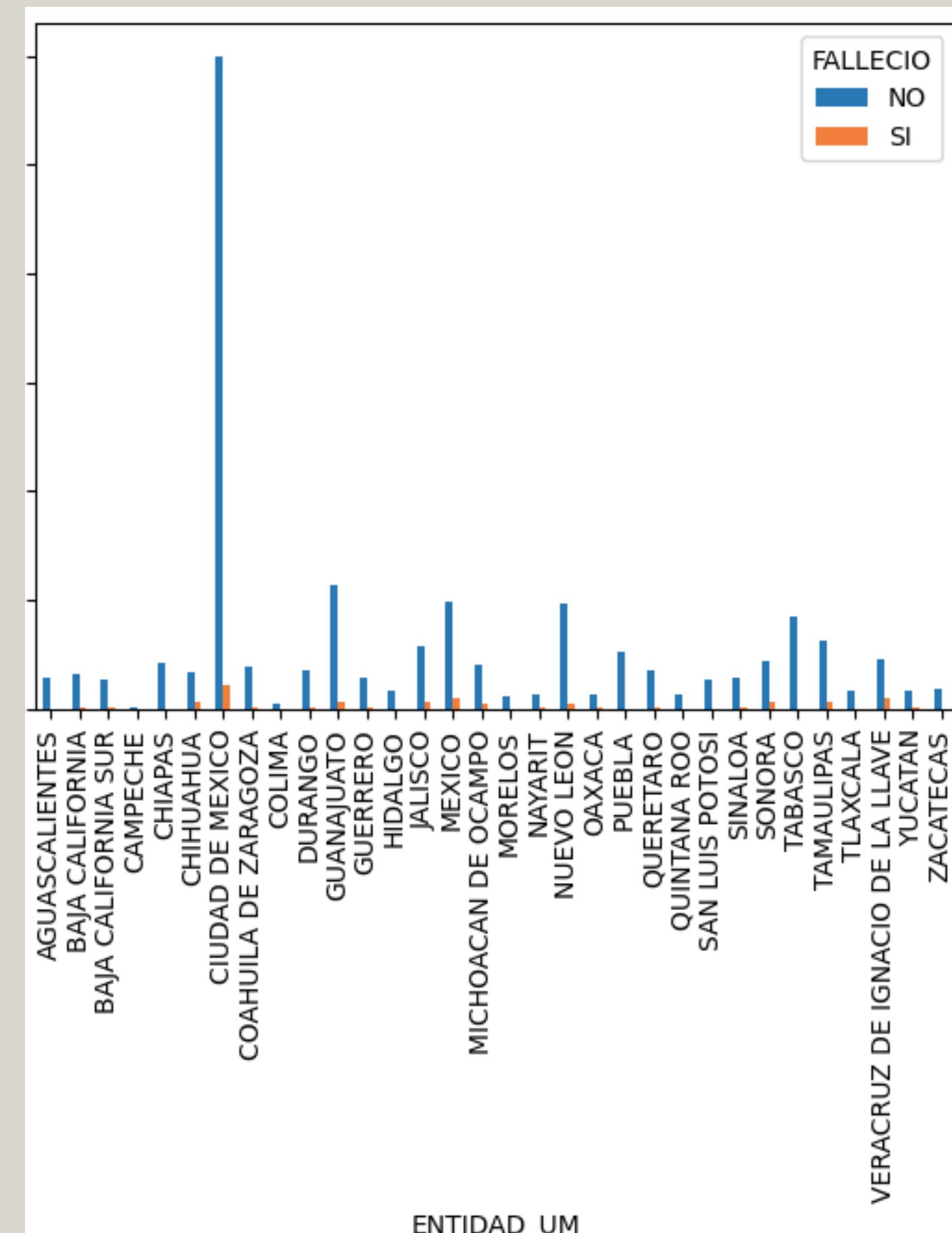
Chronic Kidney Disease

Are demographic characteristics factor for death?

pvalue=0.40903193717346714

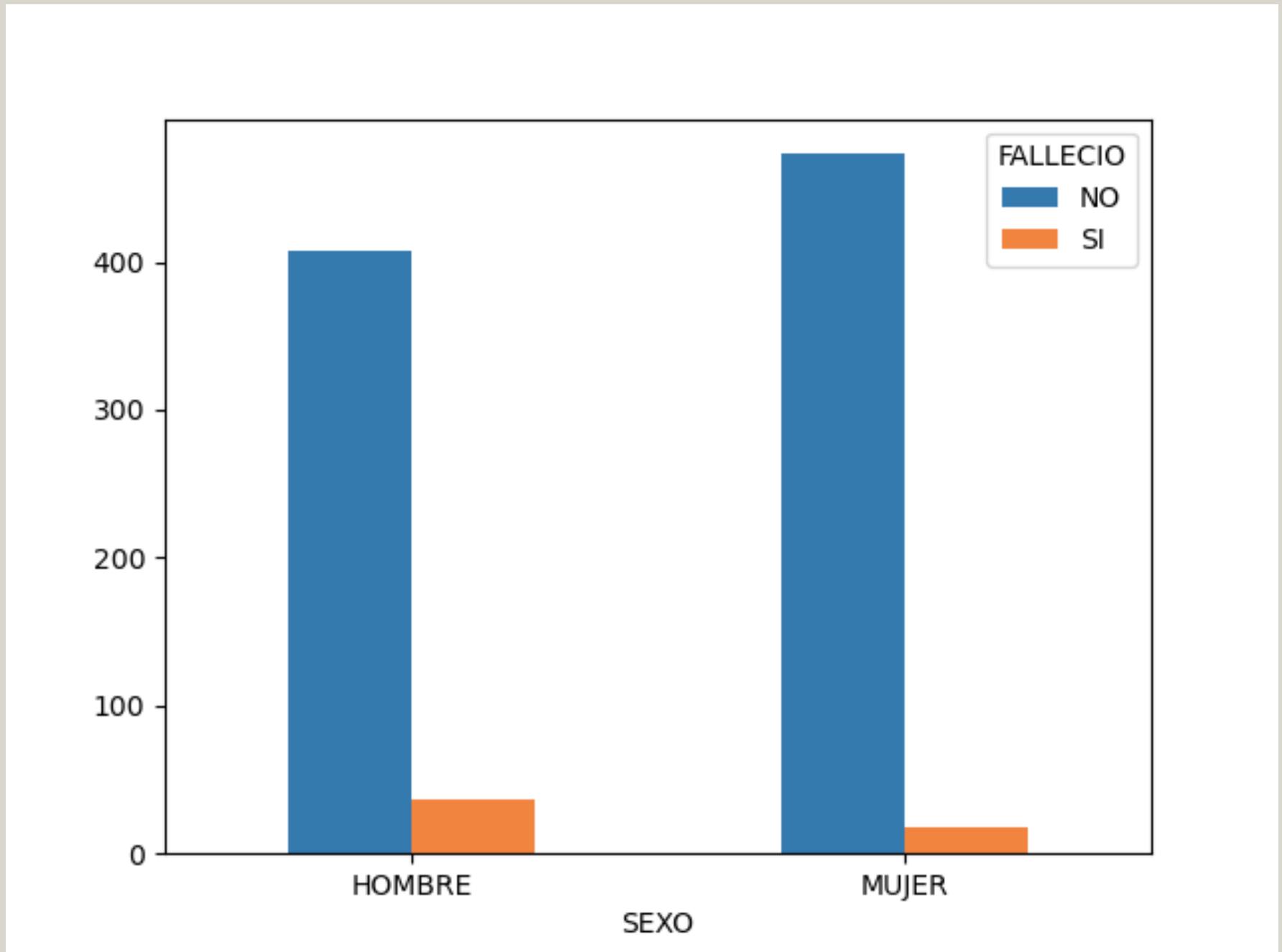
There is no correlation
between the pacient
location and death factors

FALLECIO	NO	SI
ENTIDAD_UM		
AGUASCALIENTES	14	1
BAJA CALIFORNIA	23	0
BAJA CALIFORNIA SUR	13	0
CAMPECHE	5	0
CHIAPAS	17	0
CHIHUAHUA	12	1
CIUDAD DE MEXICO	311	11
COAHUILA DE ZARAGOZA	24	4
COLIMA	5	0
DURANGO	13	2
GUANAJUATO	36	1
GUERRERO	14	3
HIDALGO	7	1
JALISCO	36	1
MEXICO	58	9
MICHOACAN DE OCAMPO	17	1
MORELOS	4	1
NAYARIT	1	0
NUEVO LEON	44	6
OAXACA	11	1
PUEBLA	22	5
QUERETARO	21	1
QUINTANA ROO	10	0
SAN LUIS POTOSI	23	2
SINALOA	16	0
SONORA	29	3
TABASCO	36	1
TAMAULIPAS	24	0
TLAXCALA	10	0
VERACRUZ DE IGNACIO DE LA LLAVE	24	7
YUCATAN	10	0
ZACATECAS	9	1



Are demographic characteristics factor for death?

