



## **Dame DLM Jellies Significantly Improve the Mood, Anxiety, and Stress of Participants Correlating with Increased Sexual Desire and Satisfaction**

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### **Abstract**

A loss of sexual desire is the most common sexual dysfunction for women, attributed to increased stress, anxiety or low mood. Dietary supplements that alleviate these negative feelings provide a promising solution for sexual dysfunction. This single-group, non-randomized, non-controlled, open-label observational study evaluated the ability of Dame DLM jellies to improve the mood, stress, anxiety and sexual outcomes in women aged between 24 – 52. Dame DLM jellies are formulated with Sensoril ashwagandha, L-theanine, mucuna pruriens, rhodiola and shatavari which have reported benefits for these outcomes. 53 participants consumed 2 x Dame DLM jellies daily for 4 weeks and completed outcome questionnaires at baseline and at 2 and 4-weeks during the intervention period. Single question and multi-item Likert scores were compared between time points. All evaluated outcomes (questions) were significantly improved from baseline to 4 weeks, demonstrating that Dame DLM jellies effectively and significantly improved the reported mood, anxiety, stress and sexual desire/satisfaction of participants. Highlighting the beneficial outcome, 77% of participants rated the product 4 or more stars, and 76% would recommend it to a friend.

### **1. Background**

A loss of sexual desire is the most common sexual dysfunction for women. 41% of women of reproductive age are affected by any form of sexual dysfunction, while about one-third of women experience a loss in libido, a number that has increased over the years [1]. Job stress, declining hormones as well as relationship issues are just some reasons why a loss in sexual desire is happening. Recent studies have shown that women's biggest sexual problem results from a combination of mental and physical factors and that this condition even shares some attributes with depression [2]. In fact, negative mood, and more serious mental states like depression and anxiety are typically associated with a decrease in sexual desire [3]. While women's sexuality is complex and multifaceted, a low sex drive doesn't always mean that women are diagnosed with hypoactive sexual desire disorder (HSDD), nevertheless, it can still cause a loss of quality of life and put a strain on the women's relationships [2]. The interaction of multiple neurotransmitters and hormones is complex and plays a key role in sexual function. The result is sexual desire, which is a complex balance between inhibitory and excitatory pathways in the brain. For example, dopamine, estrogen, progesterone, and testosterone play an excitatory role, whereas serotonin and prolactin are inhibitory [4]. Common therapies for women to combat low sexual desire include testosterone therapy and sexual counseling [5]. However, the concept of lowering stress to



increase sexual drive has to date been mostly neglected by research, even though there is evidence that stress is linked to sexual dysfunction, which has been shown in previous studies in humans as well as animals [5]. Nowadays, many women live hectic lives and are regularly exposed to small, large, and chronic stressors. The accumulation of all these different stressors can potentially contribute to problems with sexual desire [6]. Unfortunately, research in women's sexual function is still lagging behind: 2.5x more studies were conducted on men's sexual dysfunction compared to women's dysfunction [7]. A statistic that is grim, given that women are more likely to suffer from sexual dysfunction (43%) than men (31%). When looking at HSDD in particular, 30% of women and only 15% of men are diagnosed with the disorder [8].

Dietary supplements have been given increased attention and previously studied to investigate the role that they might play in helping to increase sexual desire [9]. Specifically, many of the dietary supplements that have been studied have been tested on postmenopausal women, which is a limitation. Therefore, in this study, participants will be aged 24-65 to understand if the supplement has an impact on increasing sexual desire in females within a more diverse age range.

