



## Ashwagandha Insights

# ASHWAGANDHA & WOMEN'S HEALTH





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# Women's Health:

## What women deserve?

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For centuries, women's health had been often neglected in the patriarchal societies and until recently medical research has largely ignored many health issues pertaining to women. Traditionally, this was justified by the idea that women's bodies are too complicated and complex due to fluctuating hormones and hence were excluded from clinical trials <sup>[1]</sup>.

While women continue to outpace men in longevity, they still face medical biases in areas such as disease diagnosis, pain treatment and basic medical research. Even today, women are not finding adequate solutions to their unique health needs.



Nowadays, the women's health supplement market has spreads its wings across categories and consists of vitamins, products for managing menopause symptoms and weight loss. Women's needs are evolving quite quickly, so raw material suppliers and brand owners are always finding a way to address these open areas by investing in new technologies and clinical trials.

According to data from Nutrition Business Journal (NBJ), sales of pre- and postnatal health supplements have increased from US\$602 million in 2014 to \$724 million in 2018, representing a 3.76 % compound annual growth rate (CAGR). For menopause supplements, sales have increased from \$484 million to \$541 million over the same period, a 2.25 % CAGR <sup>[2]</sup>.

## Stress: the culprit

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Stress is ubiquitous in everyday life, and it refers to a state of emotional or physiological arousal that befalls when demands from the stressors tax the person's adaptive capacity. In today's fast-paced world, women are experiencing more stress at every stage of their lives than ever before. Juggling job pressures, family schedules, financial burdens, career and educational advancement, child and elder-care concerns are only a few of the common stressors confronting women.

Men and women experience stress in different ways, both physically and mentally. They manage stress in very different ways, and they perceive their ability to do so — as well as the obstacles that stand in their way — in very different ways. While men and women report similar average stress levels, women are more likely than men to report that stress levels are on the rise <sup>[3]</sup>.





In addition, stress is more strongly related to physical and mental symptoms in women, suggesting greater susceptibility to surrounding stress and somatic illness stress <sup>[4]</sup>.

Chronic stress can suppress the immune system, disrupt digestion, sleep and cause sexual dysfunction and thus finally lead to serious health consequences such as obesity, cardiovascular disorder, diabetes, and cancer.

## The solution had always been in front of us, Ashwagandha: an equal opportunity herb

Ashwagandha (*Withania somnifera*) is one of the most revered botanical in traditional Ayurvedic medicine. Today it is also one of the most commercially successful botanicals, reaching an estimated \$13.7 million in total sales (based on SPINS data covering the 52 weeks ending December 29, 2019). Within the U.S. mainstream channel in 2019, ashwagandha saw the third-highest sales growth behind cannabidiol (CBD) and elderberry, with 45.2% sales growth to reach \$10.8 million in sales <sup>[5]</sup>.

As an adaptogen, Ashwagandha is known to help people adapt to various stressors, precisely for its ability to return the body to homeostasis. In other terms it's a chill-pill for the HPA axis. Ashwagandha has a GABA-mimetic effect, which reduces the over-excitation of neurons, thereby producing calmness, reducing stress and anxiety.



**\$13.7  
million**  
In total sales

**45.2%**  
Sales  
growth



It is a common misunderstanding among people, that just because the majority of published studies on Ashwagandha have focused on male sexual health, they tend to believe that this adaptogenic herb is more relevant for men than women. Contrary to this belief, any herb that works on men is going to work on the analogous tissue in women and the other way round. In addition, Ashwagandha has many benefits for women including gentle hormone balancing, and reproductive support, and also assists with improving mood and supporting cognitive function.

Let's have a look at how Ashwagandha is helping women lead a healthier life.

# Key Areas and Research Findings

## Sexual Health



More specifically, it produced an increase of more than 75% in total Female Sexual Function Index (FSFI) scores, with an increase of 62.4%, 59.4%, 82.4% and 62.4% in the arousal, lubrication, orgasm and satisfaction domains respectively ( $p<0.001$ ). KSM-66 Ashwagandha supplementation also reduced sexual distress among the women with a statistically significant reduction of 60.9 % in Female Sexual Distress Scale (FSDS) scores ( $p<0.001$ ) when compared to the placebo <sup>[8]</sup>.