FALLECIO	NO	SI
SEXO		
HOMBRE	409	43
MUJER	490	20



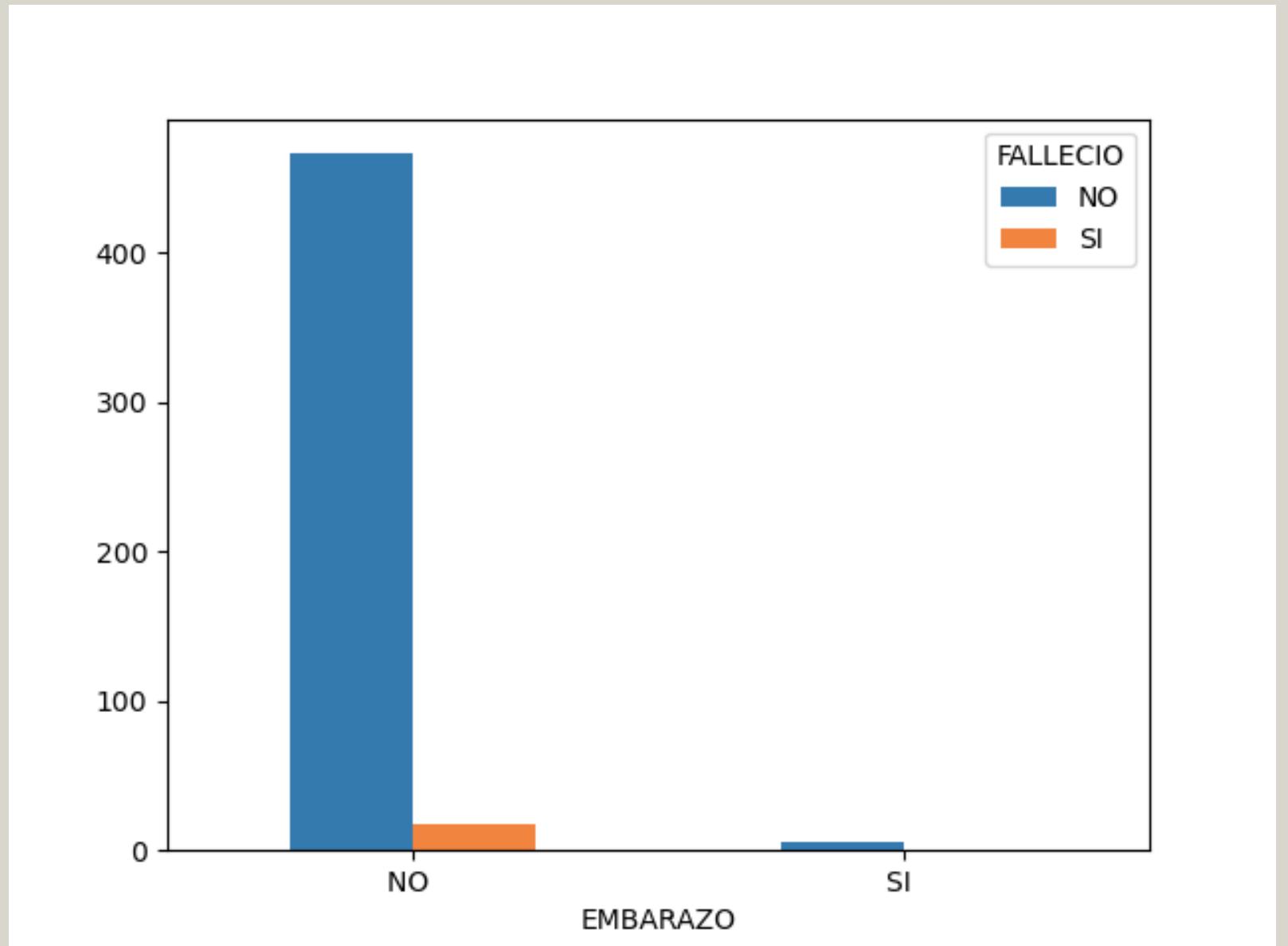
pvalue=0.017769246711743

There is a certain correlation with gender, male patients had greater vulnerability and the death ratio was higher than female patients



Are demographic characteristics factor for death?

