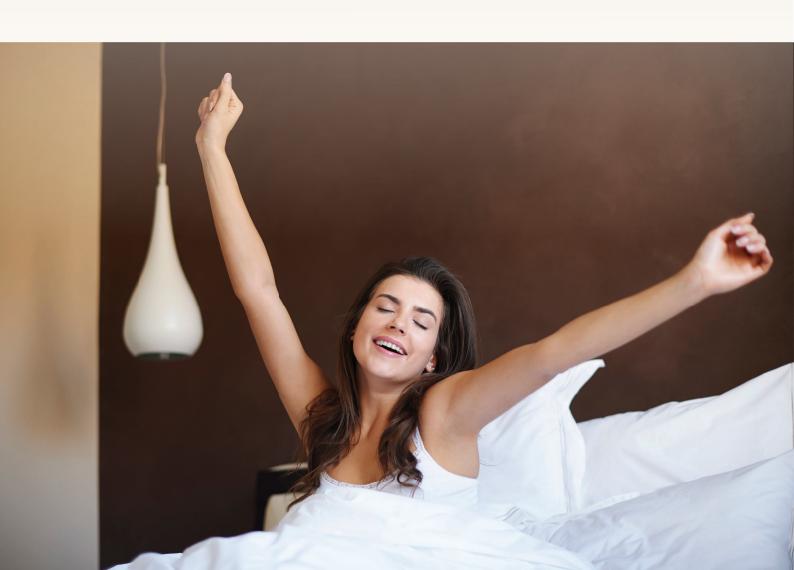




### Ashwagandha Insights

### **ASHWAGANDHA & SLEEP**



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### Sleep

Sleep plays an important role in maintaining health and general well-being. Research associates poor sleep with numerous health conditions, including excessive physical and mental stress, hormonal fluctuations, and blood sugar instability that can cascade into ill health. The American Academy of Sleep Medicine and the Sleep Research Society recommended that adults aged 18 to 60 should attain seven to nine hours per night of sleep regularly for ideal sleep health. Additionally, the National Sleep Foundation (NSF) consensus report has stated that seven to nine hours is recommended for adults aged 18 to 64 years while seven to eight hours is suggested for those 65 years of age and older [1].

### How the pandemic affected has sleep?



According to a study in the Centers for Disease Control and Prevention (CDC), about one-third of American adults are not getting enough sleep consistently [2]. Since the emergence of COVID-19, studies and surveys have shown that sleep has been affected globally. Around 22% of people said that their sleep has worsened because of the pandemic. Women (26%) were more likely than men (17%) to have said that their sleep quality has declined. It has also been noted that the prescriptions for sleep disorders jumped during the pandemic [3]. In another survey of approximately 1,000 Americans, 22% of respondents said their sleep quality is worse than usual because of COVID-19, and 33% reported that their sleep habits are affected by other events reported in the news [4].

### The growing sleep supplements market

A recent analysis from Consumer Reports found that of the more than 4,000 adults surveyed, 27% said they can't fall asleep or stay asleep most nights. Analysts predict consumers will spend over \$101.9 billion in the sleep aid category by 2023. Consumers have been turning to supplements to get some rest, and sleep supplements are projected to grow 30.1% this year. They are followed closely by mood and stress supplements with 29.8% growth. Western and Asian consumers are seeking more natural sleeping aids to resolve sleep disturbances. The market of traditional sleep aids reached \$1.3 billion in 2018 -- a growth of 4% compared to 2017, with 51% of the market in Europe. It is expected to hit \$1.5bn by 2022 [5].



### Ashwagandha

Ashwagandha is one of the most revered adaptogens, used for over five millennia to help support the body's natural balance. Ashwagandha is ranked in the top 40 list among all the herbs in the market-place. According to the latest HerbalGram market report, Ashwagandha is ranked #7 in the natural channel and #34 in the mass market – a whopping 166% increase from the previous year <sup>[6]</sup>.





Ashwagandha (Withania somnifera (L.) Dunal.) has been long known and relied upon for its sleep-inducing effects. It is referred to as "Prince of Herbs" in Ayurveda because it has an impressively broad range of therapeutic effects. The name "Ashwagandha" is Sanskrit and is a combination of the word ashva meaning "horse," and gandha, meaning "smell:" the root has a strong aroma that is described as horse-like. In Latin, the species name somnifera means "sleep inducer," referring to the use of Ashwagandha as a sedative and nervine <sup>[7]</sup>.

