

Earlier in the
laboratory conditions
not mimicking "real

Psychology, Behaviorism



Earlier studies have been shown an alteration in activity times, changes happen in sleep period and feeding behavior together influence circadian control of the endocrine system (16, 17).

In our study, secretion pattern cortisol is similar to the circadian rhythm of cortisol seen in previous reports (3, 12) with peak levels occurring at early morning (06.00 p. m.) and sleep disruption had no significant effect on this pattern. The results of Scheer et al. (2009) study showed, the cortisol secretion pattern is more influenced by the internal daily rhythms rather than behavior (fasting-feeding and sleep/wake) cycles (18).

The study Fumihisa et al. (2013) showed that nightshift (from 0:00 to 8:00) had no effect on circadian rhythm in male nurses. In addition, the concentration of cortisol in night shift did not differ from that of the control group (19). Also in our study, the average concentration of cortisol throughout 24 h was not significantly higher in the disrupted sleep group than the control group. In agreement with our study, a previous study, did not show a significant circadian rhythm for acylated ghrelin in the normal subjects that take 3 meals in a day (14).

It seems that the nutritional state of the person is effective on ghrelin secretion pulses. Fasting augmented all parameters of ghrelin pulsatile secretion (20). In contrast to our study, some previous studies have reported circadian rhythm for ghrelin (13). This can be due to methodological differences that prevented comparison of this study with other works.

1- the number of blood sampling: In our study, The number of blood sampling was 6 times during 24 hours. Whereas in other works were between 24-72 during 24 hours (14, 13, 21). 2- Age and sex.

Most previous studies that reported circadian rhythm for ghrelin have been done in female subjects and a very large age range (13, 21). 3- sleep and sleep deprivation condition. In most previous studies, effects of sleep on a diurnal or nocturnal pattern of ghrelin secretion investigated in the laboratory conditions not mimicking "real life. In conclusion, Sleep deprivation has no significant effect on the diurnal pattern of cortisol. In addition, ghrelin does not show a circadian rhythm. Limitations: The small number of subjects and low number sampling over 24 h are limitations.