FALLECIO	NO	SI
EMBARAZO		
NO	485	20
SI	4	0



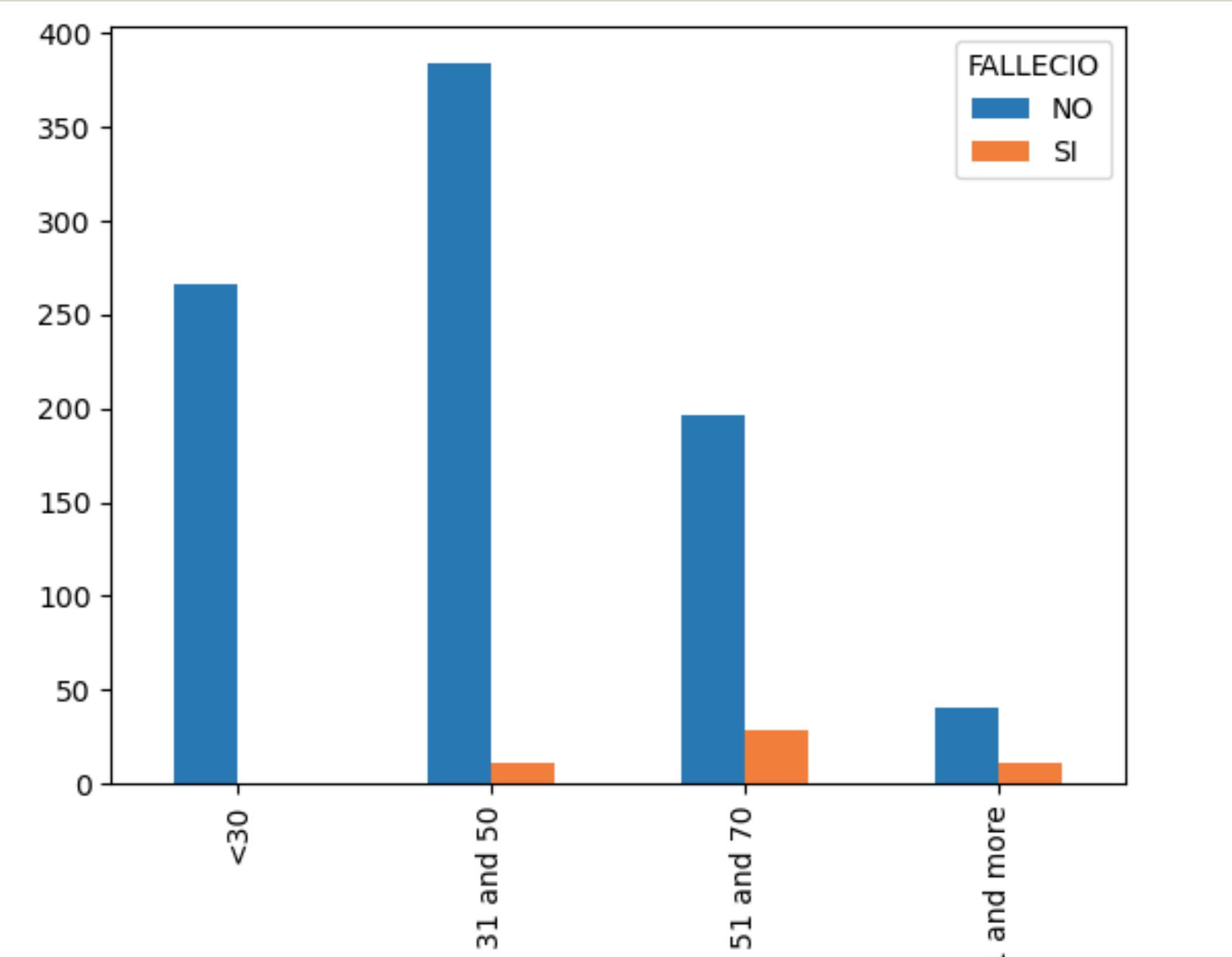
pvalue=1.0

There is a certain no correlation with pregnagcy pacients having higher chance of dying from COVID



Are demographic characteristics factor for death?

FALLECIO	NO	SI
RANGO DE EDAD		
<30	269	2
Between 31 and	50	377
Between 51 and	70	211
71 and more	42	15



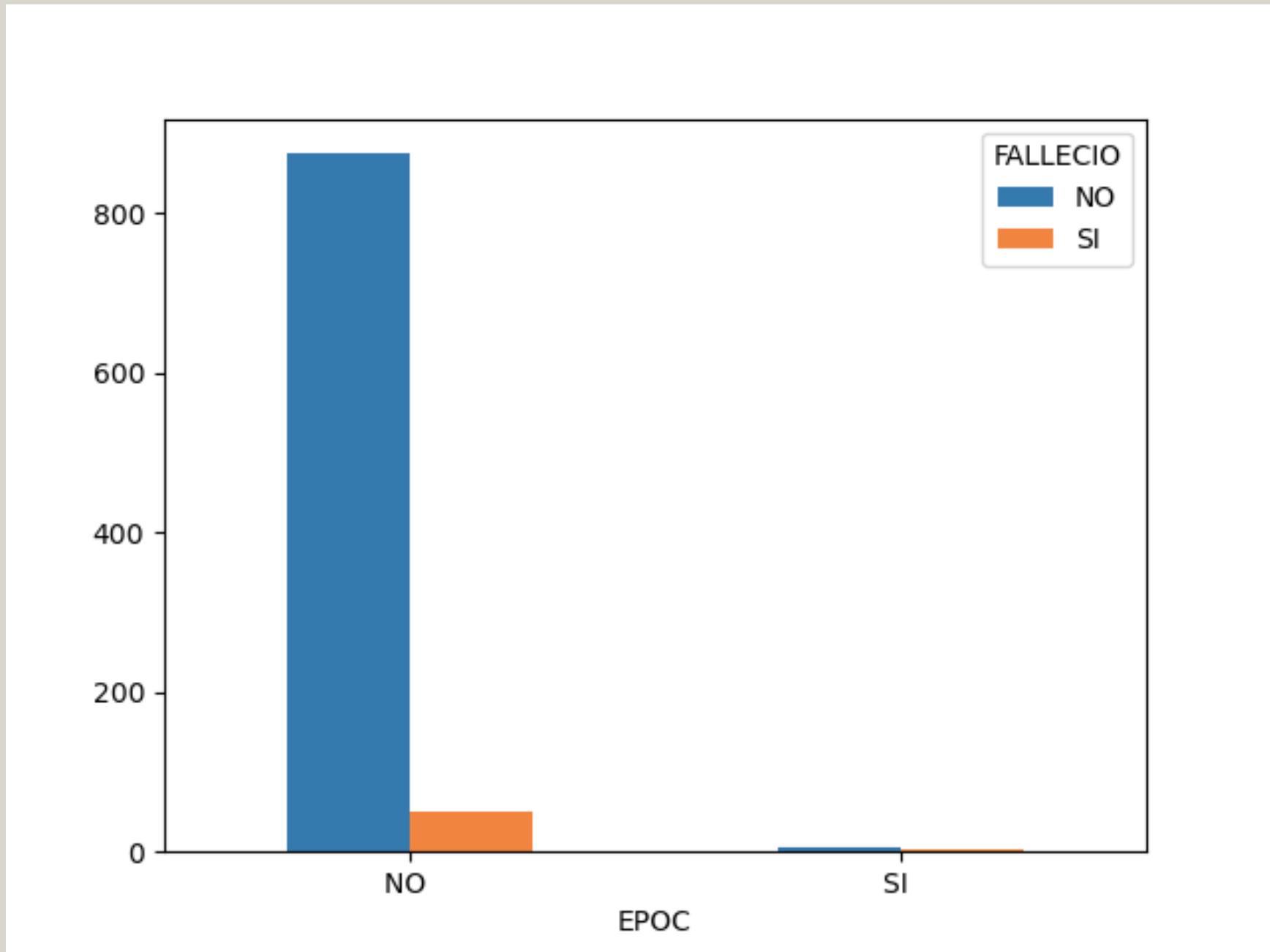
pvalue=6.354250030339178e-15

There is a certain correlation with age, patients between 51 and 70 years the greatest death ratio.



What kind of morbidity is factor of death?

