

## PRODUCT STUDY

## DESPITE THOSE PREMENSTRUAL DAYS

# Enjoy life and remain productive

During premenstrual days, 30 to 40% of all women regularly experience psychological and physical symptoms. These disappear with the onset of menstruation. The causes of premenstrual syndrome (PMS) are still unknown. Several theories suggest an increased sensitivity to the hormone fluctuations that occur during a cycle. This could also impair the transmission of stimuli in the nervous system.<sup>1</sup> PMS is typically characterized by physical changes, a negative mood, and irritability as well as exhaustion, mental overload, and reduced productivity. These symptoms impair the quality of life and well-being of the women concerned and can greatly affect their private and professional lives. They report conflicts in their partnership and social environment as well as limited performance and lack of productivity in their daily working life.<sup>2</sup>

Micronutrients have a proven influence on hormones, the nervous system, and the psyche. Vitamin B6 regulates hormone activity, magnesium supports the nerve function, iron reduces fatigue and exhaustion, and zinc helps maintain cognitive functions. The aim of this study was to find out whether the three-month use of a combination product with micronutrients and plant extracts (Nutrifem P-M-S Formula®) leads to a lower intensity of premenstrual symptoms and thus stabilizes mood, emotions, performance, and well-being. To this end, 101 women with PMS were recruited via social media. The intensity of the symptoms was assessed at the beginning and end of the study using a scale (numerical rating scale, NRS) on which the participants were able to assess the intensity of their symptoms from 0 (no intensity) to 10 (strongest intensity imaginable). Mood and performance were assessed, among other things. A WHO-5 questionnaire was used to survey quality of life and well-being. In total, the data of 68 participants aged 20 to 50 years was evaluated.

## The results

### Emotional stability

PMS is usually accompanied by a change in psycho-emotional processes in the days before menstruation. These are manifested in mood swings, sadness, irritability, increased anxiety, and mental exhaustion. The initial data of the study participants revealed a high level of suffering (values of 6 to 7 points) in all areas of the mood category. After three months of using the study product (Nutrifem P-M-S Formula®), the intensity of the symptoms decreased to 3 to 4 points (Tab. 1).

Mood	Points at start of study	Points at End of study	Change (in points)	Improvement (in %)
My mood fluctuates or I am impulsive.	7.75	4.94	-2.81	36.2 %
I am irritable, angry, or aggressive.	7.46	4.74	-2.72	36.5 %
I am sad, depressed, or weepy.	7.41	4.60	-2.81	37.9 %
I feel restless or nervous.	6.07	3.37	-2.71	44.6 %
I feel insecure.	5.74	3.29	-2.44	42.6 %

**Table 1: Intensity of psycho-emotional impairments in the days before menstruation of 68 women suffering from premenstrual syndrome measured using the numerical rating scale (values from 0 to 10) at the beginning of the study and after 3 months of using the study product (0 = no intensity, 10 = strongest intensity imaginable)**

### Performance and productivity

In the days before menstruation, women affected by PMS also have limited performance. They suffer from tiredness and exhaustion, lack of energy, listlessness, and mental overload. This has implications for both family and professional life. Studies have shown that PMS is clearly associated with a reduced output and a corresponding reduction in work productivity.<sup>3</sup> PMS also affects job satisfaction and cooperation with colleagues.<sup>4</sup> Because of their symptoms, women with PMS are absent from work more often than their unaffected colleagues.<sup>5</sup>

Our data show that those affected suffer severe performance losses: At the beginning of the study, the participants showed a high degree of restriction (values of 6 to 7) in the parameters recorded. After three months of using the study product (Nutrifem P-M-S Formula®), the intensity of the symptoms decreased to 3 to 4 points (Tab. 2).

