BURNS INJURIES IN PORT HARCOURT, SOUTH-SOUTH, NIGERIA

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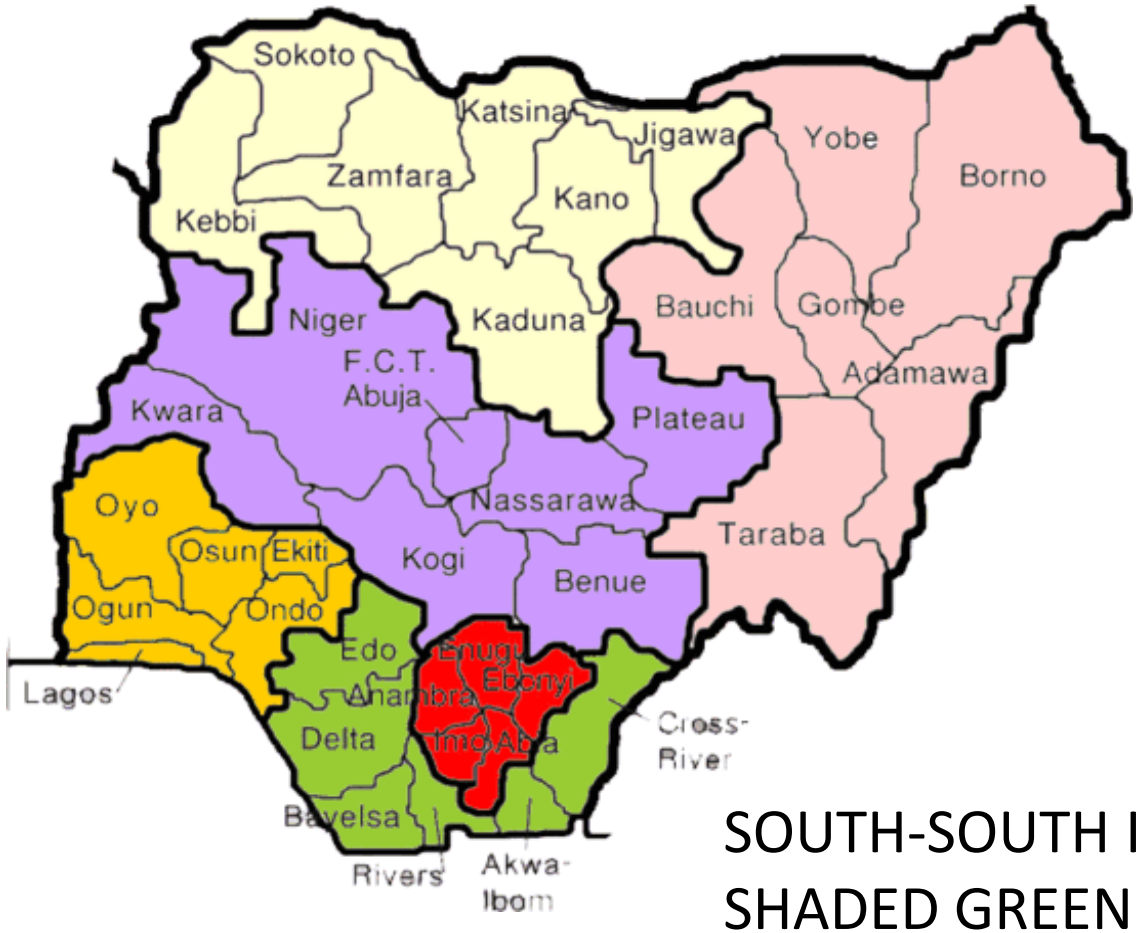
BACKGROUND

- Port Harcourt is located in Rivers State in the South-South Region of Nigeria(the Niger Delta Region)
- Oil and gas exploration take place in this region.
- It is host to many multi-national companies involved in oil and gas exploration.



SOUTH-SOUTH IS SHADED GREEN

BACKGROUND

- Several fire disasters involving oil pipelines vandalisation have taken place in this part of the nation.
- Youth restiveness and agitations are responsible for this.
- Many young men and women who are jobless are into the business of illegal refining , storage and sale of adulterated petroleum products

BACKGROUND

- The adulterated fuel illegally refined in many creeks in the Niger Delta and popuplarly known as '*Kpoo fire*' is responsible for houdehold fire outbreaks.