FALLECIO	NO	SI
EPOC		
NO	885	63
SI	11	0



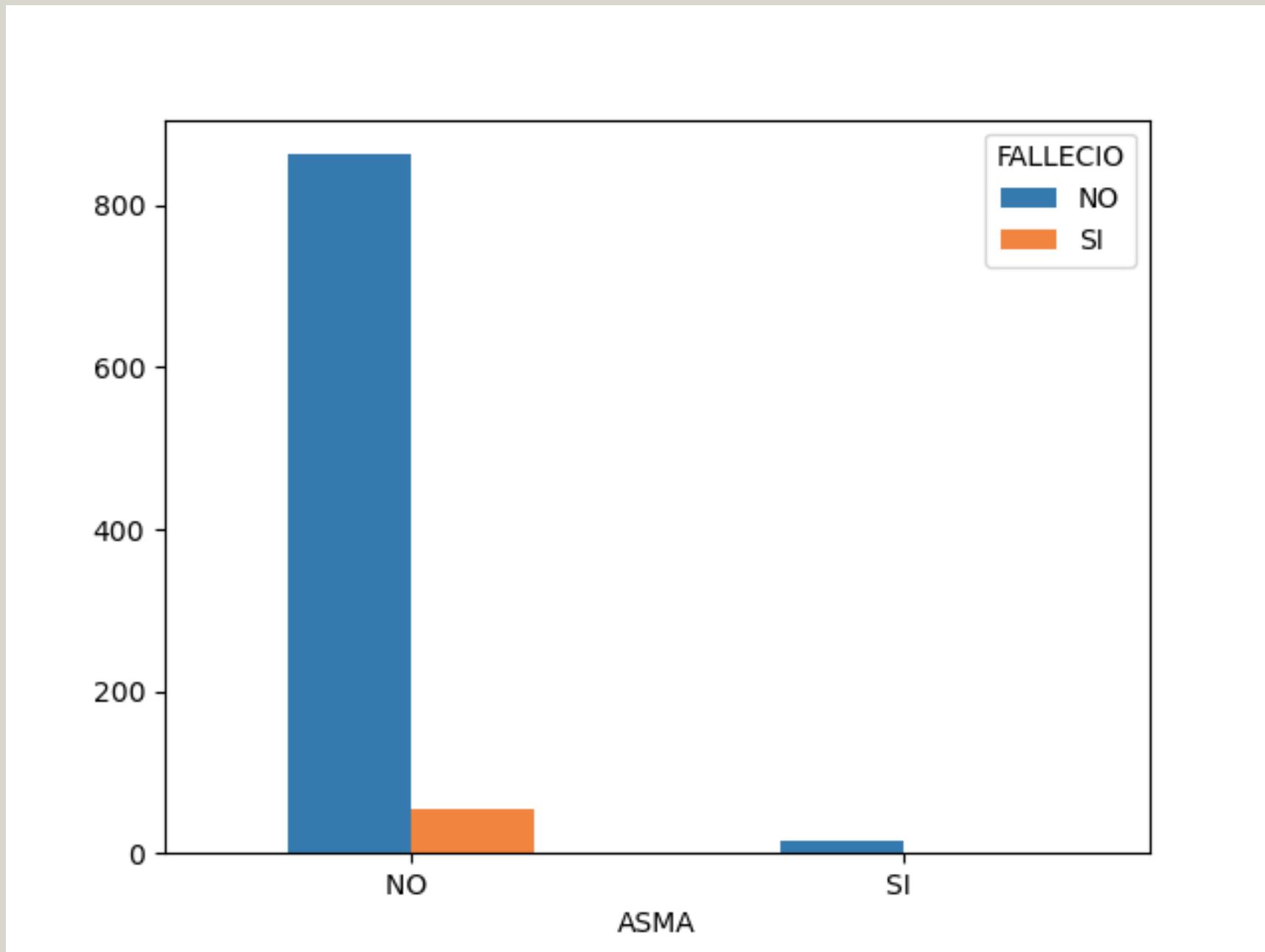
Pvalue=0.12292941095602528

Pacients with preexisting EPOC had very few chance of dying from COVID



What kind of morbidity is factor of death?

FALLECIO	NO	SI
ASMA		
NO	868	61
SI	28	2



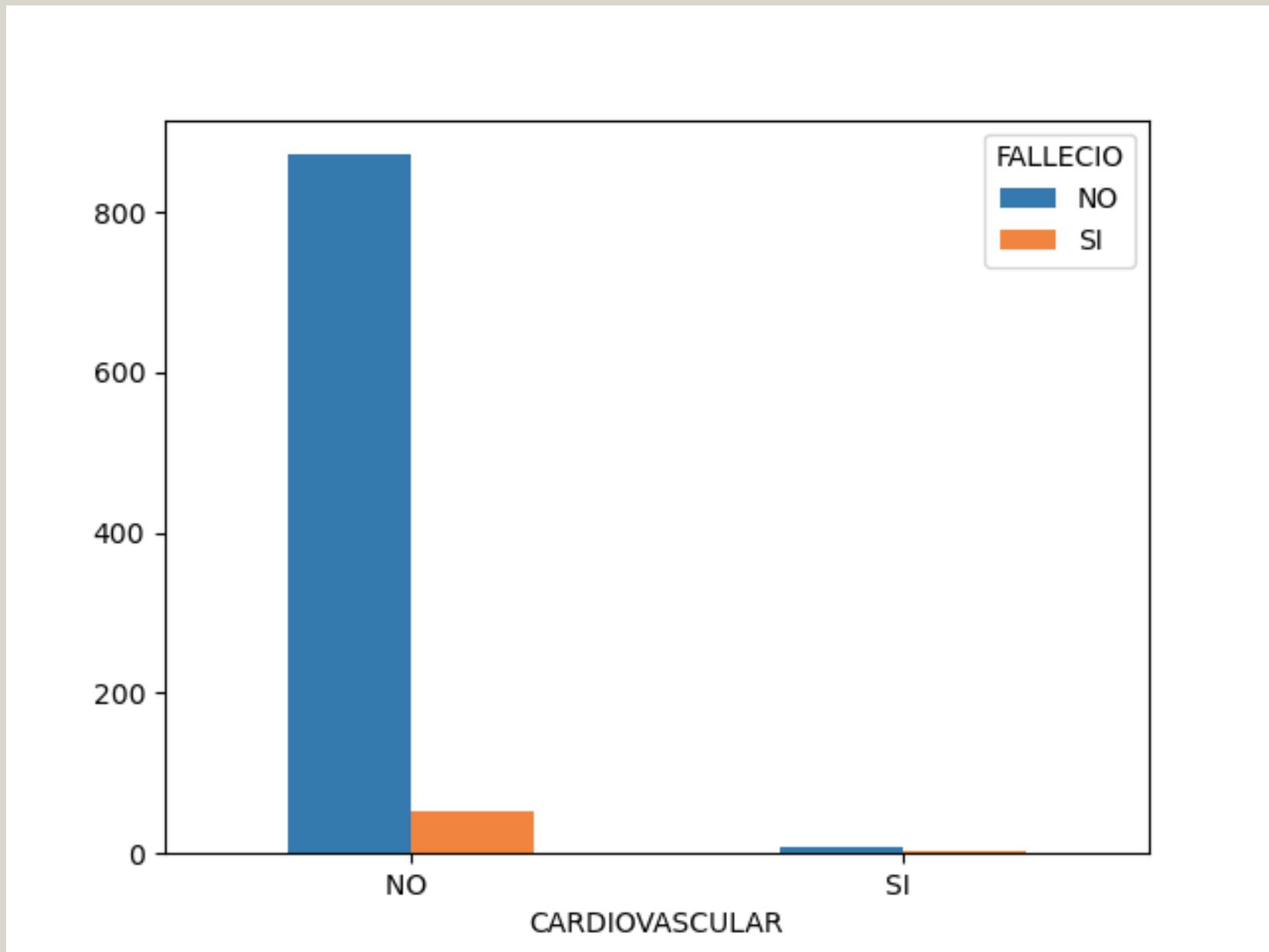
pvalue= 0.3410671681879178

Pacients with preexisting asma have no correlation with COVID death chances



What kind of morbidity is factor of death?

