

STUDY TITLE:

**INCIDENCE OF AND FACTORS ASSOCIATED WITH POST-OPERATIVE
NAUSEA AND VOMITING FOLLOWING SURGERY UNDER REGIONAL
ANAESTHESIA**

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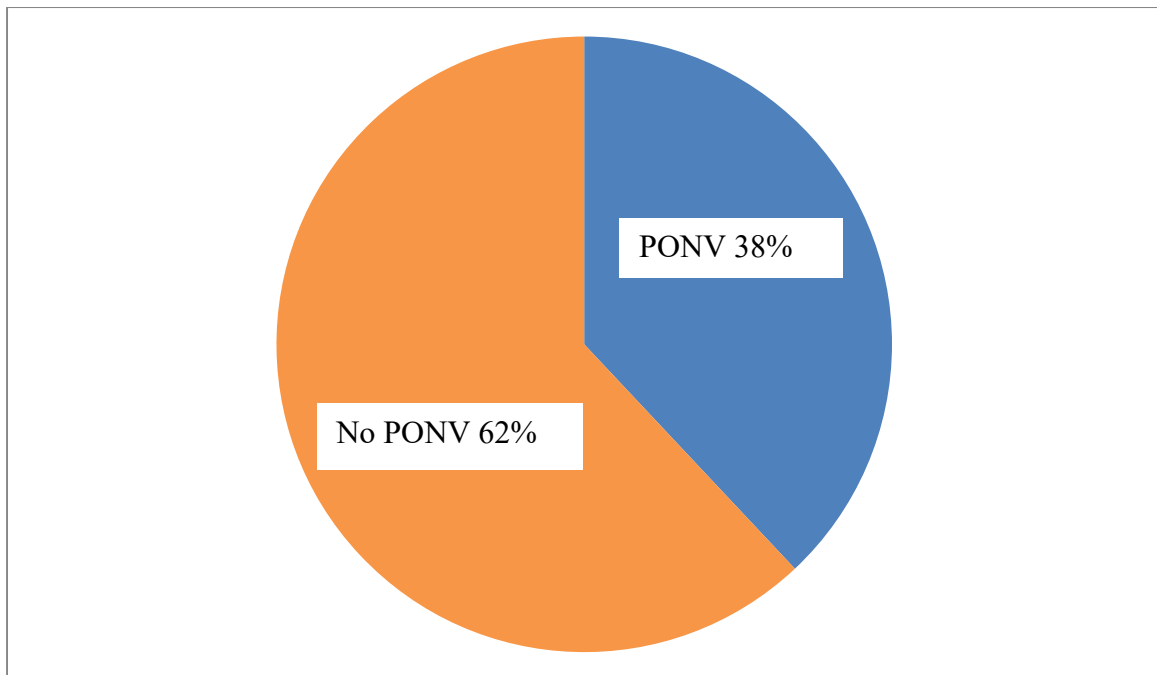
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Table 1: Baseline characteristics of study participants

	Post -operative Nausea, Vomiting or Retching		P-value
	No [n=224,%]	Yes [n=140,%]	
Demographic			
Urgency of surgery			0.179
Elective	107 (58.2)	77 (41.8)	
Emergency	117 (65.0)	63 (35.0)	
Sex			0.650
Male	56 (59.6)	38(40.4)	
Female	168 (62.2)	102(37.8)	
ASA classification			<0.001¹
I	26 (42.6)	35 (57.4)	
II	196 (66.2)	100 (33.8)	
III	2 (28.6)	5 (71.4)	
Age ; median (IQR)	28 (23 - 37)	30 (24 - 42)	0.039^a
Patient experience			
Ever had nausea or vomiting			0.013
Yes	154 (57.9)	112 (42.1)	
No	70 (72.2)	27 (27.8)	
Description of experience			0.110
Very unfavorable	14 (45.2)	17 (54.8)	
Unfavorable	84 (65.6)	44 (34.4)	
Neutral	106 (61.3)	67 (38.7)	
Post-operative nausea and vomiting			
History of PONV			<0.001
Yes	23 (39.7)	35 (60.3)	
No	201 (65.7)	105 (34.3)	
History of motion sickness			0.002
Yes	80 (52.3)	73 (47.7)	
No	144 (68.3)	67 (31.7)	
Alcohol use			0.227
Yes	31 (54.4)	26 (45.6)	
No	193 (62.9)	114 (37.1)	
Smoker			0.712¹
Yes	5 (71.4)	2 (28.6)	
No	219 (61.5)	137 (38.5)	
Time since last feed (hours)			0.007
≤2	27 (45.8)	32 (54.2)	
>2	197 (64.6)	108 (35.4)	
Type of feeds			0.018
Solids	82 (67.2)	40 (32.8)	
Semi-solids	57 (50.9)	55 (49.1)	
Liquids	85 (65.9)	44 (34.1)	
Anesthesia provider			0.288¹
AO student trainee	5 (83.3)	1 (16.7)	

AO	77 (56.6)	59 (43.4)	
SHO	102 (63.0)	60 (37.0)	
Anesthesiologist	36 (69.2)	16 (30.8)	
Length of the operation			
Duration of anesthesia (minutes)			0.770
30	20 (64.5)	11 (35.5)	
30 – 60	109 (59.9)	73 (40.1)	
60 – 120	73 (64.6)	40 (35.4)	
>120	21 (56.8)	16 (43.2)	
Duration of surgery (minutes)			0.867
30	24 (64.9)	13 (35.1)	
30 – 60	119 (61.3)	75 (38.7)	
60 – 120	59 (62.1)	36 (37.9)	
>120	20 (55.6)	16 (44.4)	

Figure 1: Incidence of postoperative nausea and vomiting in patients having surgery under regional anaesthesia at Mulago hospital



The incidence of postoperative nausea and vomiting in patients who had surgery under regional anaesthesia at Mulago hospital was found to be 38%.