## Thyroid Health

The thyroid is a butterfly-shaped gland that sits low on the front of the neck and secretes several hormones, collectively called thyroid hormones. Thyroxine, also called as T4, is the main hormone. A proportion of T4 hormone released into the body is later converted into the active hormone tri-iodothyronine (T3). These thyroid hormones have an enormous impact on your health, affecting all aspects of your metabolism and also influence the control of vital functions, such as body temperature and heart rate.

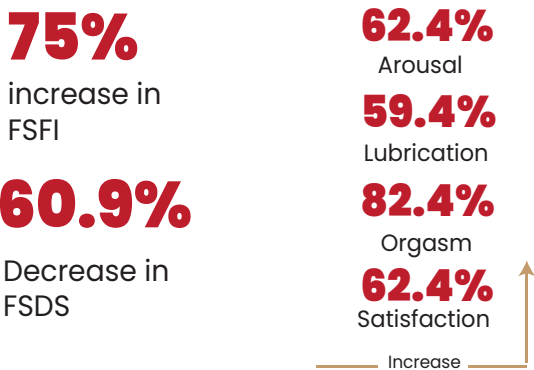
Most of the thyroid issues involve either Hypothyroidism (producing too little of the hormone T4) or Hyperthyroidism (producing too much of the hormone). Although men experience thyroid dysfunction, women are 10 times more likely to have a thyroid imbalance. According to the American Thyroid Association, women are five to eight times more likely than men to have thyroid problems, with one in eight developing a thyroid disorder in her lifetime.

It is still uncertain as to why women experience more issues with the thyroid hormone production. It is widely known that acute and repeated stress can alter the thyroid hormone secretion. The constant production of cortisol into the body due to stress can disrupt the actual production of the thyroid hormone and interfere with the T3 and T4 conversion <sup>[9]</sup>. Thus, inhibits the thyroid hormones from binding to the thyroid receptors.

Low sexual desire or libido is not uncommon in women. Stress and hormone imbalance can affect sexual health in women. A study found that higher levels of stress are associated with lower odds of conception <sup>[6]</sup>. An imbalance in the production of the thyroid hormone could affect libido and cause the early onset of menopause and other reproductive problems <sup>[7]</sup>.

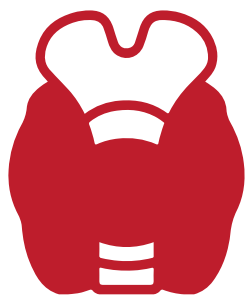
1 A study published in the *BioMed Research International*, examined the effects of KSM-66 Ashwagandha root extract on women with sexual dysfunction. This randomized, double-blind, placebo-controlled study involved 50 women half of whom were given 600mg Ashwagandha supplement, and other half placebo for 8 weeks. KSM-66 Ashwagandha supplementation demonstrated a significant improvement in the sexual arousal, lubrication, quality of orgasm and overall satisfaction in women.

KSM-66 Supplementation resulted in





KSM-66 Supplementation resulted in



**47.16%**

Improvements  
in T3 levels

**23.19%**

Improvements  
in T4 levels

Ashwagandha has been traditionally used as an adaptogen to rejuvenate health, maintain homeostasis, maintain thyroid function and regulate hormonal balance in the human body.

2 A clinical study published in the *Journal of Alternative and Complementary Medicine*, evaluated the effects of the KSM-66 Ashwagandha on the thyroid hormone levels and showed promising results. This randomized, double-blind, placebo-controlled study involved 50 subjects, half of whom were given 600mg Ashwagandha supplement and other half placebo for 8 weeks. KSM-66 Ashwagandha supplementation resulted in significant improvements in both T3 (47.16 %) and T4 (23.19 %) levels. At the end of the study, the levels of thyroid stimulating hormone were normalized in participants taking Ashwagandha <sup>[10]</sup>.

## Menopause

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Menopause, perimenopause and postmenopause are stages in a woman's life marked by the cessation of her monthly period. In this process, the first stage is the Perimenopause, it starts around 8 to 10 years before menopause. At this stage, many women may experience menopause symptoms. Menopause is the point when a woman no longer has menstrual periods for at least 12 months. It is end of a woman's reproductive year as her ovaries stop producing the hormones estrogen and progesterone <sup>[11]</sup>. The most common menopausal symptoms include hot flashes, night sweats, sleep disorders, increased anxiety or irritability, vaginal dryness, depression and cognitive impairment.