- Fire disasters also occur when tankers loaded with petrol have accident on bad roads spilling the contents.

- This highly inflammable contents are usually scooped by poor and ignorant natives which often ends with fire disaster.

- Sometimes kerosene is mistakenly loaded in a tanker that was previously used to lift petrol.

OBJECTIVE

- This paper attempts to review burn injuries in Port Harcourt in the last nine years.

- To see how these oil and gas activities have affected the epidemiology, pattern and outcome of burns in the environment.

MATERIALS AND METHODS

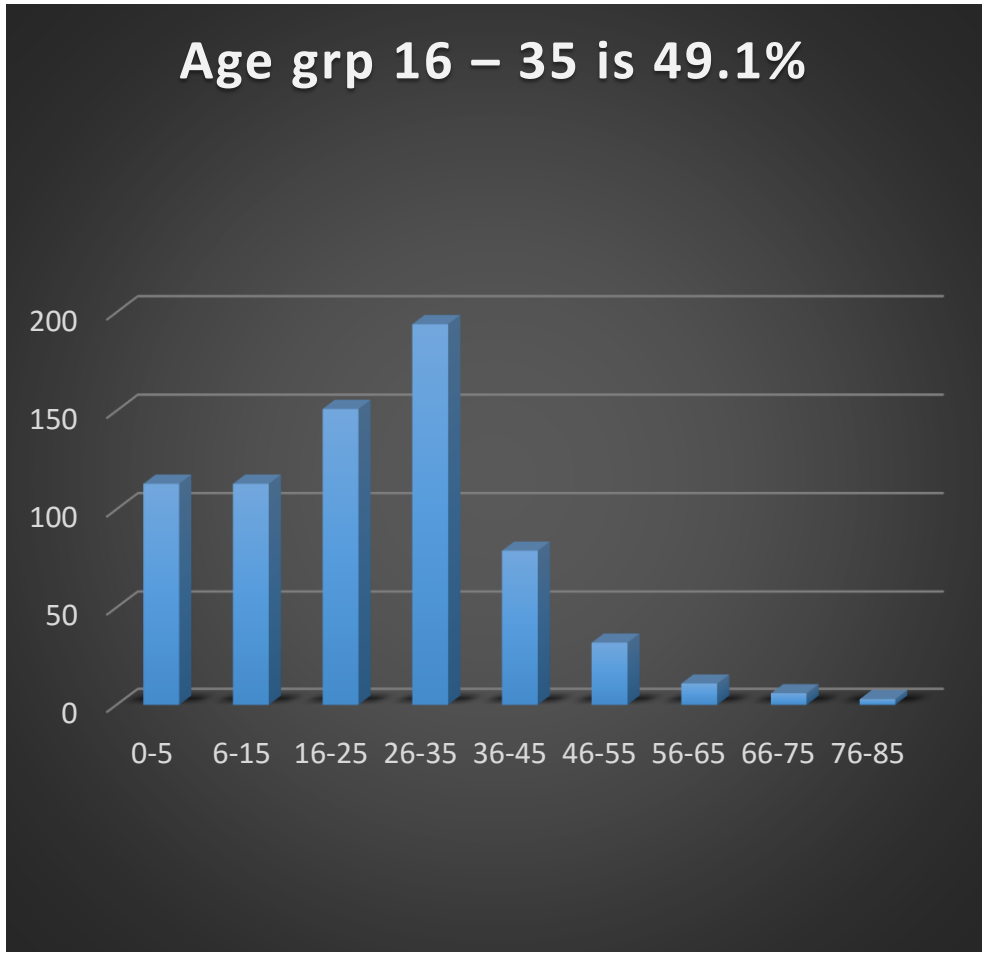
- ✓ It is a retrospective study.
- ✓ Data were retrieved from the admission and discharge record books of the Burns unit.
- ✓ Demographic data, cause of burns, total body surface area, length of stay and outcome were recorded.
- ✓ Data were analysed using spss version 20

