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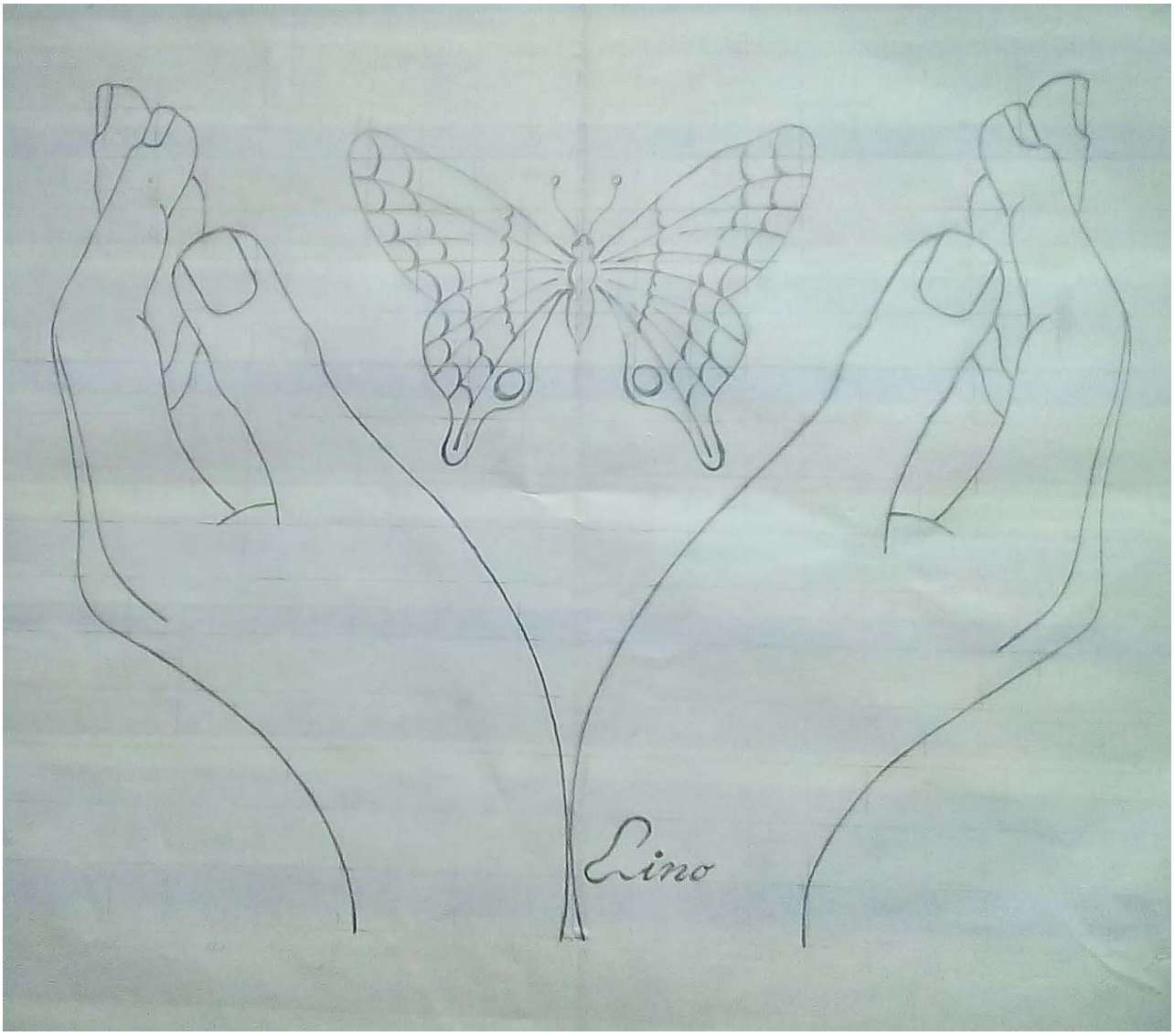

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EVALUATION OF POLYSONNOGRAPHY (AHI) AND BIO IMPEDANCE (Resistance and Reactance) PARAMETERS IN PATIENTS WITH OSAS: MEDICAL AND NURSING ASPECTS.

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KEY-WORDS: OSAS, POLYSONNOGRAPHY, BIO IMPEDANCEMETRY, nursing approach.

ABSTRACT

BACKGROUND: Obstructive Sleep Apnea Syndrome (OSAS) is a frequent cause of sleep fragmentation. This pathology not only affects subjects suffering from sleep apnea, but is often cause of insomnia for family members or caregivers surrounding them. Data in the literature highlight the link between OSAS and an increased risk of hypertensive crisis, atrial fibrillation, dyslipidemia, diabetes mellitus and ischemic stroke. **AIM:** the purpose of our study project is to evaluate the modifications of the polysomnographic and bioimpedance parameters before and after treatment of subjects affected by OSAS by means of non-invasive ventilation (autocpap).

MATERIALS and METHODS: in our pilot study, 8 subjects over age 50—5 women and 3 men—were enrolled at the medicine department and the geriatric clinic of Fondi, who voluntarily accepted to undergo a polysomnographic and bioimpedancemetric evaluation given the positive Epworth test for obstructive sleep apnea syndrome. All patients were asked for informed consent to carry out the screening procedure and to process personal data. After polysomnographic and bioimpedance analysis, the patients were started on a titrated therapy with non-invasive ventilation (Autocpap Mod. Prisma Lowenstein by Medigas). The time period of the titration varied between 7 and 10 days, based on the needs of the ward/outpatient shift and patient compliance. The titration was performed at home by a specialized technician from the Medigas company. All patients underwent titration with Medigas Autocpap Prisma Loweinstein. Each subject enrolled in the protocol was subjected to a personalized test of the mask used for non-invasive ventilation, in order to optimize patient comfort and reduce or abolish air leaks from the edge of the mask often caused by the anatomical face peculiarities of each patient. **RESULTS:** the

analysis of the data revealed a statistically significant reduction in the value of apnea per hour of sleep (AHI) already after 7 days of titration with autocpap (Tab.1). The data analysis did not show any statistically significant variation of the Resistance and Reactance values, measured in the short period of 7-10 days, by means of a 4-channel skin bioimpedance examination by the AKERN company. **DISCUSSION:** The data pertaining the previous tables show a statistically significant reduction in the AHI values or in the number of apneas per hour of sleep after only 7-10 days of titration with Autocpap. No statistically significant changes were found as regards the resistance and reactance variables evaluated by 4-channel skin bioimpedancemetry. **CONCLUSION**: The pilot study we carried out allowed us to highlight the efficacy of treatment with AutoCPAP in the geriatric population. The data gathered by our research did not suggest any statistically significant variations in the values of skin resistance and reactance presumably for the short titration period (7-10 days). It will be useful to evaluate the bioimpedance changes after a period of 30 or 90 days of treatment to see the effects of autocpap ventilation on glycidic and metabolic lipid metabolism. All treated patients reported immediate benefit from autocpap non-invasive ventilation therapy. Only 1 person was excluded from the study due to intolerance of the face mask essential for ventilation with autocpap due to reported claustrophobia.

The current size of the sample under examination is not sufficient to carry out an evaluation that can be extended to the entire population.

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