Performance	Points at start of study	Points at End of study	Change (in points)	Improvement (in %)
I am tired.	7.87	4.62	-3.25	41.3 %
I become exhausted very quickly.	7.29	3.79	-3.50	48.0 %
I am not able to accomplish as much.	6.79	3.76	-3.03	44.6 %
I feel overwhelmed.	6.28	3.76	-2.51	40.1 %
I am apathetic, lethargic, or uninterested.	6.26	3.85	-2.41	38.5 %

Table 2: Intensity of performance losses in the days before menstruation of 68 women suffering from premenstrual syndrome measured using the numerical rating scale (values from 0 to 10) at the beginning of the study and after 3 months of using the study product (0 = no intensity, 10 = strongest intensity imaginable)

### Well-being and quality of life

It is estimated that women affected by PMS suffer from the typical symptoms for about 3,000 days during their fertile years.<sup>6</sup> This monthly recurring burden affects the general quality of life and well-being of women. The internationally recognized WHO-5 questionnaire was used to assess well-being and quality of life. This also allows comparison with the average population. A score above 13 (on a scale of 25) indicates good well-being and a normal quality of life.

At the beginning of this observational study, the participants were considerably below the limit value of 13 points (with 7.62 points on average). This obviously shows that the monthly symptoms have a significant negative influence on well-being and quality of life. After three months of using the study product (Nutrifem P- M-S Formula®), the value improved significantly to 11.69 points (an increase of 53.4%). The reduction in symptom intensity was also highly correlated with an increase in well-being and quality of life (Fig. 1).

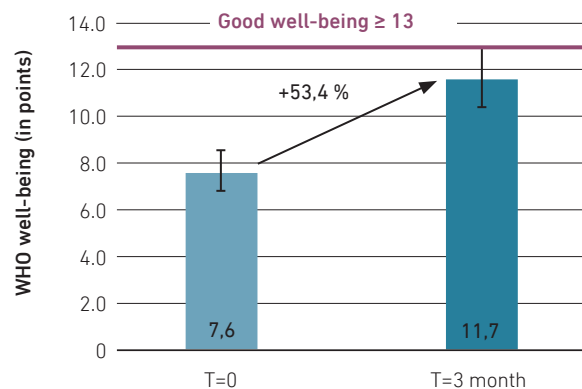


Figure 1: The quality of life and well-being of 68 women suffering from PMS determined using the standardized WHO 5 questionnaire at baseline (T = 0) and after three months of using the study product (T = 3 months)

### Summary:

Plant extracts and micronutrients have positive physiological effects on women. Their stabilizing properties can help to keep the functions of nerves and psyche in balance and have a positive effect on hormonal balance. We know, for example, that vitamin B6 supports the regulation of hormone activity and helps to maintain the function of nerves and psyche. It can be assumed that the micronutrients will maintain normal psycho-emotional functions even in the days before menstruation, thereby reducing the symptoms of PMS. In the present observational study, the intensity of mood and performance impairments was significantly reduced. This was reflected in higher well-being and better quality of life. The Nutrifem P-M-S Formula® study product is an effective way to reduce the burden of the days before menstruation and maintain optimal mood, performance, and well-being.

### References:

- (1) Ryu, A., Kim, T. H. 2015. Premenstrual syndrome: A mini review. *Maturitas*. 82(4):436–40.
- (2) Janda, C. et al. 2015. Wie kann man den Umgang mit prämenstruellen Symptomen verändern? Ein modularisiertes Behandlungsprogramm. *Verhaltenstherapie*. doi: 10.1159/000439336.
- (3) Haenggi-Bally, D. 2007. Das prämenstruelle Syndrom. *Schweiz Med Forum*. 7:834–8.
- (4) Kahyaoglu Sut, H., Mestogullari, E. 2016. Effect of Premenstrual Syndrome on Work-Related Quality of Life in Turkish Nurses. *Saf Health Work*. 7(1):78–82.
- (5) Dean, B. B., Borenstein, J. E. 2004. A prospective assessment investigating the relationship between work productivity and impairment with premenstrual syndrome. *J Occup Environ Med*. 46(7):649–56.
- (6) Rapkin, A. J., Winer, S. A. 2009. Premenstrual syndrome and premenstrual dysphoric disorder: quality of life and burden of illness. *Expert Rev Pharmacoecon Outcomes Res*. 9(2):157–70.

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