RESULTS

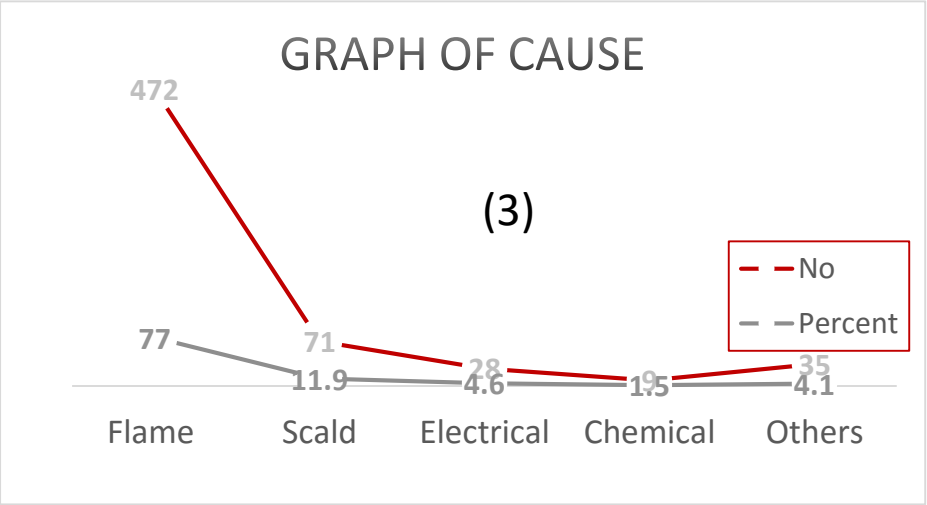
- Study period 2007 to 2015
- Total number of admitted burn patients were 703
- Average Yearly Admission = 78
- Males were 374 (53.2%)
- Females were 329 (46.8%)
- Ratio M:F 1.1:1

AGE GROUP FREQUENCY

Age Gp	Freq	Percent	Cum Percent
0-5	113	16.1	16.1
6-15	113	16.1	32.2
16-25	151	21.5	53.7
26-35	194	27.6	81.3
36-45	79	11.3	92.6
46-55	32	4.6	97.2
56-65	11	1.6	98.7
66-75	6	.9	99.6
76-85	3	.4	100.0
Total	702	100.0	



CAUSE

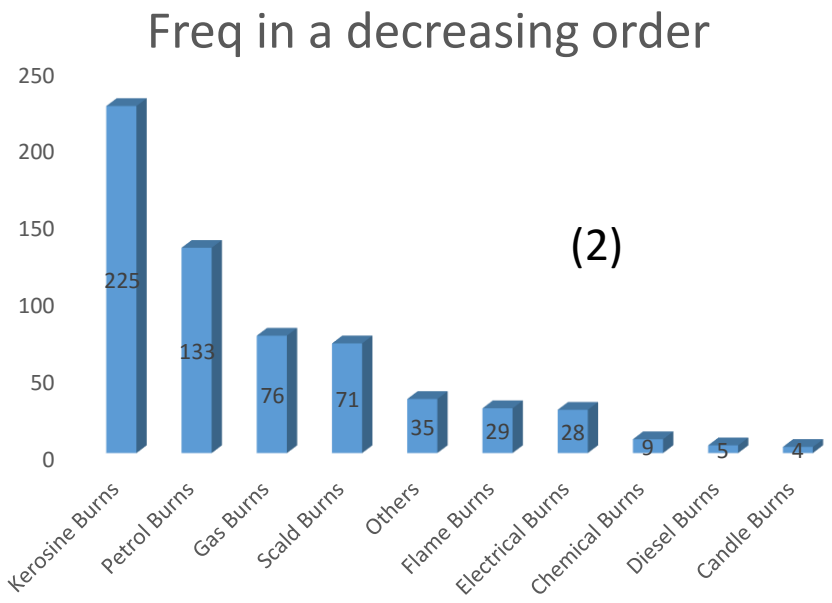


	Frequency	Percent	Valid Percent	Cum Freq
Flame/Fire	472	67.1	76.7	76.7
Scald Burns	71	10.1	11.1	88.7
Electrical Burns	28	4.0	4.4	93.1
Chemical Burns	9	1.3	1.4	94.5
Others	35	5.0	5.5	100.0
Total	615	87.5	100.0	
Missing	88	12.5		
Total	703	100.0		

