

## Análise dos Principais Ingredientes e sua Base Científica

### \*\*3.1. L-Arginina\*\*

#### \* \*\*3.1.1. Benefícios para a Disfunção Erétil e Desempenho Sexual\*\*

A L-Arginina é um aminoácido que desempenha um papel crucial na produção de óxido nítrico (NO) no corpo.[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17] O NO é uma molécula chave envolvida na obtenção e manutenção de ereções, atuando como um vasodilatador que alarga os vasos sanguíneos do pênis. As ereções resultam essencialmente do aumento do fluxo sanguíneo para o pênis, e ao alargar os vasos sanguíneos, o NO permite que mais sangue entre no pênis, resultando em ereções mais fortes e firmes.[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17] Vários estudos indicam que a L-Arginina pode ser eficaz no tratamento da disfunção erétil (DE). Um estudo relativamente recente mostrou que homens com DE ligeira a moderada que também tinham diabetes tipo 2 relataram melhorias nas suas ereções após receberem uma dose de L-Arginina de 5000mg durante quatro semanas.[1] Outro estudo mais antigo descobriu que 31% dos homens relataram uma melhoria na função sexual após receberem L-Arginina por via oral durante seis semanas.[1, 2] Uma meta-análise incluiu 10 ensaios clínicos randomizados com um total de 540 pacientes com DE e demonstrou que os suplementos de arginina com dosagem entre 1500 e 5000 mg melhoraram significativamente a DE em comparação com placebo ou nenhum tratamento.[18] Estudos também mostraram resultados positivos ao combinar L-Arginina com ioimbina ou picnogenol para o tratamento da DE.[19] A L-Arginina funciona de forma ligeiramente diferente do Viagra, mas ambos ajudam a aumentar o efeito do óxido nítrico durante a excitação sexual.[3, 6, 10] No entanto, é importante notar que os estudos sobre a L-Arginina para a DE têm sido em pequena escala até agora, e mais pesquisas nesta área poderiam ser benéficas.[1, 2, 3, 19] A eficácia da L-Arginina pode variar de pessoa para pessoa.[3]

A teoria de que a L-Arginina melhora a função erétil através da produção de NO, que por sua vez promove a vasodilatação e aumenta o fluxo sanguíneo para o pênis, é biologicamente plausível e consistente com os resultados observados em alguns estudos.[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17] A comparação com o Viagra sugere um mecanismo de ação semelhante, embora a eficácia da L-Arginina possa ser mais modesta e influenciada por fatores individuais e pela causa da DE.[3, 6, 10] É crucial considerar que a combinação de L-Arginina com medicamentos para a DE, como sildenafil (Viagra), pode causar uma diminuição excessiva da pressão arterial.[1, 5, 19]

#### \* \*\*3.1.2. Efeitos na Pressão Arterial e Saúde Cardiovascular\*\*

Existe alguma evidência que sugere que a L-Arginina pode ajudar a reduzir a pressão arterial.[1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 13, 17, 20, 21, 22] Estudos demonstraram que a L-Arginina pode melhorar a pressão arterial em repouso em pessoas com hipertensão.[2, 5, 6, 8, 12, 22] Curiosamente, a pressão arterial bem controlada também é benéfica para as ereções, uma vez que a pressão arterial elevada pode levar a doenças cardiovasculares que dificultam a obtenção de uma ereção forte.[2] A L-Arginina também demonstrou aliviar os sintomas de angina em pessoas com formas ligeiras a graves da condição, embora sejam necessários estudos maiores e de longo prazo para corroborar esses achados.[1, 2, 5, 6, 9, 10, 15, 16, 17, 21, 22] Além disso, a L-Arginina pode melhorar o fluxo sanguíneo em pessoas com doença arterial periférica (DAP) quando tomada por via oral ou por infusão por um curto período de tempo.[5, 6, 17, 21, 22] Um estudo randomizado, duplo-cego, controlado por placebo de suplementação oral de L-Arginina em pacientes com insuficiência cardíaca observou efeitos benéficos, incluindo aumento do fluxo sanguíneo periférico durante o exercício e melhoria do estado funcional.[23] No entanto, um ensaio clínico que testou se a L-Arginina ajudaria as pessoas a recuperar de um ataque cardíaco foi interrompido após a morte de vários participantes, indicando que a L-Arginina pode não ser benéfica em todas as circunstâncias cardiovasculares.[10, 20]

A capacidade da L-Arginina de reduzir a pressão arterial, aliviar os sintomas de angina e melhorar o fluxo sanguíneo na DAP está provavelmente ligada ao seu papel na síntese de NO, que promove a vasodilatação e melhora a elasticidade dos vasos sanguíneos.[5, 9, 10, 24] Os resultados positivos em pacientes com insuficiência cardíaca sugerem um potencial terapêutico mais amplo para a L-Arginina na saúde cardiovascular.[23] Contudo, o resultado adverso no ensaio de recuperação de ataque cardíaco serve como um aviso importante sobre a dosagem e o uso em populações vulneráveis.[10, 20]