Table 2: Bivariate analysis for risk factors for PONV

Characteristics	PONV		P-value
	No (n=224, %)	Yes (n=140, %)	
Urgency of surgery			0.179
Elective	107 (58.2)	77 (41.8)	
Emergency	117 (65.0)	63 (35.0)	
Sex			0.650
Male	56 (59.6)	38 (40.4)	
Female	168 (62.2)	102 (37.8)	
ASA classification			<0.001¹
1	26 (42.6)	35 (57.4)	
2	196 (66.2)	100 (33.8)	
3	2 (28.6)	5 (71.4)	
Age ; median (IQR)	28 (23 - 37)	30 (24 - 42)	0.039^a
History of PONV	23 (39.7)	35 (60.3)	<0.001
History of motion sickness	80 (52.3)	73 (47.7)	0.002
Alcohol use	31 (54.4)	26 (45.6)	0.227
Non Smoker	219 (61.5)	137 (38.5)	0.712¹
Time since last feed (hours)			0.007
≤2	27 (45.8)	32 (54.2)	
>2	197 (64.6)	108 (35.4)	
Type of feeds			0.018
Solids	82 (67.2)	40 (32.8)	
Semi-solids	57 (50.9)	55 (49.1)	
Liquids	85 (65.9)	44 (34.1)	
Duration of surgery (minutes)			0.867
30	24 (64.9)	13 (35.1)	
30 – 60	119 (61.3)	75 (38.7)	
60 – 120	59 (62.1)	36 (37.9)	
>120	20 (55.6)	16 (44.4)	
Drugs used during anesthesia			
Opioids	114 (67.1)	56 (32.9)	0.056
Anti-emetics	49 (53.3)	43 (46.7)	0.062
Sedatives		19 (32.2)	0.285
SBP			0.001¹
<110	121 (65.4)	64 (34.6)	
<90	45 (44.6)	56 (55.4)	
<50	1 (0.6)	0 (0.0)	
DBP			0.097
<90	26 (76.5)	8 (23.5)	
<70	113 (60.1)	75 (39.9)	
<50	66 (55.9)	52 (44.1)	
Post-operative opioids received			0.800
Yes	136 (61.0)	87 (39.0)	
No	86 (62.3)	52 (37.7)	

P- chi-square p-values, P¹- fishers exact p-values, P^a- Rank sum p-values

Table 3: Multivariable logistic regression model showing factors associated with Post-operative nausea and vomiting

Characteristics	Unadjusted Odds ratio (95% CI)	P-value	Adjusted Odds ratio (95% CI)	P-value
Age	1.03 (1.01 - 1.04)	0.003	1.03 (1.01 - 1.06)	0.011
Urgency				
Elective	1.00		1.00	
Emergency	0.75 (0.49 - 1.14)	0.180	1.68 (0.82 - 3.44)	0.153
ASA classification				
1	1.00		1.00	
2	0.38 (0.22 - 0.66)	0.001	0.36 (0.16 - 0.83)	0.016
3	1.86 (0.33 - 10.34)	0.480	1.38 (0.17 - 11.32)	0.763
History of PONV				
No	1.00		1.00	
Yes	2.91 (1.64 - 5.19)	<0.001	2.61 (1.25 - 5.46)	0.011
History of motion sickness				
No	1.00		1.00	
Yes	1.96 (1.28 - 3.01)	0.002	2.36 (1.20 - 4.65)	0.013
Ever had nausea or vomiting				
No	1.00		1.00	
Yes	1.89 (1.14 - 3.13)	0.014	3.49 (1.53 - 7.96)	0.003
Time since last feed (hours)				
>2	1.00		1.00	
≤2	2.16 (1.23 - 3.80)	0.007	4.09 (1.70 - 9.87)	0.002
DBP				
<90	1.00		1.00	
<70	2.16 (0.93 - 5.02)	0.074	4.72 (1.69 - 13.12)	0.003
<50	2.56 (1.07 - 6.12)	0.035	4.99 (1.72 - 14.48)	0.003
Anti-emetics				
Yes	1.00		1.00	
No	0.64 (0.39 - 1.03)	0.063	1.15 (0.60 - 2.20)	0.673
Opioids				
Yes	1.00		1.00	
No	1.52 (0.99 - 2.33)	0.057	1.38 (0.81 - 2.38)	0.239
Type of feeds				
Solids	1.00		1.00	
Semi-solids	1.98 (1.17 - 3.36)	0.012	2.08 (1.05 - 4.15)	0.037
Liquids	1.06 (0.63 - 1.79)	0.824	1.68 (0.75 - 3.73)	0.206