SPECIFIC (TYPE) CAUSE

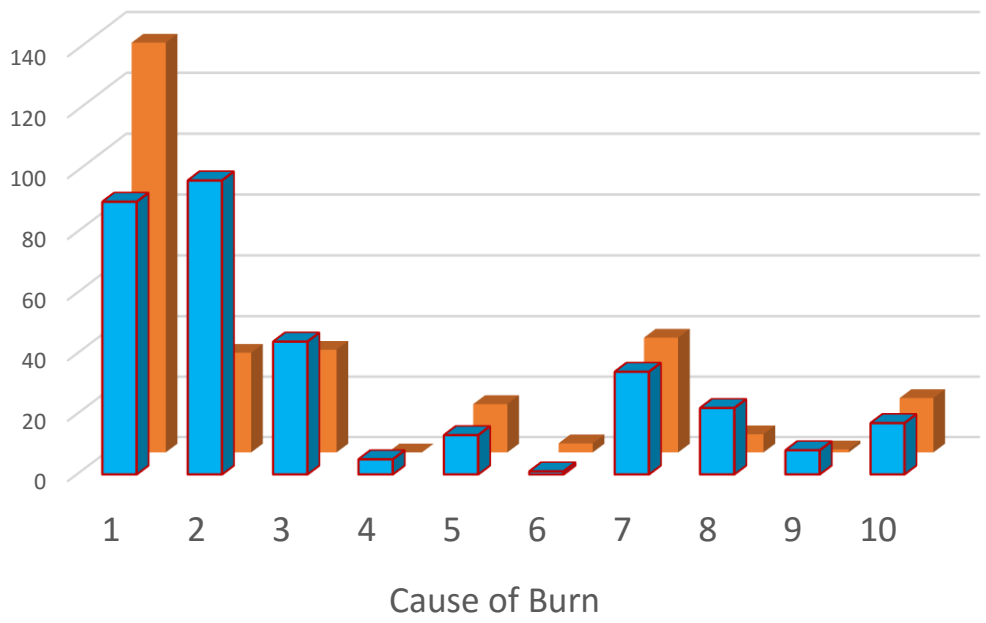
Real Causes (1)

	Frequency	Percent	Valid Percent	Cum Freq
Kerosine Burns (1)	225	32.0	36.6	36.6
Petrol Burns (2)	133	18.9	21.6	58.2
Gas Burns (3)	76	10.8	12.4	70.6
Diesel Burns (4)	5	.7	.8	71.4
Flame Burns (5)	29	4.1	4.7	76.1
Candle Burns (6)	4	.6	.6	76.7
Scald Burns (7)	71	10.1	11.5	88.2
Electrical Burns (8)	28	4.0	4.6	92.8
Chemical Burns (9)	9	1.3	1.5	94.3
Others (10)	35	5.0	5.7	100
Total	615	87.5	100.0	
Missing	88	12.5		
Total	703	100.0		