## 2. Purpose

Dame Products developed DLM ("test product") to support the neurotransmitters in charge of mood, desire, and connectivity. The goal of this dietary supplement is to help women with "getting out of their minds and into the moment". The ingredients in the test product are Sensoril® ashwagandha, l-theanine, mucuna pruriens, rhodiola and shatavari. It is hypothesized that the combination of these ingredients is effective for awakening the mind and uplifting the mood, which in return ignites creative desires, and as such also sexual desire. It is further hypothesized that the test product helps in unlocking connectivity (especially with a sexual partner) and improving emotional wellbeing while reducing stress and anxiety. While many women have a hard time connecting with their partners because they are always stuck inside their head thinking about the things they need to do, in other words, are stressed, they're not being present and hence are unable to turn on desire. As established above, there is evidence that a positive mood is associated with increased sexual desire for women [6]. As a pleasure-forward brand, Dame understands that female desire and arousal start with the mind and extends to the body. To create a holistic offering, Dame believes in going straight to the root cause of low libido and desire: stress. This exploratory observational trial provides data on the multi-ingredient supplement intervention that can be taken daily to increase sexual desire and mood in females. This study provides evidence for marketing claims and provides justification for further randomized controlled trials.



### 3. Subjects and Methods:

This was a single-group, non-randomized, non-controlled, open-label observational trial. Selection criteria included women aged between 24-65 years of age with a self-reported decreased sexual desire and self-reported stressful or busy lifestyle. 55 women were enrolled in this study with a mean age of 39 years (range 24 – 52 years). 96% of enrolled participants were in a relationship during the study period. Participants self-administered 2x Dame DLM jellies daily for 4 weeks during the study intervention period. At baseline and at week 2 and week 4 of the intervention period participants completed a 24-question survey categorized to evaluate mood (4 questions), anxiety (4 questions), stress (4 questions), sexual desire (3 questions), and sexual satisfaction (3 questions), along with 6 non-categorized questions. Data was collected using a 5-point Likert scale for each question. A multi-item Likert scale was created for each evaluated category (mood, anxiety, stress, sexual desire, sexual satisfaction). The questions were annotated as positive or negative connotation and the textual Likert data transformed into numerical measures of 1-5 accordingly based on the connotation, with 5 representing the most beneficial outcome (i.e always feeling happy, or never feeling stressed). A repeated measure one-way ANOVA analysis was used to compare outcomes at baseline, week 2, and week 4 for individual questions and multi-item categories.

### 4. Results

#### 4.1 All evaluated outcomes for mood, stress, anxiety, and sexual desire/satisfaction are significantly improved during 4 weeks of daily Dame DLM consumption

Of the 55 participants enrolled, 53 completed the study. The mean numerical Likert scores for each question were calculated at each time point and compared (table 1). All evaluated parameters (24 questions) showed a significant beneficial improvement from baseline to week 4 ( $P < 0.006$ ). The percentage of participants that reported a beneficial improvement (i.e, reduced frequency of feeling unhappy, or increased satisfaction) for each question is provided in table 1. More than 50% of subjects reported a beneficial improvement in each evaluated question.

**Table 1. Group mean 5-point Likert scale scores for each question per evaluation time point.** A repeated measure one-way ANOVA statistical test was used to compare baseline vs. 4-week mean values from 53 participants. The % of subjects that reported a beneficial improvement in each evaluated question from baseline to week 4 is included.



Question	Baseline Mean	Week 2 Mean	Week 4 Mean	P-Value	%Subjects Improved
<b>Mood Evaluation</b>					93
In the past 7 days, what has been your level of mood?	2.755	3.547	3.887	<0.0001	75
I've been feeling cheerful.	2.849	3.491	3.755	<0.0001	68
I felt calm.	2.698	3.434	3.736	<0.0001	77
I felt unhappy.	2.792	3.604	3.906	<0.0001	72
<b>Anxiety Evaluation</b>					87
In the past 7 days, how often did you feel anxious?	2.283	3.208	3.415	<0.0001	68
In the past 7 days, I found it hard to focus on anything other than my anxiety	2.642	3.547	3.736	<0.0001	74
In the last month, how often have you felt that you were on top of things?	2.717	3.377	3.736	<0.0001	72
I've been feeling good about myself.	2.736	3.547	3.698	<0.0001	70
<b>Stress Evaluation</b>					87
In the last month, how often have you felt that you were unable to control the important things in your life?	2.774	3.566	3.736	<0.0001	74
In the last month, how often have you felt nervous and "stressed"?	2.264	3.208	3.321	<0.0001	75
In the last month, how often have you found that you could not cope with all the things that you had to do?	2.849	3.491	3.755	<0.0001	62
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	2.962	3.66	3.792	<0.0001	64
<b>Sexual Desire Evaluation</b>					85
Over the past 4 weeks, how often did you feel sexual desire or interest?	1.863	2.75	3.333	<0.0001	79
Over the past 4 weeks, how would you rate your level (degree) of sexual desire or interest?	1.941	2.942	3.314	<0.0001	81



