



Factors Influencing Choice of Laryngeal Mask Airway Size In Adults In Clinical Practice



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Background and Goals

Weighted based recommendations for laryngeal mask airway (LMA) size have no scientific base and have never been clinically validated*. In a previous retrospective study we showed, that LMA size choice in adults is based on sex and with different weight size ranges that those recommended. The goal of this study was to inquire whether they are other factors than weight and sex that influence LMA size choice.

Material and Methods

This study was approved by the Hadassah IRB (HMO-16-0552). After recording data on LMA use into the anaesthesia information management system (Metavision®, iMDsoft, Tel-Aviv, Israel) an automatic email was sent to the investigators informing them about LMA use during normal working hours. The following patient data were then collected from the anaesthesiologists who inserted the LMA: Age, sex, ASA classification, weight, height, body shape (if height not available) and the factors influencing LMA size choice (age, sex, weight, height, body shape, mouth opening, gut feeling micrognathia , mento-thyroid distance or other). Strength of relationship between factors was measured by Pearson correlation coefficient.

Results and Discussion

Data on 740 patients were recorded for 6 months (05/2017-10/2017), questioning 63 different anesthesiologists. Demographics are summarized in Table 1. Weight was a factor in 559 (75.4%) patients (single factor in 210 (28.4%) and one of multiple factors in 349 (47.2%) patients). For 181 patients (24.5%) weight was not used as factor to choose LMA size. In those cases where weight was one the multiple factors, body shape (50.0%), sex (49.1%) and height (35.3%) were the most important co-factors influencing LMA size choice. Weight, Sex and height were found to be strongly related to the LMA size used and significant predictors at 0.01 level. With a lesser extent, ASA and age were also significantly correlated to the LMA size choice with $p < 0.01$. No statistic relationship was found between the LMA size and mouth size, micrognathia or mento-thyroid distance. Distribution and correlation of factors are summarized in Figure 1 and 2.

Table 1. Demographics

Female	428	57.8 %
Male	311	42.2 %
ASA 1	316	42.7 %
ASA 2	338	45.7 %
ASA 3	80	10.8 %
ASA 4	5	0.7 %
Age mean	45.4	±18.7
Age (min, max)	18	98
Age median	42	

Figure 1: Frequency Factors for LMA size choice

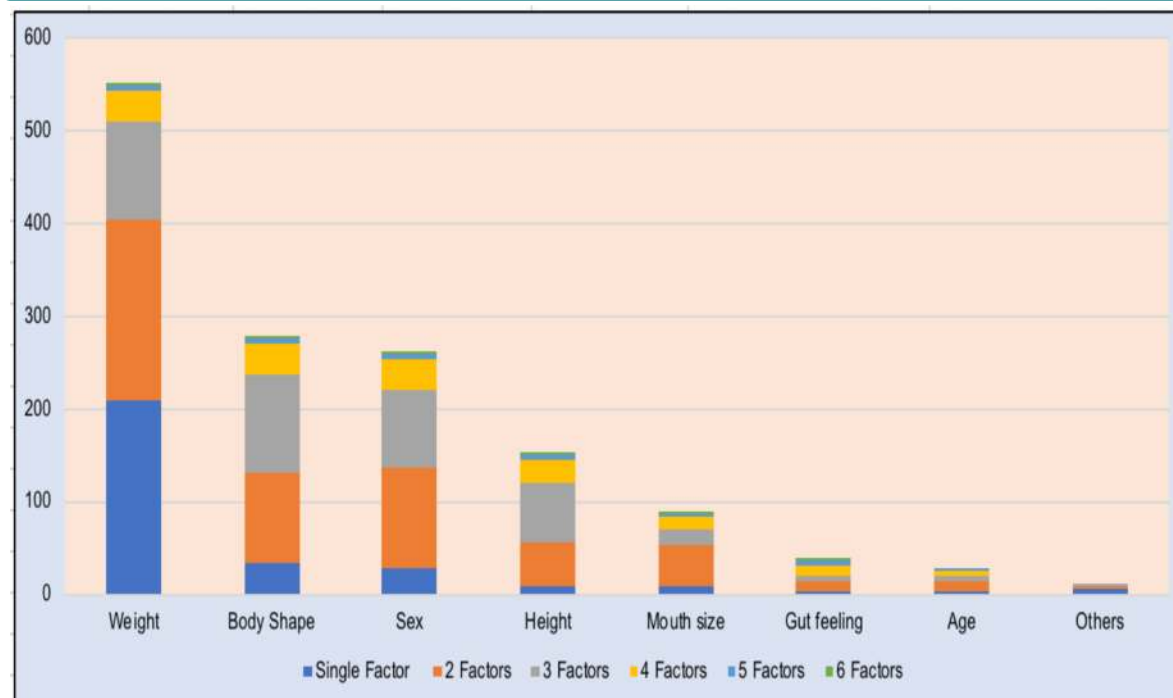
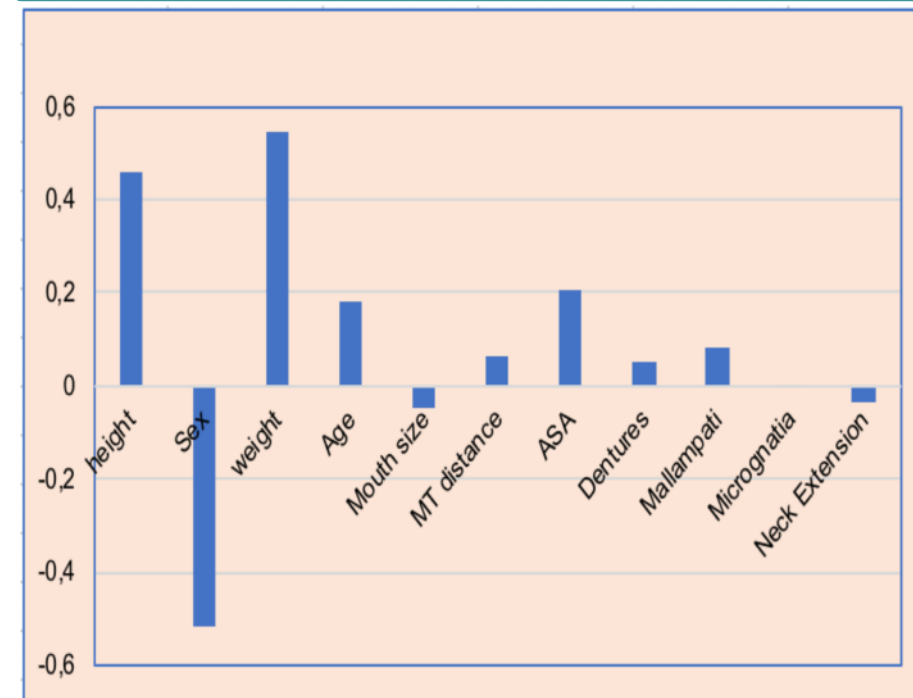


Figure 2: Correlation LMA size choice



Conclusions

Although weight is the most important factor for LMA size choice in adults, clinical observation shows that LMA size is commonly based on multiple criteria combining weight, sex, height, ASA classification and age of a patient.

Reference : Avidan A, Eden A, Reider E, Weissman C and Levin PD .Multicentre validation of manufacturers' weight-based recommendations for LMA size choice in anaesthetic practice: A retrospective analysis of 20,893 cases. *Eur J Anaesthesiol* 2015;32:432-8