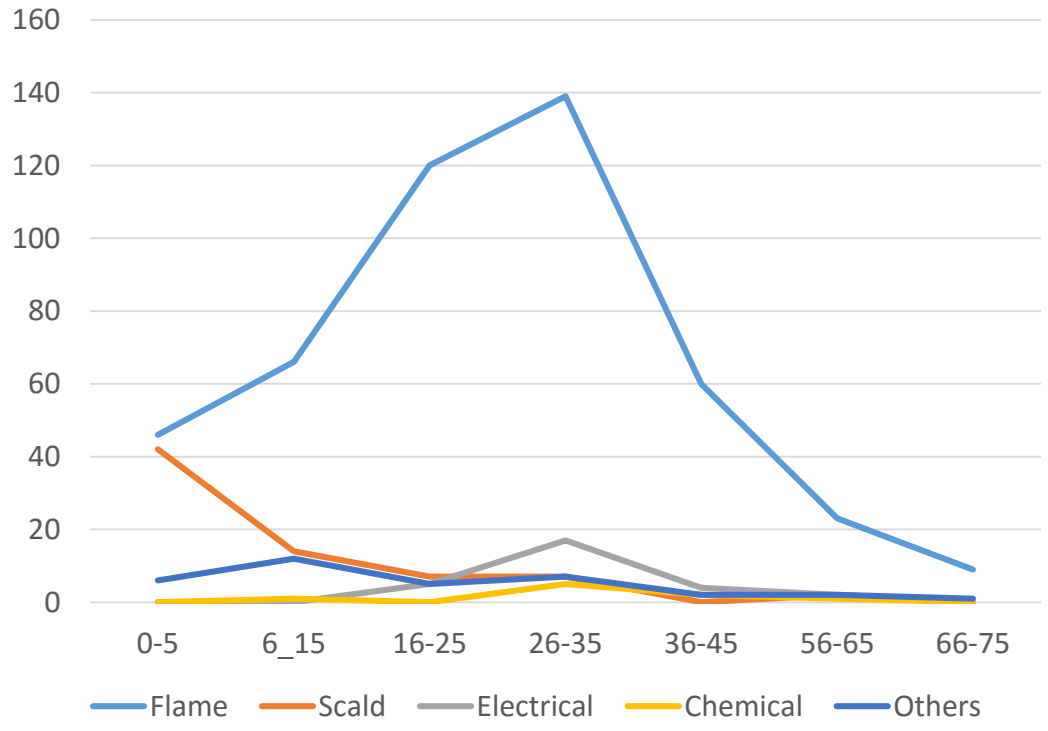
GENDER AND TYPE OF BURN CROSS TABULATION

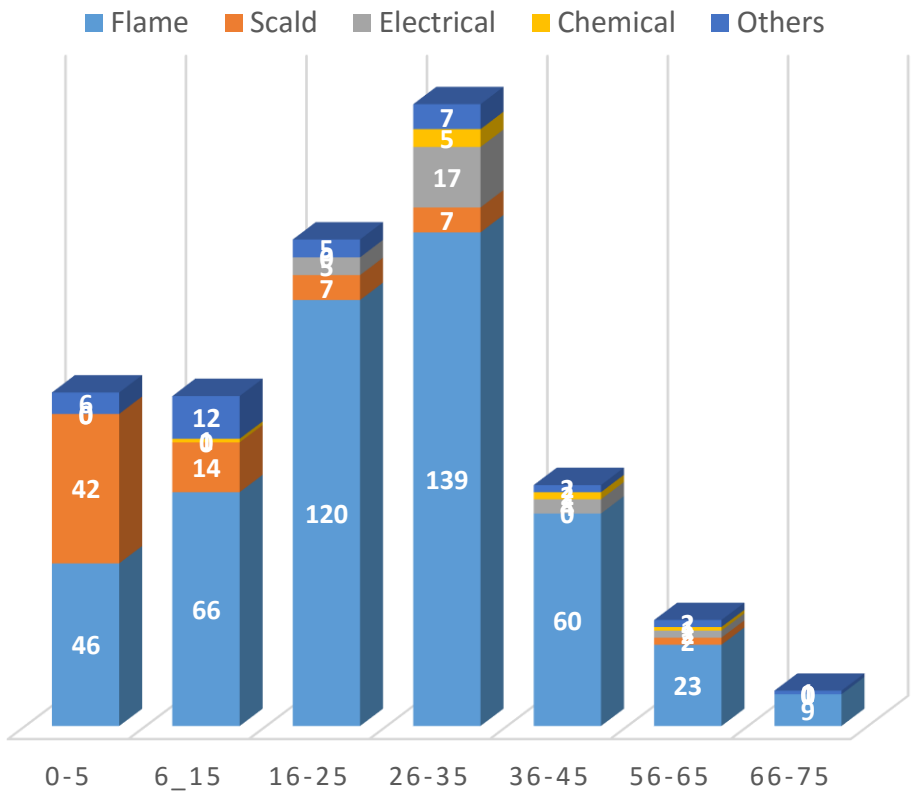
	Type of Burn (Real Causes)										
	1	2	3	4	5	6	7	8	9	10	
Gender											
M	90	97	44	5	13	1	34	22	8	17	331
F	135	33	34	0	16	3	38	6	1	18	284
Total	**225**	**130**	**78**	**5**	**29**	**4**	**72**	**28**	**9**	**35**	**615**



More females had burns from kerosene (1) and scald (7)
While more males had burns from petrol(2) and electrical (8)

