

Epworth Sleepiness Score distribution from 33,962 healthcare checkups

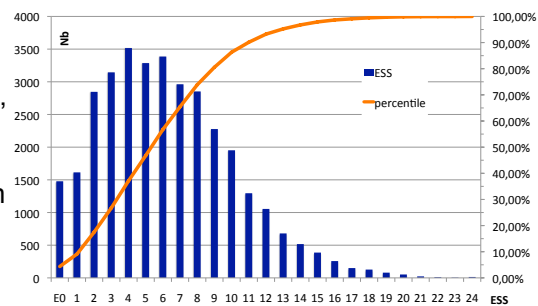
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Introduction & Method :

Epworth Sleepiness Scale is usually used for sleepiness screening. ESS score was performed in patients older than 40 years old since year 2004. We report the distribution of responses among screening at Bordeaux and Cenon primary healthcare centers in Gironde France. This population can be considered representative of the population of the Gironde Department in France.

Results :

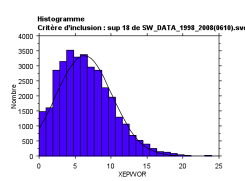
The aspect of distribution, is characterized by a high density of low scores. First quartile is from ESS=0 to 3, second from ESS=3 to 5, third from ESS=6 to 8, fourth from ESS=9 to 24. First décile is from ESS=0 to 1, last from ESS=11 to 24. 5% uppers are from 14 to 24. Median is between 5 and 6.



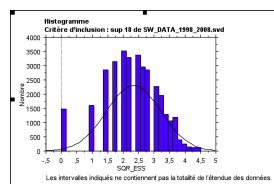
ESS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
%	4,35	4,75	8,38	9,26	10,35	9,68	9,97	8,72	8,40	6,70	5,75	3,81	3,11	2,00	1,52	1,14	0,76	0,44	0,37	0,24	0,15	0,07	0,03	0,01	0,04
quartile	1st quartile			2nd quartile			3rd quartile			4th quartile															

Discussion :

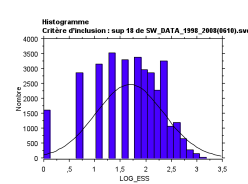
Distribution of ESS does not follow a normal law. The comparison of scores requires the use of nonparametric tests or a mathematical transformation. The aspect of distribution, is characterized by a high density of low scores, can be improved by the use of a square root transformation or a log transform.



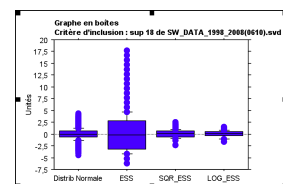
ESS distribution



Square Root ESS Transform



Ln ESS Transform



normalized comparison in graph box

CONCLUSION :

1. The use of parametric statistical tests referring to the normal distribution should not be used for the comparison of Epworth Sleepiness scores
2. Square root or a log transform standardize the distribution of Epworth Sleepiness Scores and thus improve the use of parametric tests