FALLECIO	NO	SI
CARDIOVASCULAR		
NO	879	59
SI	16	4

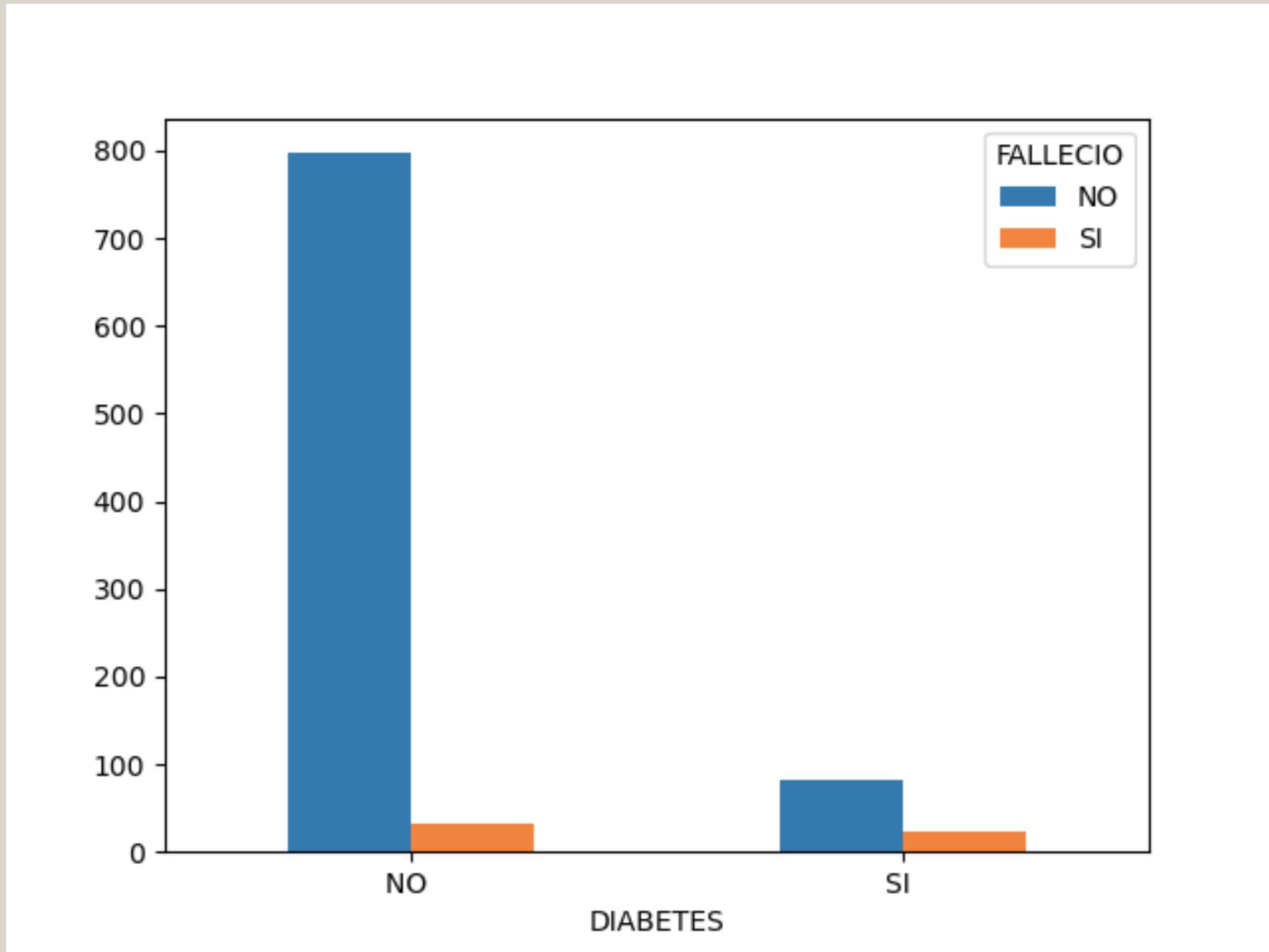


pvalue=1.5004407624363651e-05
Preexisting cardiovascular illness
have a correlation with COVID death possibilities



What kind of morbidity is factor of death?

FALLECIO	NO	SI
DIABETES		
NO	809	39
SI	88	24



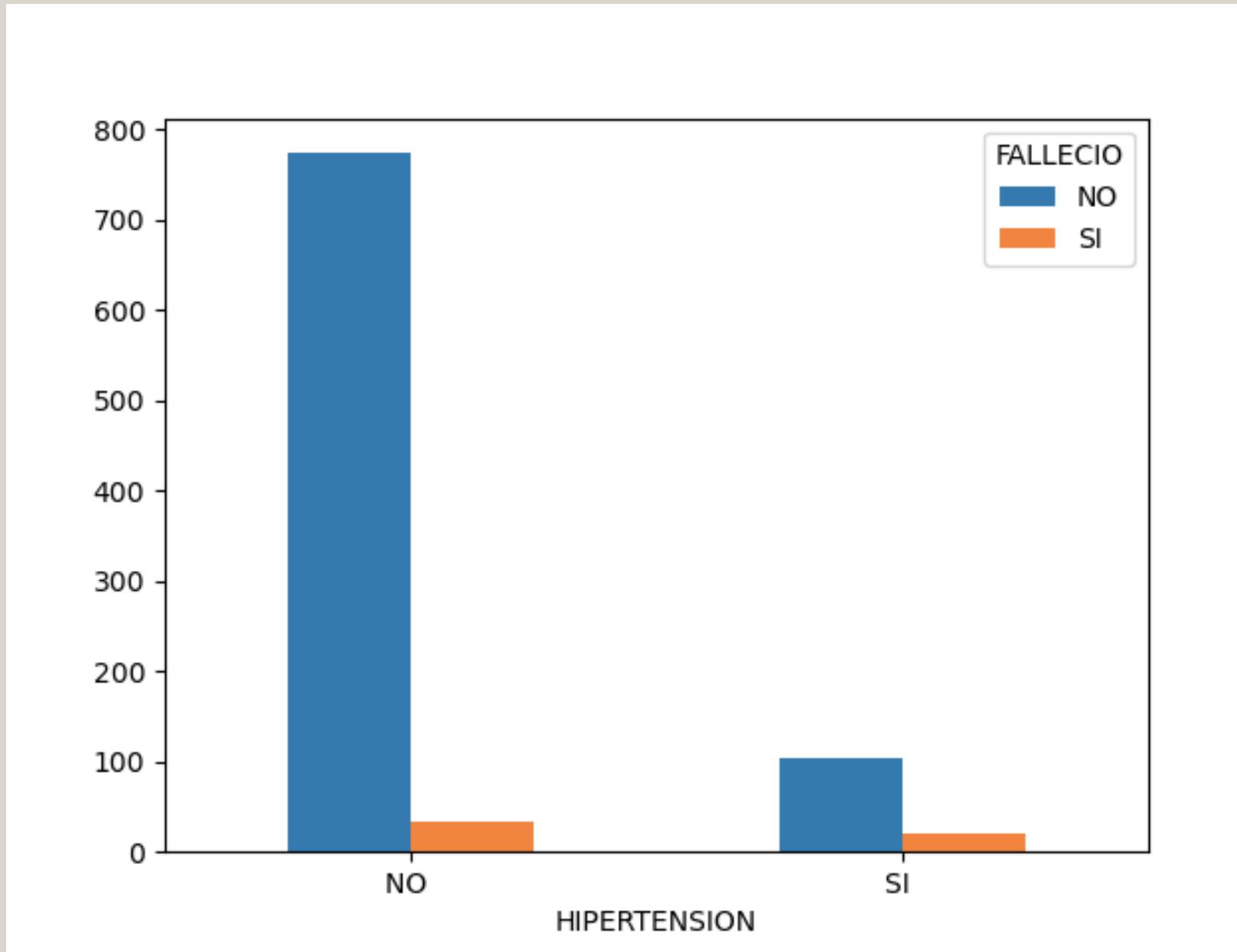
pvalue=3.070782164171985e-16

Preexisting diabetes have a correlation with COVID death possibilites.



What kind of morbidity is factor of death?