Ashwagandha was described as an effective sleep promoter in Ayurvedic medicine <sup>[8]</sup>. GABA is the most significant inhibitory neurotransmitter in the central nervous system and is involved in a wide range of physiological and pathological mechanisms including sleep, mood, fear, epilepsy, and cognitive disorders. A preclinical study demonstrated the sleep-promoting effect of ashwagandha through the GABAergic modulation in sleep-impaired rats <sup>[9]</sup>. Animal studies demonstrated that oral administration of Ashwagandha root extract induced sleep in rats and studies conducted in mouse neurons established the GABAergic activity of Ashwagandha through GABA receptors <sup>[10,11]</sup>.





## Key Findings of KSM-66 in human clinical studies showing value in improved sleep quality.

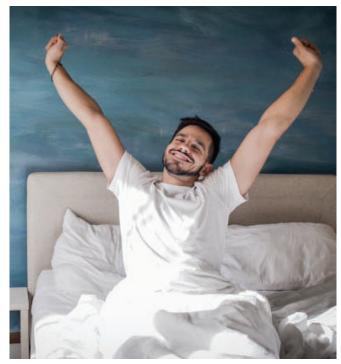
In this paper, we summarize the key findings of KSM-66 in human clinical studies showing value for improving sleep in healthy adults, the aging population, and people with sleep disorders. Ashwagandha promotes healthier sleep in two ways: by impacting sleep directly and by lowering stress, which indirectly benefits sleep.

### Ashwagandha's impact on the quality of sleep in both healthy volunteers and insomnia patients.

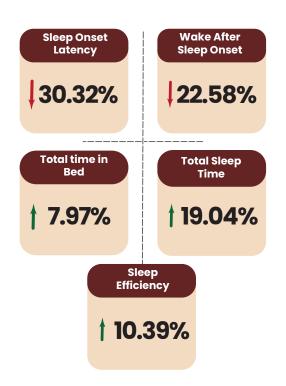


An oft-quoted study published in the *Journal of Eth-nopharmacology* examined the effects of KSM-66 Ashwagandha supplementation for 8 weeks in both healthy and insomniac participants. This double-blind, randomized, parallel-group, placebo-controlled trial, involved 80 participants between the ages of 18 and 50 years. At the end of the study, KSM-66 Ashwagandha supplemented group among healthy subjects, produced 15.58% and 29.32% reduction in sleep onset latency and wake after the onset of sleep, and among the insomnia patients, produced 33.50% and 22.70% reduction in sleep onset latency and wake after the onset of sleep, respectively <sup>[12]</sup>.

Among the healthy subjects supplemented with KSM-66 Ashwagandha, a 22.20% decrease in PSQI (Pittsburgh Sleep Quality Index) and 17.69% decrease in mental alertness on the rising score were noted. Among the insomnia patients supplemented with KSM-66 Ashwagandha, a 26.22% decrease in PSQI and 36.02% decrease in mental alertness on rising were noted. This study 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. KSM-66 Ashwagandha supplementation produced a 31.57% increase in sleep quality for healthy subjects and a 45.30% increase in sleep quality for Insomnia subjects indicating better sleep. Researchers concluded that both healthy and insomnia participants administered with KSM-66 Ashwagandha showed a significant improvement in the sleep parameters when compared to the placebo.



## 2 Ashwagandha's impact on the quality of sleep in sleep challenged subjects.

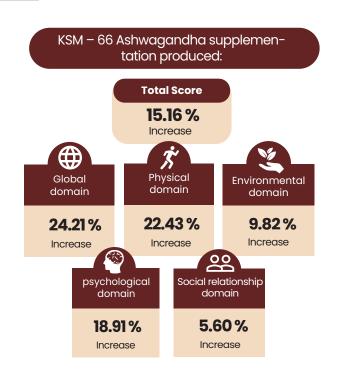


A 2019 study published in *Cureus* examined the effect of KSM-66 Ashwagandha (600mg/day) in sleep-challenged subjects aged 18 to 60. This 10-week, randomized, double-blind, placebo-controlled study included 60 participants. The study found that participants who supplemented with KSM-66 Ashwagandha experienced a significantly shorter time falling asleep, improvement in sleep efficiency and sleep quality, and significant calming effects when compared to subjects in the placebo group<sup>[13]</sup>. Ashwagandha also produced a 30.04% decrease in Pittsburgh Sleep Quality Index (PSQI) indicating better sleep and a 21.61% decrease in Anxiety.