3 Ashwagandha root is known to alleviate the menopausal symptoms. The efficacy of Ashwagandha during the menopause comes from its stress reducing properties, and it promotes hormonal equanimity. In a new, soon-to-be-published randomized, double-blind, placebo-controlled study, researchers evaluated the ability of 8 weeks of KSM-66 ashwagandha root extract supplementation on women with perimenopausal symptoms. KSM-66 Ashwagandha supplementation produced statistically significant improvement in improvements in climacteric symptoms such as depression, irritability, anxiety, physical and mental exhaustion, hot flashes, difficulty in sleeping, feeling tired or lacking energy, headaches, vaginal dryness, night sweats, muscular discomfort, and joint pain <sup>[12]</sup>.

## Sports Nutrition and Active Health

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Sports nutrition, a category once geared towards weight lifters and professional athletes has now expanded to everyday consumers seeking a more active lifestyle. The sports nutrition category has evolved from being focused on male athletes only to a wider group of subjects, including health-conscious women.

Ashwagandha root is known to increase energy production in muscles through its beneficial effects on mitochondria, the structure that serves as the power plant of each cell, producing energy through the formation of adenosine triphosphate (ATP), also known as the energy currency. Specifically, ashwagandha root decreases creatine kinase, a common blood protein marker of muscle damage <sup>[13]</sup>.

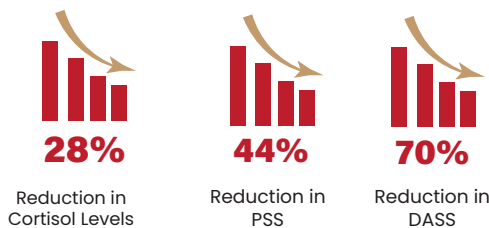


**4** In a new, soon-to-be-published randomized, double-blind, placebo-controlled study, researchers evaluated the ability of 8 weeks of KSM-66 ashwagandha root extract supplementation on muscle strength and recovery in 80 participants (40 men and 40 women). KSM-66 ashwagandha supplementation produced statistically significant increases for both male and female participants in terms of muscle strength for bench press and leg extension, muscle size, VO2 max, body fat percentage, and muscle recovery <sup>[14]</sup>.

## Stress

It's no secret that health problems begin to surface when the HPA axis is constantly elevating our cortisol and other stress hormones because of the prolonged stress. As an adaptogen, ashwagandha creates perfect balance in the body by establishing a state of homeostasis between the sympathetic nervous system and the parasympathetic nervous system and its effect on women's health and reproductive system is mainly because of its impact on stress.

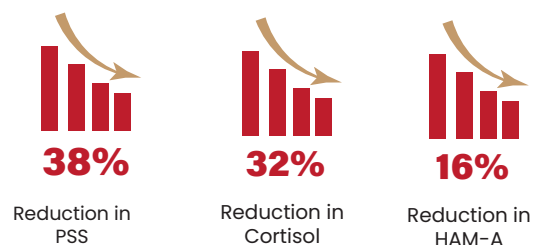
KSM-66 Supplementation resulted in



**5** A study published in *Indian Journal of Psychological Medicine* examined the effects of KSM-66 ashwagandha supplementation (600mg/day) for eight weeks and found remarkable results in the reduction of stress and subjective measures of stress. This randomized, double-blind, placebo-controlled study included 64 participants with a history of chronic stress. At the study's end, those in the KSM-66 group experienced a 28% reduction in cortisol levels. Also, ashwagandha produced a 44% reduction on the Perceived Stress Scale (PSS), and reduced depression, anxiety and stress by more than 70% on the Depression Anxiety Stress Scale (DASS). The authors concluded that Ashwagandha root extract not only decreases stress levels, but can also improve an individual's sense of well-being <sup>[15]</sup>.

**6** In a study published in *Cureus*, researchers examined the effect of KSM-66 Ashwagandha supplementation on reducing stress and anxiety over 8 weeks. The randomized, double-blind, placebo-controlled clinical study involved 60 healthy adults aged 18 to 55. The study found that participants who supplemented with 600mg of KSM-66 Ashwagandha experienced a 38% decrease in Perceived Stress Scale (PSS), a 32% reduction in serum cortisol, a 16% reduction in anxiety measured through Hamilton Anxiety Scale (HAM-A), and a 46.01% decrease in the sleep quality score, which indicates better sleep <sup>[16]</sup>.