FALLECIO	NO	SI
HIPERTENSION		
NO	778	31
SI	115	32



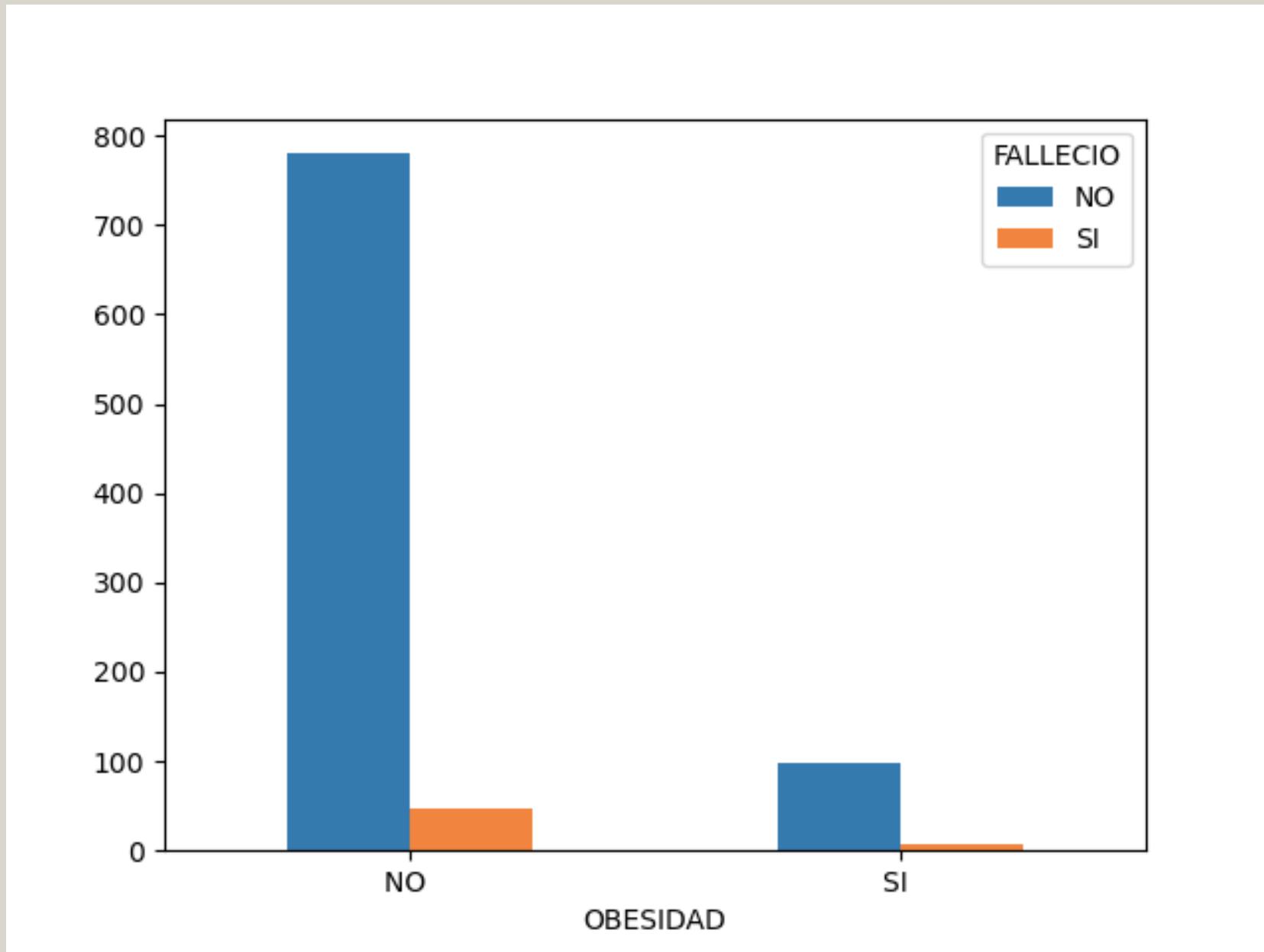
P value = 1.3474392282818808e-12

Individuals with preexisting hypertension conditions have a correlation with increased COVID death risk



What kind of morbidity is factor of death?

FALLECIO	NO	SI
OBESIDAD		
NO	780	56
SI	117	7

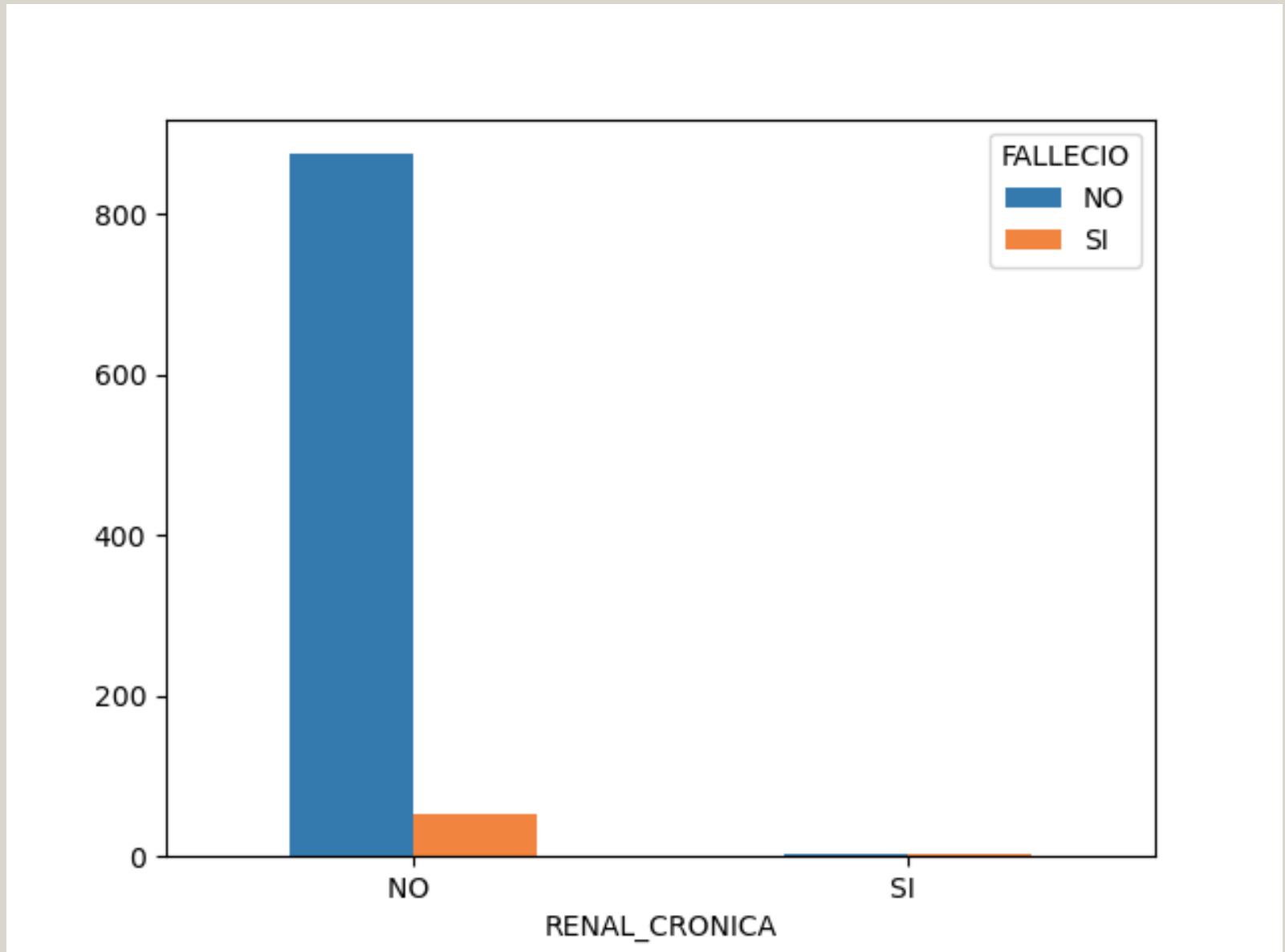


P value = 0.00032948035523154193
Individuals with preexisting obesity
have a correlation with increased COVID death risk



What kind of morbidity is factor of death?