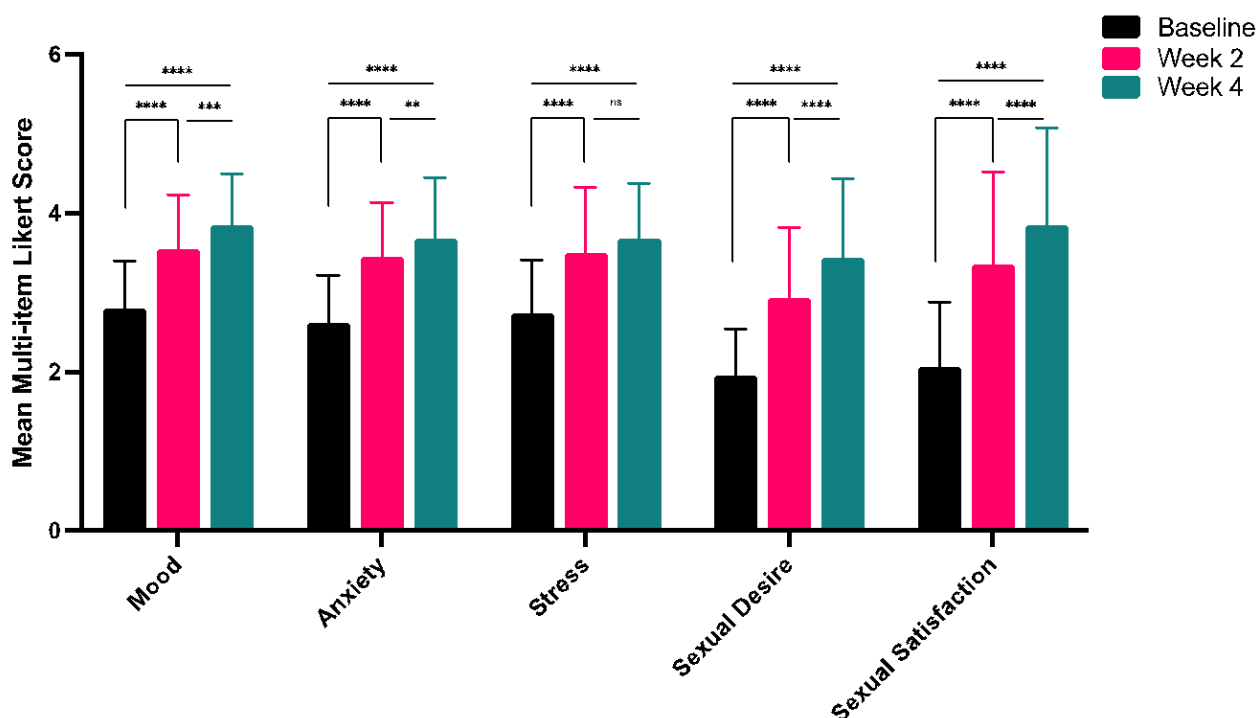
Over the past 4 weeks, how satisfied have you been with the amount of emotional closeness during sexual activity between you and your partner?	2.13	3.229	3.826	<0.0001	64
<b><i>Sexual Satisfaction Evaluation</i></b>					85
Over the past four weeks, how satisfied have you been with your sexual relationship with your partner?	1.913	3.383	3.833	<0.0001	77
Over the past 4 weeks, how satisfied have you been with your overall sexual life?	1.745	3.34	3.75	<0.0001	75
My sexual life rating	2.588	3.75	4.196	<0.0001	79
<b><i>Non-categorized Questions</i></b>					
I've been thinking clearly.	3.075	3.585	3.906	<0.0001	64
In the 2 weeks, how often have you been upset because of something that happened unexpectedly?	2.792	3.377	3.717	<0.0001	70
In the 2 weeks, how often have you felt confident about your ability to handle your personal problems?	3.094	3.358	3.623	<0.0066	60
In the 2 weeks, how often have you felt that things were going your way?	2.887	3.208	3.528	<0.0001	57
In the 2 weeks, how often have you been able to control irritations in your life?	3.075	3.358	3.717	<0.0001	51
In the last two weeks, how often have you been angered because of things that were outside of your control?	2.906	3.547	3.736	<0.0001	60

