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Complementary open label prospective study to assess the effect of wake promoting beverage "Wake up" containing green tea (instead of Ginkgo biloba) following lunch on vigilance and function of healthy volunteers.

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Study report:

Post lunch dip is a very well established phenomenon which results in substantial deterioration of function and productivity following lunch, between noontime and 16:00. The reason for this mid-day post lunch sleep propensity is complex, and consists of hormonal, circadian, and nutritional/gastrointestinal mechanisms. In previous studies we have shown that drinking "Wake up" after lunch improves vigilance and performance 30 min following the drink, similarly to caffeine and significantly better than placebo. 120min following the drink, performance and vigilance with "Wake up" remains high, significantly superior to both placebo and caffeine. While Caffeine was associated with increasing pulse and blood pressure in the short term, with "Wake up" there were no hemodynamic differences compared with placebo, both 30min and 120min following drinking. In a second recent study we have shown that there is no tolerance to a daily dose of Wake Up (every day after lunch), for at least 30 days. Recently the content of the beverage has been changed and insead of Ginkgo biloba, Green Tea rich with polyphenols has been added. Thus, the purpose of the current study was to replicate previous study, with the new formation of the beverage.

The study was proved by the institutional review board (IRB, Helsinki committee) of Rambam Medical Center and all participants have signed an informed consent prior to participation. Twenty healthy volunteers were studied (17 of whom were studied in the previous research). Each participant had a standard lunch between 12:00 - 13:00, following which a battery of test was performed. Then they drank one bottle of "Wake up", and the battery of tests were repeated 30 minutes and 120 minutes following drinking. These tests included measurement of vital signs, blood pressure, and validated commonly used standard function and vigilance tests such as an immediate word recall test (short term memory), digit symbol substitution test (DSST, concentration), and subjective rating (on a visual analogue scale - VAS) of their vigilance, ability to focus, and effectiveness at work.

Of the 20 participants 11 were men, and 9 were women. The average age was 43±11 years, with a rage of 23-63 years. The mean height was 168cm, and the mean weight was 70Kg. The results of the previous study and the current one are summarized in the tables below. Wake up beverage resulted in a dramatic improvement of 30% in immediate word recall (both 30 and 120min following drinking), and a 8-10% improvement in DSST 30 and 120min following drinking, respectively. Subjective measures indicated 6-10% improvement in vigilance, no change in focusing, and a post-lunch deterioration in effectiveness (4-7%).

Thus, we conclude that the new formation of Wake up is a good and effective drink to counteract the somnolence and reduced performance expected during post lunch hours. Replacing gincko biloba by green tea did not deteriorate its' wake promoting capabilities.

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Summary of results from the previous study (with Gincko Biloba):

Test	Before drink	30min after drink	120min after drink	Change (%) from BL after 30min	Change from BL after 120min
Pulse	79±11	77±13	77±13	-1.9	-2
Systolic BP	119±16	118±18	117±15	-1.6	-2.3
Diastolic BP	72±9	73±10	73±9	1.3	1.7
iWRT, correct	10.9±4.6	11.6±3.5	11.4±4.5	6	4.5
DSST	83±17	91±17*	93±17*	9.2	11.4
Vigilance	6.2±1.7	7.5±1.4*	8.1±1.3*	21	31
Focusing	6.8±1.5	7.8±1.1*	8.3±1.3*	15	22
Effectiveness	7.4±1.6	8.0±1.1*	8.5±1.2*	8	15

Summary of results from the current study (with Green Tea instead of Gincko Biloba):

Test	Before drink	30min after drink	120min after drink	Change (%) from BL after 30min	Change from BL after 120min
Pulse	76±11	74±11	77±12	-2.6	1.3
Systolic BP	124±16	127±11	125±13	2.4	0.8
Diastolic BP	77±9	78±6	79±15	1.3	2.6
iWRT, correct	10.0±3.7	13.0±6.0	13.0±4.5*	30	30
DSST	87±19	94±25	96±23	8	10
Vigilance	6.8±2.1	7.2±1.9	7.5±2.5	6	10
Focusing	7.2±2.0	7.0±2.2	7.4±2.7	-3	3
Effectiveness	7.7±1.7	7.2±2.6	7.4±3.1	-7	-4