KSM-66 Supplementation resulted in



# Cognitive Health

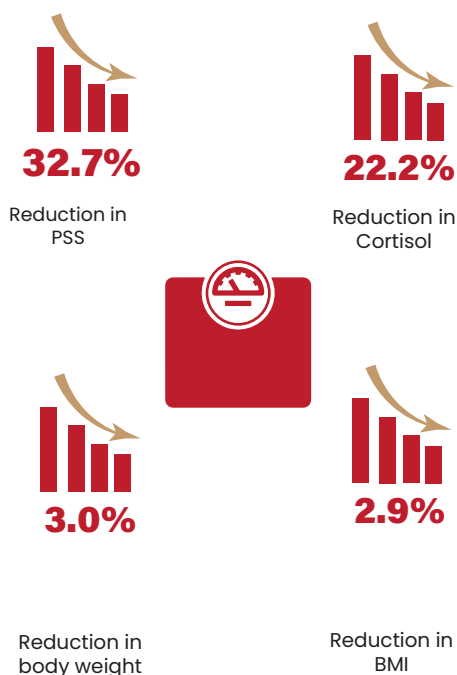
Cognitive health is the ability to think clearly, learn, and remember — is an important component of performing everyday activities. Cognitive decline is becoming an unfortunate by-product of our graying society and women are disproportionately affected. Nearly two thirds of more than five million Americans that are stricken with Alzheimer's are women.



Ashwagandha is the most recognized natural nootropic herb – medharasayana – known to promote cognition in children suffering from memory deficits, for memory loss in aging adults. Ashwagandha root has consistently been established as a significant adaptogenic and anti-stress herb that slows brain aging, improves memory as well as promotes cognitive response and neuro-regeneration. It also improves intellectual abilities and enhances the memory and life span of individuals <sup>[17]</sup>.

7 A study published in the *Journal of Dietary Supplements*, evaluated the effect of KSM-66 Ashwagandha supplementation on adults with mild cognitive impairment. The study involved 50 adults aged 35 years and older. The participants consumed 300 mg of KSM-66 ashwagandha root extract or placebo, twice daily for 8 weeks. The KSM-66 supplemented group experienced significant improvements in immediate and general memory subset, improvements in sustained attention, information processing, executive function and overall cognitive memory. Researchers concluded that Ashwagandha can be effective in improving immediate memory and general memory, and in improving executive function, attention and information processing speed without any side effects <sup>[18]</sup>. Humans irrespective of gender need to have a healthy and active brain health. Brand formulators today are constantly coming up with supplements to assist women with better functioning of the brain.

## Weight management



Chronic stress is also closely linked to obesity and stress-related eating disorders. Women, tend to put on a little bit of weight during menopausal transition. As an adaptogen, ashwagandha root can manage stress and negate the harmful effects of stress including the craving to binge-eat.

8 One study published in *Evidence-Based Complementary & Alternative Medicine* found that the consumption of KSM-66 Ashwagandha root extract (600mg/day) resulted in improved scores on the perceived stress scale, positively affected serum cortisol, body mass index (BMI), and body weight. Over the course of the study, the participants supplemented with Ashwagandha experienced a 32.7 % and 22.2% reduction in the Perceived stress scales and the level of cortisol, respectively. KSM-66 Ashwagandha root supplementation resulted in a 3.0% and 2.9% reduction in body weight and BMI, respectively. In this study, supplementation with Ashwagandha root extract caused a significant reduction in food cravings. Based on these results, Ashwagandha root may be said to have a positive impact on eating behavior and help in weight management <sup>[19]</sup>.



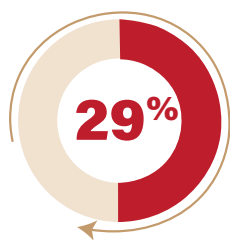
# Sleep

Sleep is essential for survival, health, and productivity and it takes up more time than any other single activity. Studies show that even though women tend to sleep approximately 11 minutes more than men, they experience lower-quality of sleep <sup>[20]</sup>. As elucidated by the common expression “beauty sleep,” an individual’s sleep pattern may play an integral part in the perception and judgments of his or her attractiveness and health.