#### **4.2 Dame DLM gummies significantly improve reported mood, anxiety, stress, sexual desire, and satisfaction amongst women**

Multi-item Likert scores were calculated by combining 3 – 4 related questions into 5 distinct categories: Mood, Anxiety, Stress, Sexual Desire, and Sexual Satisfaction (as per table 1). The group mean multi-item Likert score of each category was compared between time points (figure 1). 93% of participants reported significantly improved mood from baseline to each time point ( $P < 0.001$  between all timepoints). 87% of participants reported significant improvement of anxiety from baseline to each time point ( $P < 0.001$ , baseline vs. 2 or 4



week). 87% of participants reported significant improvement (reduction) in stress from baseline to each time point ( $P < 0.001$ , baseline vs. 2 or 4 week). 85% of participants reported significantly increased sexual desire and sexual satisfaction from baseline to each time point ( $P < 0.001$  between all timepoints). The largest fold change in reported outcome between baseline and 4-weeks was in the increased reporting of sexual satisfaction and sexual desire.



**Figure 1. Multi-item Likert Scores for mood, anxiety, stress, sexual desire and satisfaction report significant improvement amongst participants.** The mean multi-item Likert scores from each timepoint were compared and a repeated measure one-way ANOVA statistical test was used to determine statistical significance ( $P < 0.05$ ). All categories show a stepwise and significant improvement from baseline to 4-weeks. Data are shown as the mean with standard deviation. \*\*  $< 0.0036$ , \*\*\*  $< 0.0003$ , \*\*\*\*  $< 0.0001$ , ns  $> 0.05$ .

### 4.3 Dame DLM jellies are highly rated and recommended by participants

Participants were evaluated at week 4 on how satisfied they were with the Dame DLM jellies and their likeliness to recommend the product to a friend. 42% of participants rated the product at the maximum 5 stars. When combined with the 4-star rating, 77% of participants reported a satisfaction score of 4 or 5 stars, revealing a very high satisfaction rate amongst users. Similarly, 74% of participants would recommend this product to a friend.

## 5. Discussion

This study provides preliminary data on the efficacy of Dame DLM jellies to improve mood, reduce stress and anxiety, which collectively contribute to improved sexual desire and satisfaction amongst the studied female cohort. The increase in self-reported sexual desire



and satisfaction during this study was the largest of the measured outcomes, suggesting that the significant observed improvement in mood, stress, and anxiety may act synergistically to improve participants' sexual comfort. The participants' satisfaction with the product was impressive as the majority would recommend the product with a very high satisfaction rating, owing to the beneficial effects. Further research is required to determine the exact mechanisms of action of the included ingredients that lead to these improvements. This study provides strong justification for the requirement of a blinded, placebo-controlled trial to validate the efficacy of the Dame DLM product.

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