# Ashwagandha's impact on sleep and general wellbeing in the aging population

A study published in Cureus evaluated the effect of KSM-66 Ashwagandha on the improvement of sleep and general well-being in elderly participants. In this randomized, double-blind, placebo-controlled trial, participants aged 65 to 80 received 600 mg/day of Ashwagandha for 12 weeks. Researchers found that those in the KSM-66 group had significant improvements in quality of sleep, quality of life, and mental alertness on rising [14]. Participants supplemented with KSM-66 Ashwagandha demonstrated a 33.59% decrease in the sleepiness scale, indicating improved and better quality of sleep. Also, KSM-66 Ashwagandha demonstrated a 53.13% reduction in mental alertness on rising score. Lower score signifies better alertness and less drowsiness. KSM-66 Ashwagandha supplementation produced a significant improvement in the Quality of Life.





It is widely known that stress is often at the root of sleep disturbance and insufficiency as well as insomnia. 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, prospective, 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>[15]</sup>. Thus, researchers corroborate the use of Ashwagandha root extract as an adaptogen that helps promote restful sleep and reduce anxiety.



Perceived Stress Scale

38%

Serum Cortisol

32%

Hamilton Anxiety Scale

16 %

Sleep Quality Score

46.01%





### Trusted by top brands globally













































#### **Customer Speaks**



As our name indicates, Herbworks.com, we are an herbal company specializing in adaptogenic herbs. We are driven by the philosophy of excellent quality translates into positive outcomes and our customers experiences are of utmost importance to us. We only use herbs that are extracted to its best potential and that is what led us to use KSM-66.

The market is flooded with herbs extracted to different strengths and potency but that doesn't mean they are done right. Every herb has a natural level of extraction that allows for all of the active constituents of the plant to be present. This can only happen when you're starting with high quality herbs and the part of the plant that is traditionally used. Properly extracted, the herb retains all of its energetic properties. KSM-66 fulfills these requirements.

KSM-66 is integral to how our formula Sleep and Recover works. It's a blend of adaptogenic herbs and other herbs for bringing about deep, restorative sleep. Sleep is often the only way most people relax and experience the shutting down of the stress response. Without a switch from sympathetic nervous system to parasympathetic, the body cannot truly regain health. The whole idea of restoration is often overlooked in the field of health and we feel it's the most important principle in all of health. People get worn out and lose the body loses its ability to regain its natural equilibrium and heal. KSM-66 is perfect for restoring energy.

As an adaptogen, KSM-66 is a perfect example of a whole food herb providing a whole-body response. Adaptogens feed the HPA Axis, the glands responsible for regulating the stress response. That's just the first step. KSM-66 contributes to the restoration of hormones in both men and women, indicating it's a food that allows the body to heal itself. This is why we feature it in all of our adaptogenic formulas.

Herbworks.com has the belief that people reach their full potential only when they can escape the clutches of chronic stress. Adaptogenic formulas and KSM-66 make that possible.



Zack Herbworks

### **Customer Speaks**



Caruso's Natural Health chose KSM-66 as an ingredient to be used in its formulas because of its quality, efficacy, and ethical cultural use as a traditional Ayurvedic herb. When we first introduced the herb to market, we immediately identified with our audience the following key areas of difference in comparison to what was currently available in the Australian market;

- The story behind KSM-66, traditional uses, and procedures that were applied during the manufacturing process of the herb
- The quality of clinical evidence that was available using scientific biomarkers to validate the use of a traditional Ayurvedic herb in reducing cortisol and assisting the body with the stress response,
- The continual feedback of the herb's efficacy from our consumers

KSM-66 has grown to become a premium ingredient in our formulations and part of our brand. It has cemented its place within the industry and is widely used in many formulas. It is a testament to its efficacy and growth. We are very proud to have been one of the first companies to have included KSM-66 in our products and continue to support its growth and traditions as part of the Ayurvedic culture.

Lissette Alpuin Caruso's Natural Health



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