FALLECIO	NO	SI
RENAL_CRONICA		
NO	882	57
SI	14	6



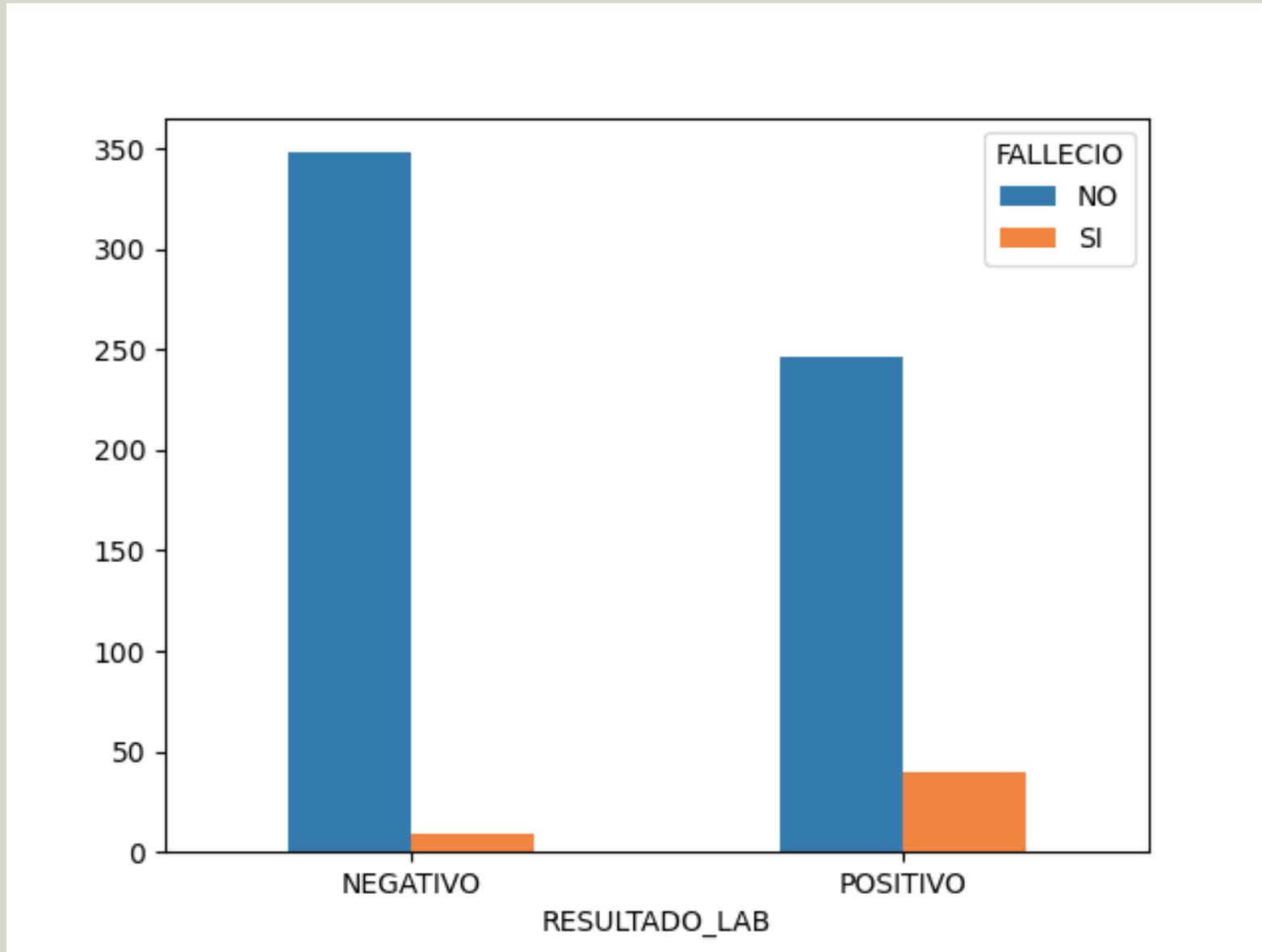
P value = 2.588486373948543e-13

Individuals with preexisting chronic kidney disease have a correlation with increased COVID death risk



Is the hospital where you receive treatment a risk factor for death?

FALLECIO	NO	SI
RESULTADO_LAB		
NEGATIVO	405	15
POSITIVO	284	37



P value = 6.313911991307073e-07

Individuals with a positive result from the lab test had certain correlation with increased COVID death risk

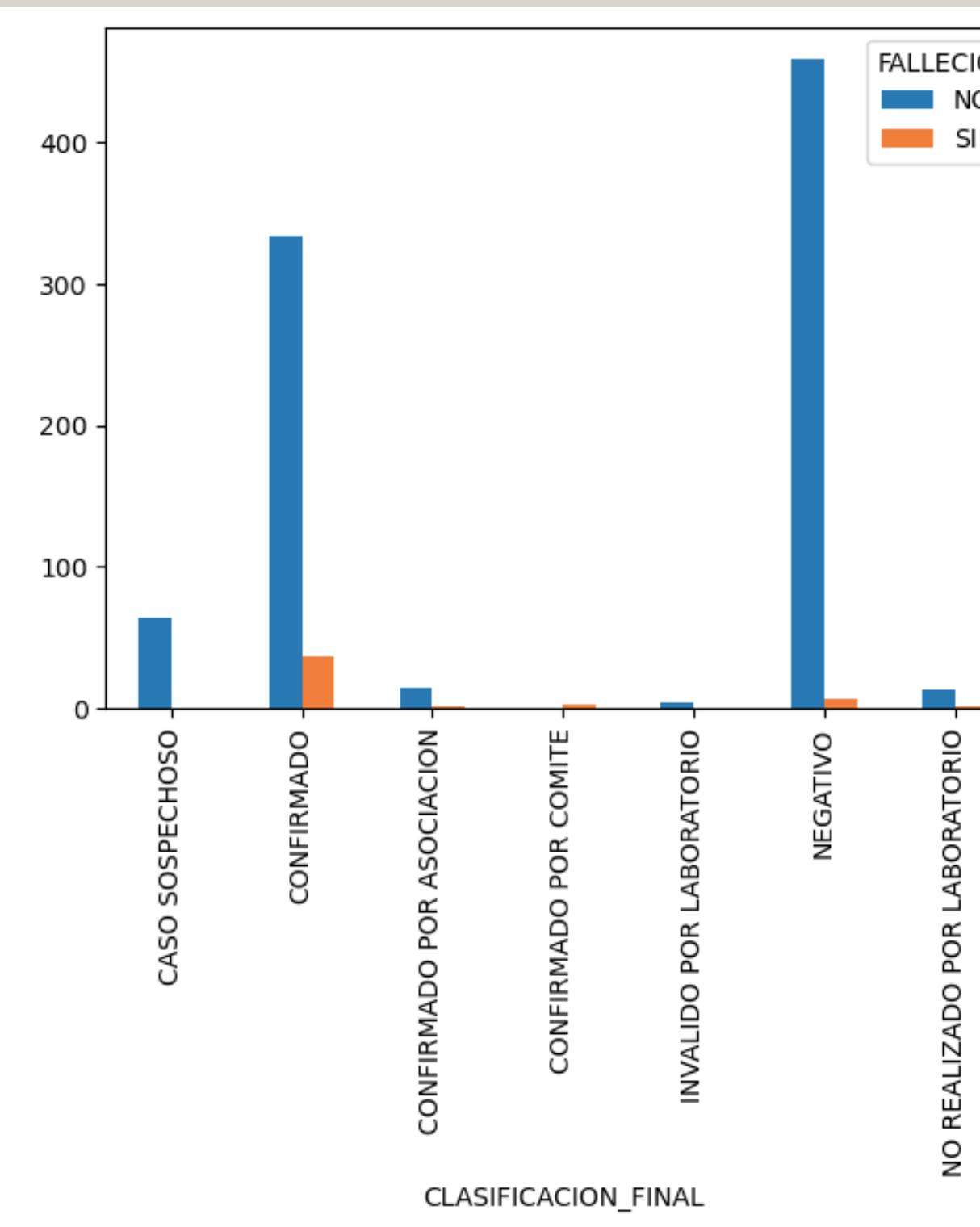


Is the hospital where you receive treatment a risk factor for death?

