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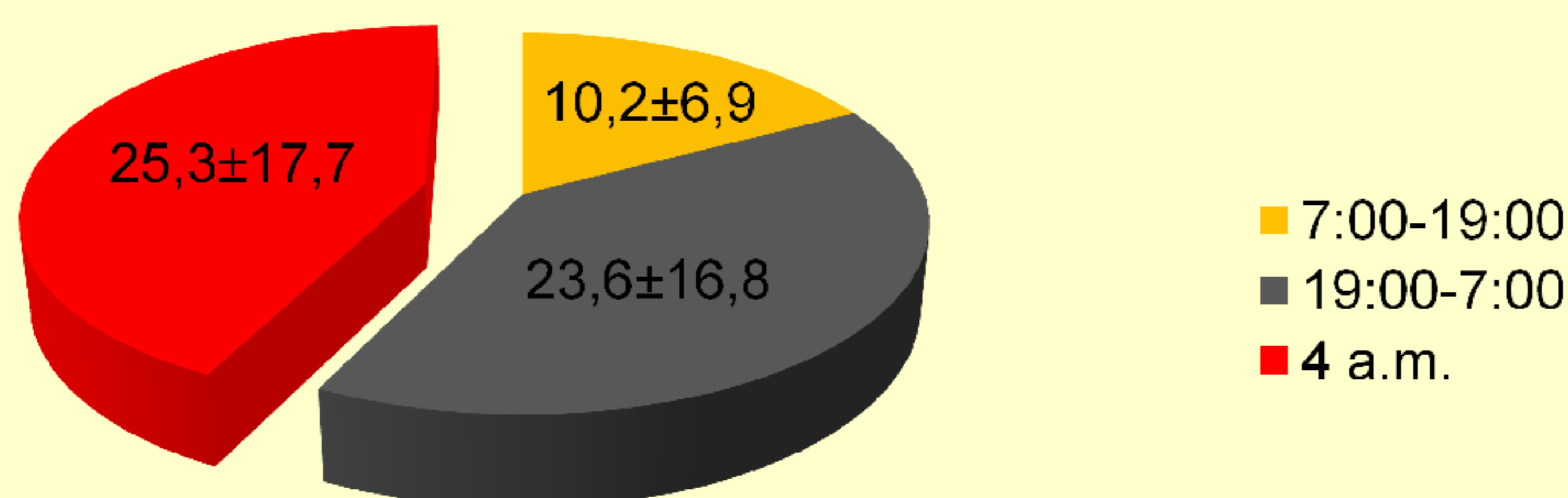
## OBJECTIVES

The studying of the influence of melatonin on the development of MS in inversion of the cycle «day/night».

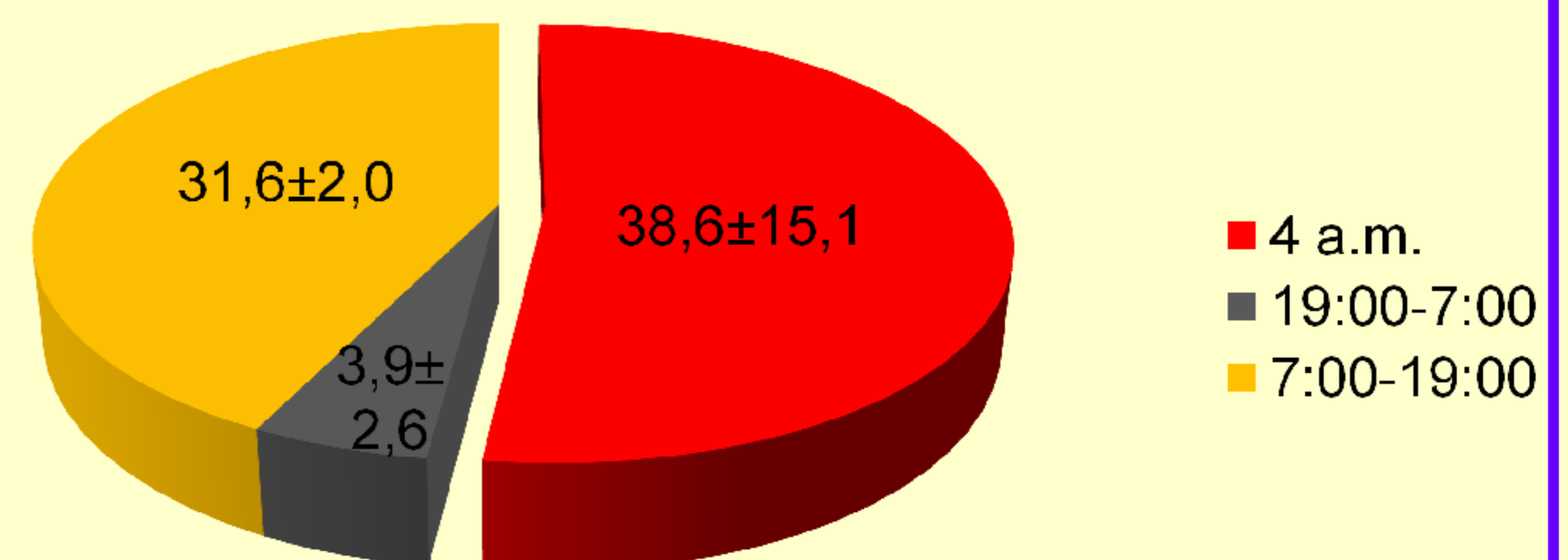
## METHODS

Group “A” (n=25), patients with MetS (the National Cholesterol Education Programs Adult Treatment Panel) and inversion of the cycle «day/night» (at least two night shift a week for 6 and more years), group “C” (n=23), healthy people, working in day shifts . Blood pressure (BP) has been monitored for 24 hours. It's determined waist circumference (WC), high-density lipoproteins (HDL) fasting triglycerides (TG), fasting glucose. The melatonin secretion has been determined according to excretion 6-sulfatoxymelatonin (MT6S) in urine.

MT6S (ng/ml) group A



MT6S (ng/ml) group B



## RESULTS

Total MT6S in both groups was equal,  $p=0.077$ . MT6S at 4 a.m in group “A” (25.3 95% CI: 17.8-32.8 ng/ml ) was less  $p<0.014$ . Night MT6S in group “A” (10.2 95% CI: 7.3-13 ng/ml) was higher  $p<0,001$ . MT6S at 4 a.m. was connected with BP( $r=-0.34$ ), TG ( $r=-0.34$ ), HDL ( $r=0.26$ ), glucose ( $r=-0.38$ ),  $p<0.05$ . Correlation has been determined between the day MT6S and WC ( $r=-0.28$ ,  $p<0.05$ ). When the peak secretion of melatonin decreases, it's determined increasing the risk of abdominal obesity (OR 1.8, 95% CI: 0.8-3.7;  $p<0,05$ ), hypertension OR 1.6 (95% CI: 0.8-3.4;  $p<0,05$ ) risk of nocturnal hypertension (OR 1.6, 95% CI: 0.8-3.4;  $p<0.05$ , hypertriglycerides (OR 1.4, 95% CI: 0.7-2.1;  $p<0.05$ ), HDL decreasing (OR 1.7, 95% CI 0.9-2.6,  $p<0.05$ )

## CONCLUSIONS

During the long inversion of the cycle «day/night», disturbance of melatonin secretion leads to the development of metabolic syndrome.

## References

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