AGE GROUP AND CAUSE CROSSTABULATION





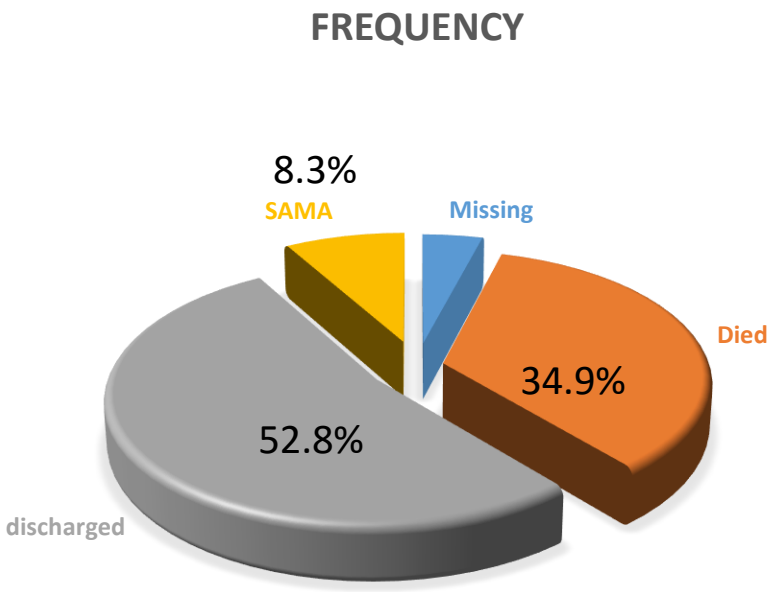
TOTAL BODY SURFACE AREA

TBSA GP	Freq	Percent	Valid Percent	Cum Freq
1-10	39	5.5	6.0	6.0
11-20	107	15.2	16.4	22.4
21-30	96	13.7	14.7	37.2
31-40	103	14.7	15.8	53.0
41-50	81	11.5	12.4	65.4
51-60	59	8.4	9.1	74.5
61 -70	52	7.4	8.0	82.6
71-80	51	7.3	7.8	90.3
81-90	41	5.8	6.3	96.6
91-100	22	3.1	3.4	100
Overall	652	92.6	100	
Excluded	51	7.4		
Total	703	100		

- Mean = 43%
- Maximum = 100%
- Minimum = 1%
- TBSA <= 30% - 242 (34.4%
- TBSA > 50% - 225 34.6%
- TBSA > 71% - 114 (16.2%)

Outcome

	Freq	Percent	Cum Percent
Missing	29	4.1	4.1
Died	245	34.9	38.8
Disch'ged	371	52.8	91.7
SAMA	58	8.3	100
Total	703	100.0	

