ON PHYSICAL YOGA-THERAPY IN PSYCHIATRY

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INTRODUCTION. The external respiration is at the same time an autonomic and voluntary physiological process. Through Yoga respiratory training (pranayamas and asanas) there is a possibility of positive influence on some psychopathological processes via feedback mechanisms acc. to psychosomatic (Th.v.UEXKÜLL) and somatopsychic theories (Y.IKEMI) [1].

METHOD. Practises of Indian medicine: Integrative Yoga, Sri YOGENDRA [1+2a]. Psychosomatic practices of occidental/oriental medicine (patients/probands). Evaluation of psychic-"polar-attitude-list"/physiological-parameters: heart-rate, blood-pressure, etc. Integral Yoga, Sri AUROBINDO: Music from Sunil BHATTACHARYA [1+2b].

RESULTS.

A. Respiratory Therapy (Pranayama)

A comparative evaluation of some respiratory and cardiovascular parameters of adults practising Hatha-Yoga gave evidence of positive physiological changes. The time of voluntary apnoea after inspiration was significantly prolonged after 1 week training by $21.3 \pm 9.9\%$ ($37.2 \pm 8.3 \Rightarrow 45.2 \pm 10.6$ sec; $n=11$, $p<0.002$), after 2 weeks - $52.4 \pm 6.9\%$ ($36.8 \pm 10.8 \Rightarrow 54.0 \pm 21.6$ sec; $n=11$, $p<0.02$). The change in time of apnoea after 3 months training in some subjects was extremely high, e.g. $30 \Rightarrow 131$ sec, $43 \Rightarrow 115$ sec. The vital capacity increased after 3 months training by $10.9 \pm 7.2\%$ (3200 ± 518 ccm $\Rightarrow 3535 \pm 533$ ccm; $n=10$, $p<0.02$). A positive correlation was observed between the respiratory and cardiac changes: the heart rates in normal state and after 10 knee-bendings were reduced (Fig.1).

B. Music, Respiratory, Physical Therapies

Observations about influence of *music* [1], *respiratory* [2], *yoga-physical* [3] therapies on psychosomatic parameters demonstrate strong positive effects. *Items of categories* psycho-physiological (relaxed), emotional (tranquil/happy), cognitive (few/ordered-thoughts), voluntary (active/spontaneous), social (open/assertive), consciousness (clear/sleepy) are significantly *positive changed* 25-50%. The 3 therapies have specific psychic effects, e.g. items "relaxed/tranquil" after respiratory- (+45/50%)/music-therapy (+20/5%), also "open" (+25%) are positive, but negative after respiratory-therapy (-20%). Items are stronger changed before then after gynecological-uological-surgical-intervention. Higher effects are observed for investigators and children than of students of psychology.

Psychic effects are correlated with positive physiological ones, e.g. heart/respiratory-frequency decreased 25-30%, voluntary-apnoea prolonged 55% ($p<0.05-0.01$, $n=145$) (Fig. 2-3).

Ref.: [1] Neu, Michailov et al.: *Psychiatry: WPA-2019-Lisbon* (in press); **-2018-Mexico-City** (WCP18-0584,-0654,-0643); **-2011-Buenos-Aires**, AB:PO1.200. **EPA-2019-Warschau**, Eur. Psychiatry 56S, S689; **-2018-Nice** 48/S1, S636,S567.

Neurology: WFN-2015-Santiago de Chile, J. Neurol. Sci, 357/S1, WFN15-1263,-1273,-1266,-1270; **-2019-Dubai** (in press). **EAN 2015 Berlin**, 1st Congr. **Eur. Acad. Neurol.**, Eur.J.Neurol. 22/S1, 487-490,281, 832. **Pathology: ESP-2019-Nice** (in press). [2] a. Sri Yogendra: Hatha-Yoga simplified. The Yoga-Inst. Santa Cruz/Bombay,25/1958 (4th-edition). b. Sri Aurobindo: Integral Yoga. Sri A. Ashram.

CONCLUSION. It is evident that Yoga training could be applied not only for psychosomatic diseases, but also in neurology and psychiatry. There are to be investigated positive effects in patients with neurosis, also depression (stimulation of cerebral exciting processes counteracting to inhibitory ones), etc., see [3]. Systematic research in this context could support UNO-Agenda 21 for better health, education, ecology, economy on global level.