WEIGHT AND COST OF *UNUSED* SUPPLIES IN ENT AND SLEEP THEATRES

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RATIONALE/AIMS

Operating room waste is believed necessary for patient quality of care and safety. Part of this waste is unused before disposal and is therefore avoidable.

The primary aim of this study was to quantify the amount of solid waste discarded before use in our ENT operating theatre. The secondary aims were to investigate the cost implications of this wastage and to assess the awareness of operating room waste among theatre staff.

METHODS

From May 1 to June 30, 2021, all disposable material unnecessarily unpacked for each intervention was counted, listed and weighed.

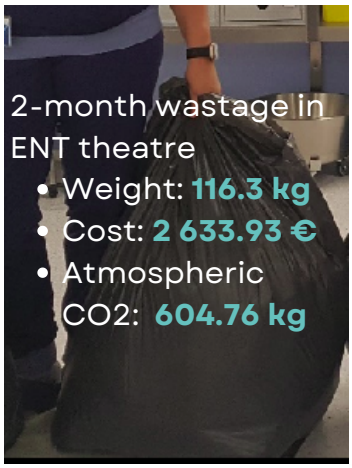
Knowledge of unused waste among theatre staff was assessed by a survey completed by surgeons, anaesthetists, nurses, and technicians (n = 49).

Subjective perception was then compared to actual waste quantification and correlated to demographic variables (age, gender, function, experience).

RESULTS

During the 2-month collection, 116.3 kg of disposable material (worth 2 633.93€ and responsible for the release of 604.76 Kg of atmospheric carbon dioxide) were discarded without having been used.

Caregivers' estimates matched neither weight nor cost. The waste estimate was unrelated to demographic variables.



DISCUSSION

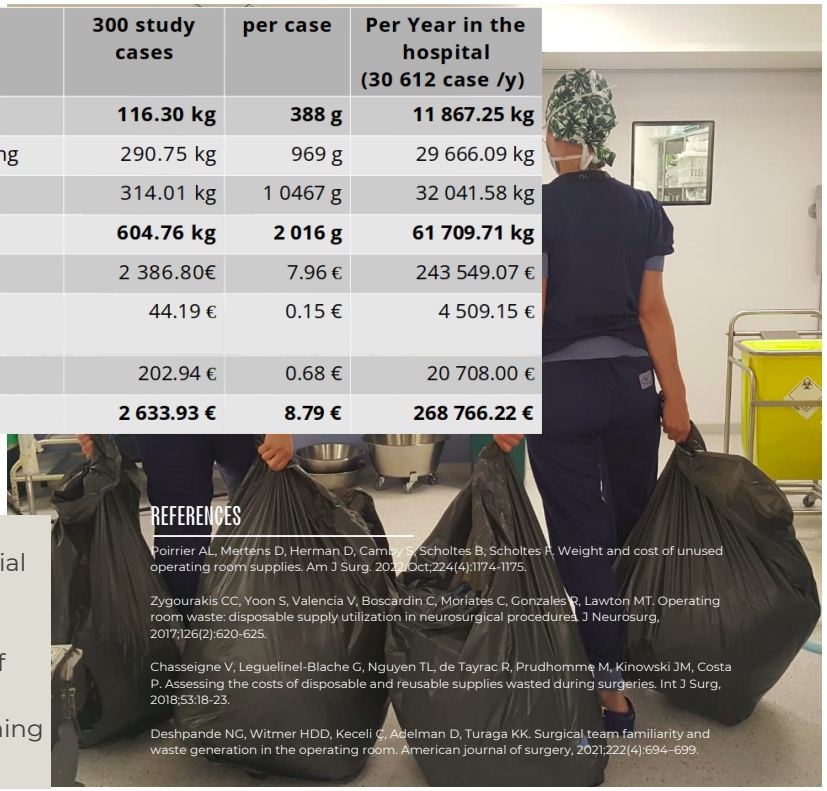
Our results are in line with the quantification of opened but unused supplies across various surgical specialties.

Assuming that the whole hospital would waste the same amount of material as the ENT operating room, **11 867.25 kg** of disposable material are estimated to be unnecessarily wasted per year in the hospital, generating **61 709.71 kg** of CO2 emission and **268 766.22€** loss (Table).

		300 study cases	per case	Per Year in the hospital (30 612 case /y)
Weight		**116.30 kg**	**388 g**	**11 867.25 kg**
CO_2	Manufacturing	290.75 kg	969 g	29 666.09 kg
	Elimination	314.01 kg	1 0467 g	32 041.58 kg
	Total	**604.76 kg**	**2 016 g**	**61 709.71 kg**
Cost	Purchase	2 386.80€	7.96 €	243 549.07 €
	Storage & Transport	44.19 €	0.15 €	4 509.15 €
	Incineration	202.94 €	0.68 €	20 708.00 €
	Total	**2 633.93 €**	**8.79 €**	**268 766.22 €**

CONCLUSION

Operating theatres produce substantial amounts of unused waste. Better allocation of disposable material would likely allow operating rooms to reduce the negative impacts of waste production without compromising patient care. Increasing awareness of waste of disposable material could be a first step to reduce waste and increase efficiency while maintaining optimal patient care.



REFERENCES

Poirrier AL, Mertens D, Herman D, Camby S, Scholtes B, Scholtes F. Weight and cost of unused operating room supplies. Am J Surg. 2022 Oct;224(4):1174-1175.

Zygourakis CC, Yoon S, Valencia V, Boscardin C, Moriates C, Gonzales R, Lawton MT. Operating room waste: disposable supply utilization in neurosurgical procedures. J Neurosurg. 2017;126(2):620-625.

Chasseigne V, Leguelinel-Blache G, Nguyen TL, de Tayrac R, Prudhomme M, Kinowski JM, Costa P. Assessing the costs of disposable and reusable supplies wasted during surgeries. Int J Surg. 2018;53:18-23.

Deshpande NG, Witmer HDD, Keceli Ç, Adelman D, Turaga KK. Surgical team familiarity and waste generation in the operating room. American journal of surgery. 2021;222(4):694–699.