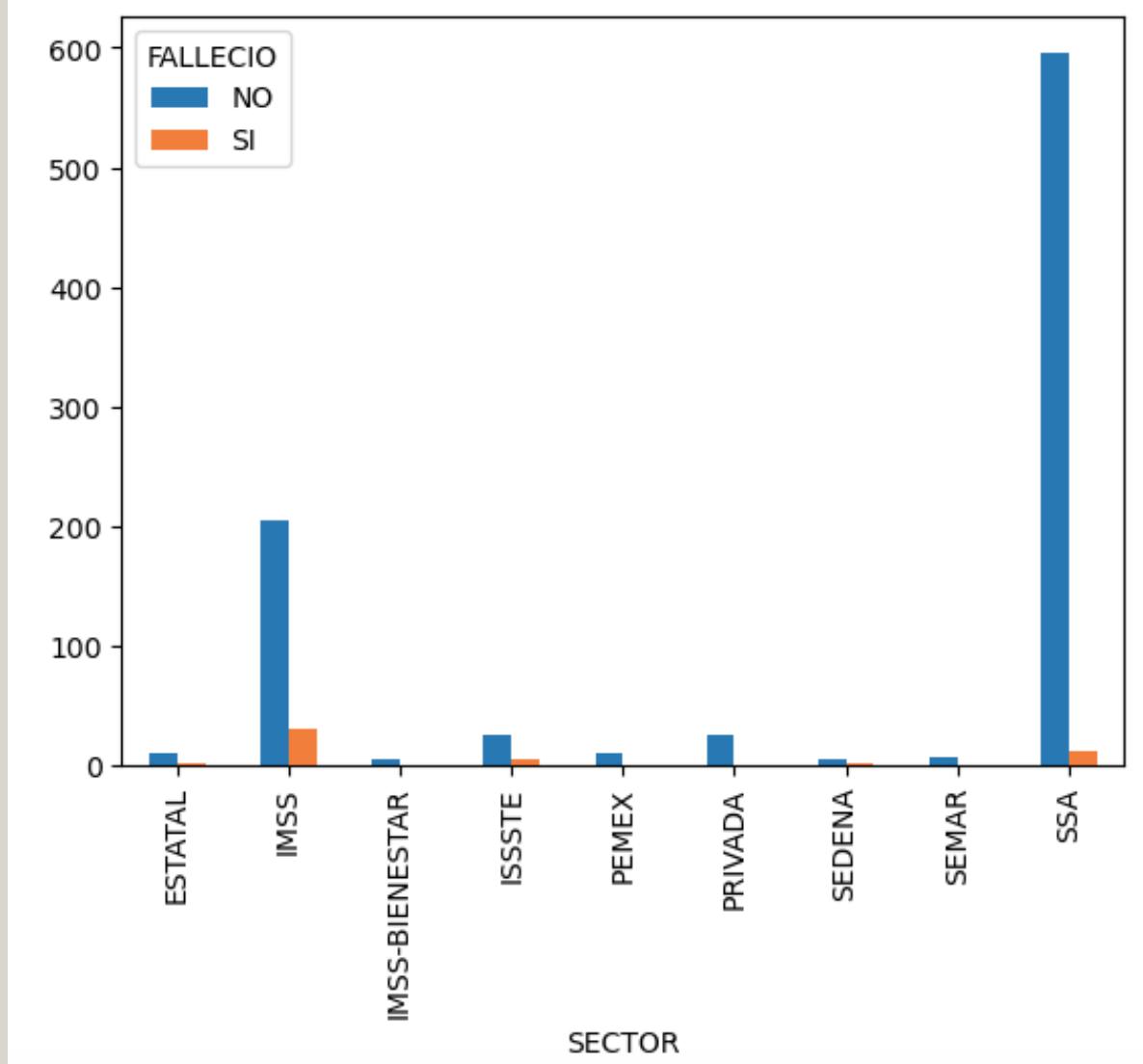
P value =
7.626856939526757e-17

Individuals classified as COVID confirmed patient had a correlation with increased COVID death risk

FALLECIO	NO	SI
CLASIFICACION_FINAL		
CASO SOSPECHO	65	3
CONFIRMADO	314	38
CONFIRMADO POR	20	1
CONFIRMADO POR	0	6
INVALIDO POR LA	3	0
NEGATIVO	480	15
NO REALIZADO PO	17	0



Is the hospital where you receive treatment a risk factor for death?



FALLECIO	NO	SI
SECTOR		
DIF	1	0
ESTATAL	8	1
IMSS	218	38
IMSS-BIENESTAR	1	1
ISSSTE	35	6
PEMEX	9	2
PRIVADA	21	0
SEDENAS	4	0
SEMAR	4	0
SSA	596	15
UNIVERSITARIO	2	0

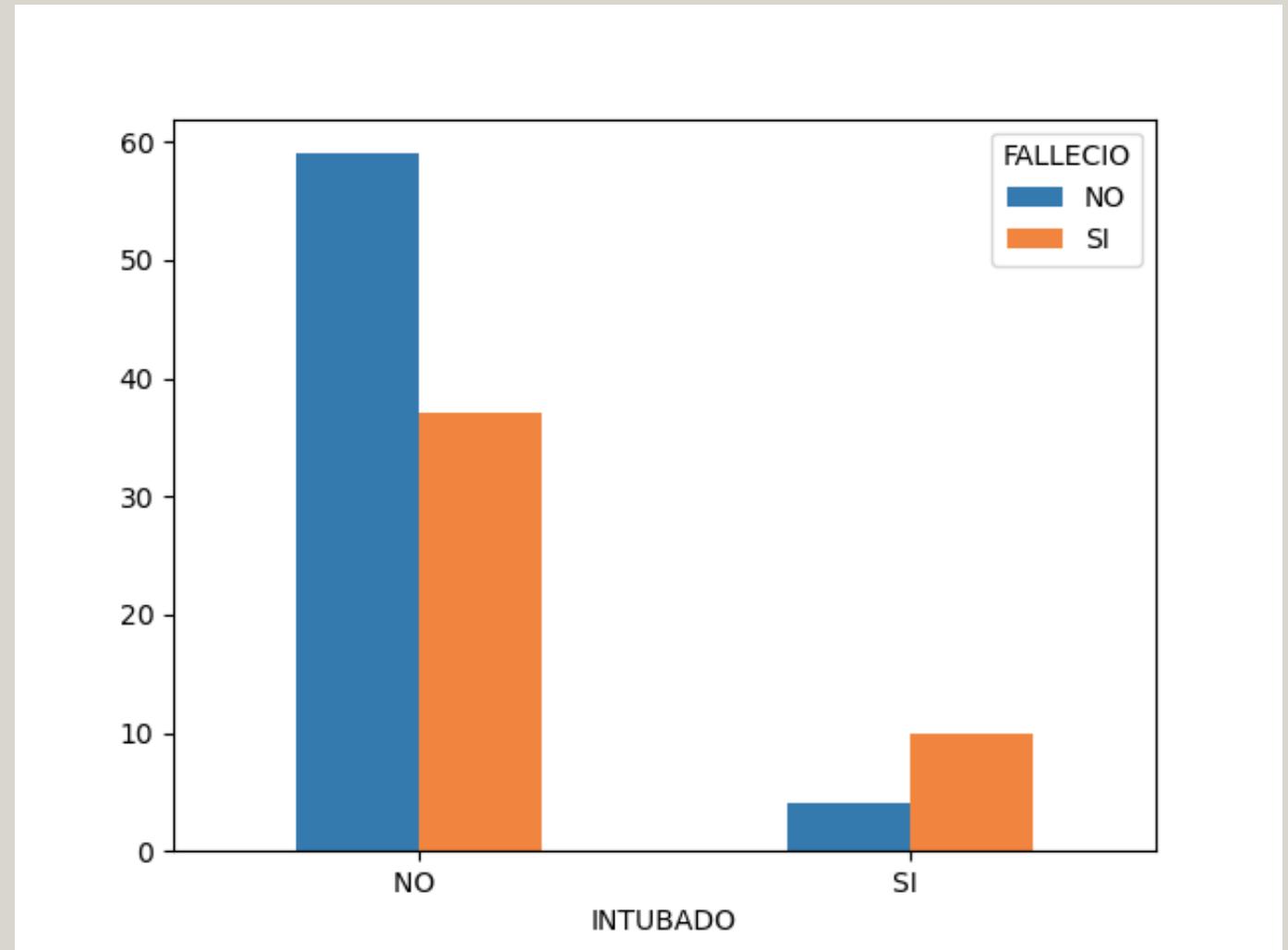
P value = 2.238284351821967e-09

Individuals with treated at IMSS facilities had a correlation with increased COVID death risk



Is the hospital where you receive treatment a risk factor for death?

FALLECIO	NO	SI
INTUBADO		
NO	90	40
SI	5	12



P value = 2.823331620254764e-06

Individuals that were intubated had a correlation with increased COVID death risk



CONCLUSIONS

The following parameters have a factor risk of death when a patient is COVID positive:

Gender

Age

Morbillites:

Cardiovascular

Diabetes

Hypertension

Obesity

Chronic kidney disease

Lab test

Hospital

intubation