Ashwagandha was described as an effective sleep promoter in Ayurvedic medicine. In Latin, the species name *somnifera* means “sleep inducer,” referring to the use of Ashwagandha as a sedative and nervine. Accumulating evidence indicates that increased sleep duration and enhanced sleep efficiency are correlated with improved performance and competitive success <sup>[21]</sup>.



Reduction in  
Anxiety



Reduction in HAM-A  
Scores

9 A randomized, double-blind, placebo-controlled study published in *Cureus*, demonstrated that sleep challenged subjects who consumed 600 mg/day of KSM-66 ashwagandha showed a significantly shorter time falling asleep, improvement in sleep efficiency and sleep quality, and also significant calming effects, reduced nervousness compared to those consuming placebo. The KSM-66 participants also experienced a statistically significant 22% reduction in anxiety <sup>[22]</sup>.

10 An oft-quoted study published in the *Journal of Ethnopharmacology* examined the effects of supplementation with KSM-66 ashwagandha in both healthy and insomniac participants (n=80). This double-blind, randomized, parallel-group, placebo-controlled trial, revealed that ashwagandha supplementation showed a significant improvement in sleep parameters and produced a 29% decrease in the HAM-A scores for insomnia subjects thus showing an overall improvement in their quality of life (HAM-A is a rating scale of anxiety symptom severity <sup>[23]</sup>).

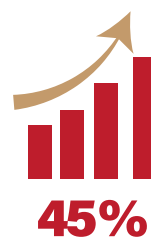
## Beauty from within

Moisturizers and sunscreens are an important part of many women’s routines and a need of the hour. But maybe that’s not enough. Skincare can also be influenced by what we consume, and portion of a healthy diet can come from dietary supplements. As women continue to live longer than men, they also want to protect themselves from all the aspects of aging and wish to look and feel more vibrant.



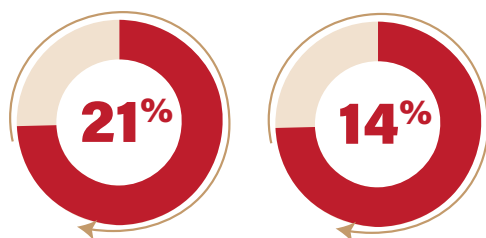
**11** Ashwagandha has been used for millennia as a rasayana in Ayurvedic medicine. One promising study published in the *Advances in Bioscience and Biotechnology* presented evidence for KSM-66 Ashwagandha's anti-aging inducing potential. As people age, the length of the telomeres shorten every time cells duplicate until eventually they stop replicating leading to the degeneration of the various physiological systems. This study investigated the effects of KSM-66 Ashwagandha on telomerase activity <sup>[24]</sup>. The authors showed that KSM-66 Ashwagandha root extract increased telomerase activity by 45% in a 10-50µg concentration.

KSM-66 Supplementation resulted in:



Increase in telomerase activity

C. elegans treated with KSM-66 lived



Longer than placebo

**12** Another study published in the *Annals of neurosciences*, evaluated the effect of KSM-66 Ashwagandha on lifespan extension in *Caenorhabditis elegans*. This experiment tracked more than 300 organisms, measuring each individual using modern assays and examination techniques. *C. elegans* treated with KSM-66 Ashwagandha lived on an average 21% longer in than the control group and 14% longer than the worms treated the hydroalcoholic extract of Ashwagandha. The authors concluded that the old healthy longlife supplements, Ashwagandha does extend lifespan of *C.elegans* <sup>[25]</sup>.





## Customer Speaks :

KSM-66 has been a partner and lead ingredient of ours for 5 years now, featured in multiple Eu Natural products. This specific source of Ashwagandha Extract was chosen because of Ixoreal Biomed's commitment to purity and high quality extraction, yet maintaining approachable pricing for suppliers.

We use KSM-66 in our multi-blend formula in harmony with our herbal ingredients to support women's health. Together they can deliver a strong impact for the end consumer and their needs..

We use KSM-66 both in our female and male versions of the product so both partners can receive clinically tested support in their health journey.

Vinay

President  
Eu Natural





Trusted by top brands globally





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