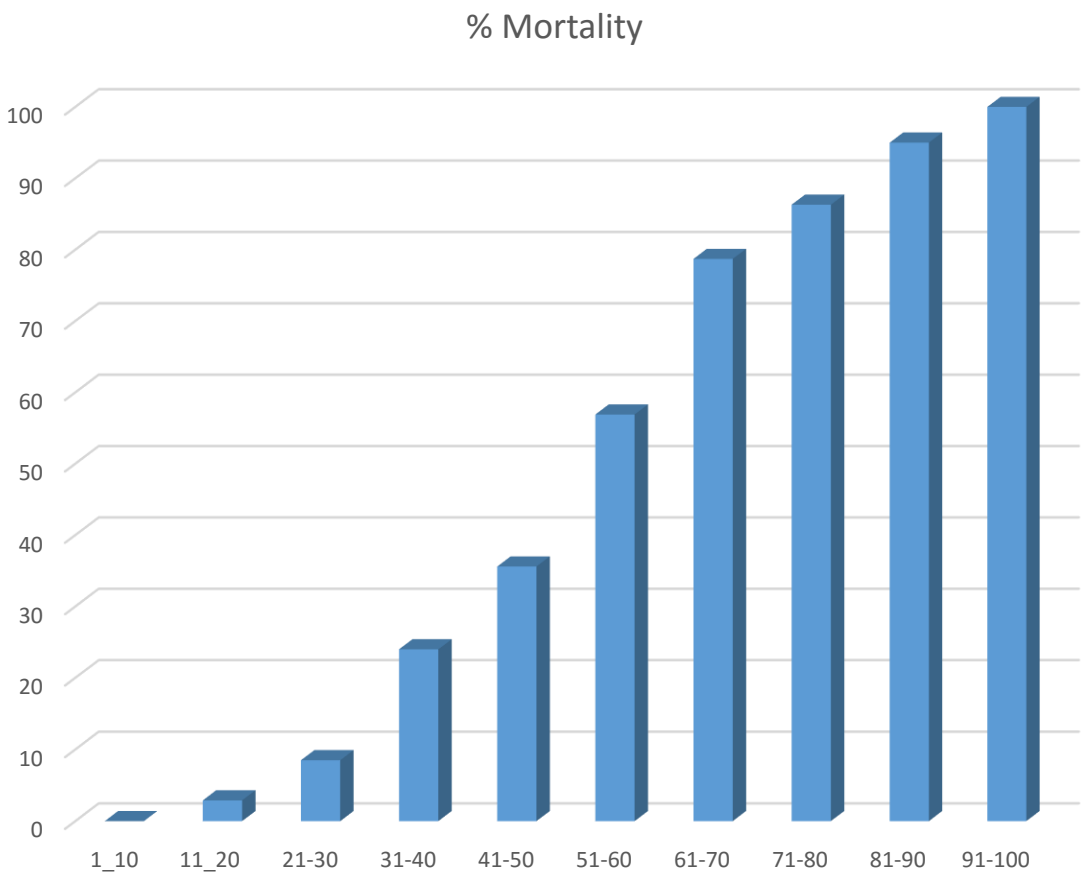


(SAMA – SIGNED AGAINST MEDICAL ADVICE)

TBSA Group and OutCome Crosstabulation

TBSA Group	OutCome 1	2	3	Total
1-10	38	1	0	39
11-20	93	9	3	105
21-30	73	13	8	94
31-40	65	11	24	100
41-50	38	9	26	73
51-60	19	6	33	58
61-70	4	5	38	47
71-80	2	0	49	51
81-90	0	2	38	40
91-100	0	0	22	22
Total	343	58	272	673

- 1 = Survivors, 2 = Signed Against medical Advise, 3 = Died



DISCUSSION

- Burn injuries have been in existence since the destruction of Sodom and Gomorrah in the Bible, mortality was 100% hence there was no mention of the management.
- Burn injuries are the fourth most common type of trauma worldwide.
- Majority of burns occur in low to middle income countries,
- This is due to no legislation for the prevention and lack of facilities to adequately manage burns.
- Burns have very severe morbidity and mortality generally which is worse in LMIC.

- Late teens up to middle age are mostly affected and morbidity affects the economy of these people, their families and the Nation.

- Fire and flame burns ranked the highest cause of burns, even among children.

- More females had burns from kerosene while more males had from petrol, this is expected.

- Scald though occurred mostly among children 0-5, but was less than fire and flame burns in this group.

- Whereas prevalence, morbidity and mortality due to fire and flames has declined in the past decades in developed countries.

- We are finding more of fire and flame burns in Nigeria, especially the Niger Delta (South-South) Geopolitical Region where Oil and Gas exploration go on, it is almost at an epidemic rate (77%) in this study.

- Mortality rate of 34.9% , this is unacceptably high.

- Socioeconomic factors affect the cause and outcome of burns.

- The low socioeconomic income earners have more of kerosene and petrol burns because they use stoves and lamps and they purchase kerosene in little quantities from retailers along the streets which are often adulterated.

- This group also uses the small petrol generators which they have to refill many times in a day with petrol stored in their houses in little containers.

- Children are often found in the kitchen with their mothers while cooking and the flame involves the mother, older and younger siblings, presenting a scenario described as '**FAMILY BURN ENTITY**'. Among these there is usually a toddler, thus increasing the incidence of flame burns among this group.

- It is worrisome that children are having more burn injuries from fire/flame.

- They are often found in the kitchen with their mothers and while cooking

- The fire that occurs in the kitchen affects the mother, older and younger siblings etc, thus presenting a scenario described as '**FAMILY BURN ENTITY**'. Among these there is usually a toddler.

Low income Generator

- ‘*I better pass my neighbour*’ (generator) as it is referred to in Nigeria.
- Cheap, available and easy to manipulate
- But with so much hazard

Cooking Stoves used by Low income earners

Refilling or topping up with adulterated kerosene in a lighted or hot stove causes Explosion.

CONCLUSION

- Adulteration, poor storage and handling of petroleum products, worsened by the poor economy has led to increase in flame burns.
- Also, vandalization and rupture of pipelines delivering petroleum products have not helped matters.
- There should be legislation on prevention of burns by the Government and adequate funding of burn treatment.

THANK YOU

References

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