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Factors of 72-hour Re-admitted Patients in Emergency Department-An Analysis of Taipei Medical Center

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Background and objectives

In order to provide the public with a good medical environment,the objective of this research is to investigate the factors influencing 72-hour re-admitted emergency patients in a medical center,aiming to enhance the hospital's care quality management.

Methods

The data for this study was collected from the emergency information system of a medical center located in the northern region.The dataset comprises a total of 289,830 person-time records spanning from January 2019 to December 2020.Among these records,there were 200,705 cases that did not involve 72-hour return visits (N=200,705),and 5,408 cases that did result in 72-hour return visits (N=5,408).To analyze the data, the researchers used SPSS 22 statistical software for analysis(As shown in Figure 1).

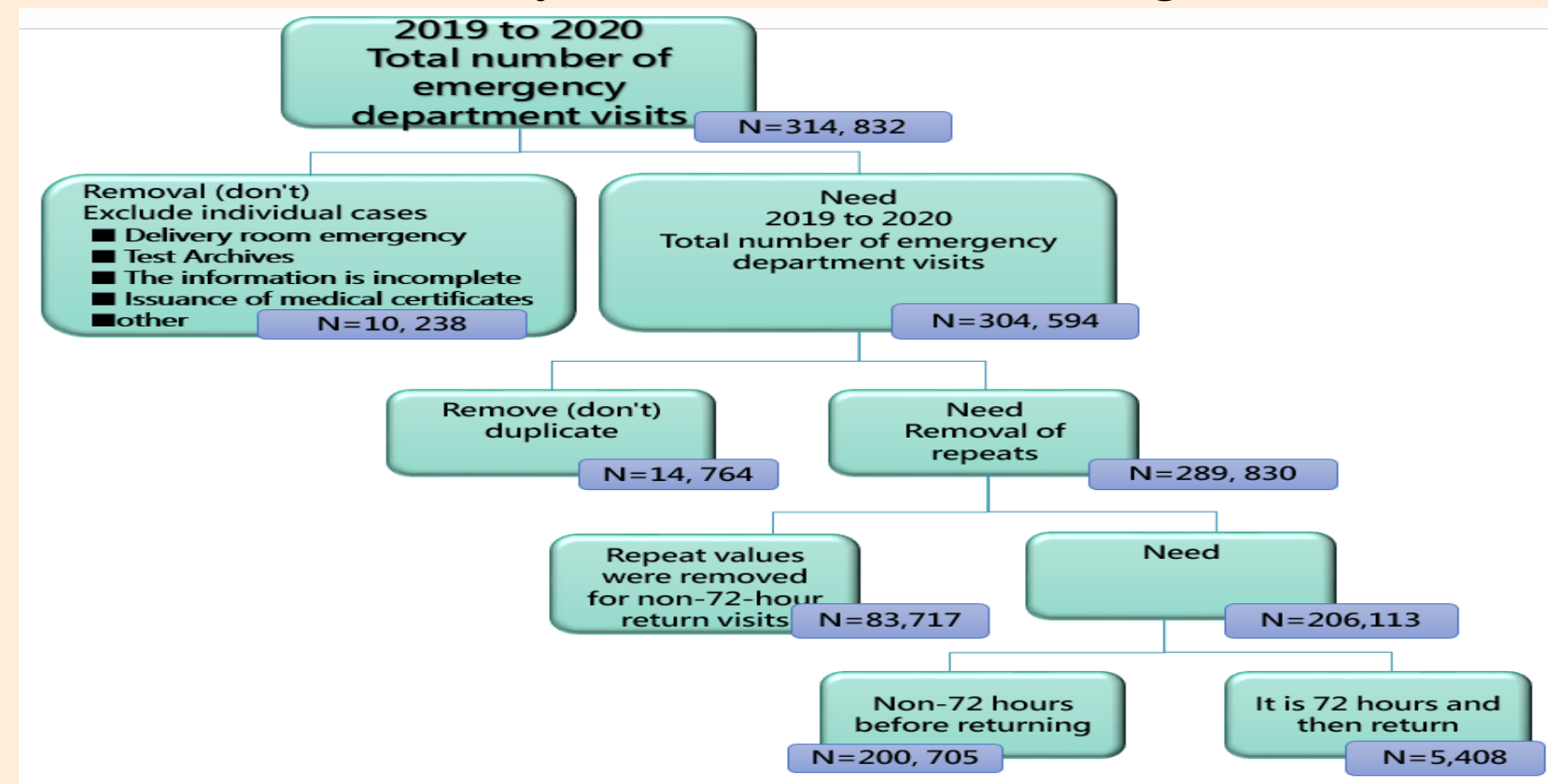


Figure 1 Selection of research subjects

Results

The results of logistic regression analysis are as follows:
 (1)Gender:Women are about 4% more likely than men to return to the emergency department.(2)Age:The risk of returning to the emergency department within 72 hours is 1.5 times higher than that of other age groups, and it is statistically significant.(3)Injury detection level: the test grade is a first-level patient,which is 2.5 times higher than the risk of 72-hour re-visit compared with a patient with a grade 5 test grade,and it is statistically significant.The risk of returning at 72 hours was 2.4 times higher than that of patients with grade 3 to 5,and it was statistically significant.

(4)Admission class:compared with other admission classes,the risk of returning to the hospital after 72 hours was still relatively high 1.60 times higher,although it was statistically insignificant) (P>0.05)(As shown in Table 1).

Table 1 Rogis regression relationship of gender, age, department, class, and progression (n=206,113)

	B	S.E.	Distinctiveness	Exp(B)	95% EXP(B) The trust interval	
					lower limit	upper limit
Man	-0.041	0.028	0.143	0.96	0.909	1.014
Age 0 to 17 years old	0.426	0.123	0.001	1.531	1.202	1.949
Age 18 to 30 years old	0.394	0.057	0	1.483	1.327	1.658
Age 31 to 50 years old	-0.01	0.045	0.832	0.99	0.906	1.083
Age 51 to 70 years old	-0.035	0.044	0.434	0.966	0.886	1.053
Department - Internal Medicine	0.339	0.122	0.005	1.404	1.106	1.783
Department - Surgery	1.079	0.115	0	2.94	2.347	3.684
The number of injuries is one level	0.931	0.165	0	2.537	1.838	3.503
The number of injuries is level 2	0.911	0.153	0	2.486	1.844	3.353
The grade of the injury is grade 3	0.692	0.148	0	1.997	1.494	2.669
The number of injuries is four	0.656	0.156	0	1.927	1.418	2.618
Admission Class - Day Shift	0.05	0.039	0.195	1.051	0.975	1.134
Admission class - Night	0.055	0.039	0.153	1.057	0.98	1.139
Constant	2.355	0.198	0	10.539		

Conclusion

By understanding the health factors influencing patients' return to the emergency department within this time frame,the overall quality of hospital care can be enhanced. This knowledge can be used as a valuable reference for emergency quality monitoring and provide hospital managers with insights for effective management and quality monitoring to optimize the benefits of emergency care.



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