#### \* \*\*3.1.3. Impacto na Regulação Hormonal (Hormona de Crescimento, Insulina)\*\*

A L-Arginina tem sido estudada pelo seu potencial para estimular a liberação da hormona de crescimento (GH).[6, 7, 10, 15, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35] Alguns estudos mostram que a ingestão oral de L-Arginina pode aumentar os níveis de GH em repouso.[27, 29, 30] O mecanismo proposto envolve a supressão da liberação de somatostatina, um inibidor da GH.[26, 27, 36] No entanto, outros estudos não encontraram diferenças significativas nos níveis de GH com a suplementação de L-Arginina, especialmente em resposta ao exercício.[25, 29, 36, 37, 38] De facto, a combinação de L-Arginina com exercício pode atenuar a resposta da GH.[29, 36, 37] A resposta da GH à L-Arginina pode também variar entre crianças e adultos.[27]

A L-Arginina também está envolvida na síntese de hormonas como a insulina.[6, 7,

10, 15, 24, 25, 35] Demonstrou-se que a L-Arginina estimula a secreção de insulina [39, 40] e pode melhorar a sensibilidade à insulina, particularmente em indivíduos com diabetes tipo 2 ou obesidade.[14, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48] Alguns estudos em ratos alimentados com uma dieta rica em gordura mostraram que a suplementação com L-Arginina está associada a um aumento da sensibilidade à insulina e pode restaurar parcialmente a concentração de insulina e os níveis de HOMA-IR para os níveis de controlo.[41] Em pacientes com diabetes tipo 2, a administração oral de L-Arginina a longo prazo melhorou a sensibilidade à insulina periférica e hepática.[43, 44]

A influência da L-Arginina noutras hormonas, como o cortisol e a testosterona, não é consistente. Alguns estudos não encontraram diferenças significativas nos níveis de cortisol entre os grupos suplementados com L-Arginina e placebo em resposta ao exercício.[25] Outro estudo descobriu que a infusão de arginina aumentou os níveis de ACTH e cortisol em pacientes com diabetes insípido, mas diminuiu-os em indivíduos saudáveis.[49] No que diz respeito à testosterona, um estudo em ratos descobriu que a restrição de arginina na dieta impedia o aumento de peso induzido pela testosterona.[28] A L-Arginina pode aumentar os níveis de testosterona, mas a relevância clínica desta interação não é clara.[6, 22]

#### \* \*\*3.1.4. Influência na Energia e Fadiga\*\*

A L-Arginina tem sido associada à redução da fadiga em alguns estudos.[6, 9, 10, 11, 14, 15, 16, 17, 20, 21, 24, 33, 34, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62] Pensa-se que melhora o fluxo sanguíneo e a entrega de oxigénio aos músculos, o que pode ajudar a combater a fadiga e a melhorar o desempenho físico.[7, 8, 9, 10, 11, 13, 14, 15, 21, 33, 34, 50, 54, 55, 56, 57, 58, 59, 60] Uma revisão de estudos de 2020 e uma meta-análise sugerem que os suplementos de L-Arginina podem ter um efeito positivo no desempenho de exercícios aeróbicos e anaeróbicos quando tomados 60 a 90 minutos antes.[21] Vários estudos demonstraram que a suplementação de L-Arginina melhorou o desempenho em caminhadas, a força muscular e reduziu a fadiga em adultos com COVID longo.[51, 52, 61, 63] O mecanismo subjacente a estes benefícios está provavelmente relacionado com o aumento da produção de óxido nítrico, que melhora o fluxo sanguíneo e a oxigenação dos órgãos e músculos.[21, 50, 51] No entanto, nem todos os estudos encontraram efeitos benéficos da suplementação de L-Arginina no desempenho físico, particularmente em atletas altamente treinados.[56, 57, 59, 64]

#### \* \*\*3.1.5. Potenciais Efeitos no Humor e Vitalidade\*\*

A L-Arginina pode ter efeitos anti-stress significativos. Um estudo em ratos demonstrou que a administração diária de L-Arginina suprimiu o declínio cognitivo

relacionado com o envelhecimento e a depressão comportamental induzida pelo stress.[65] As propriedades circulatórias da L-Arginina também podem melhorar a libido e a sensação sexual em homens e mulheres.[4, 9, 10, 11, 13, 66, 67] Alguns estudos sugerem uma ligação entre a L-Arginina e a melhoria do humor, possivelmente através da produção de óxido nítrico ou da interação com neurotransmissores.[21, 24, 33, 34, 62, 67, 68, 69] Um estudo descobriu que o tratamento oral com L-lisina e L-arginina reduziu a ansiedade e os níveis basais de cortisol em humanos saudáveis.[69]

#### \* \*\*3.1.6. Segurança e Efeitos Secundários\*\*

A L-Arginina é geralmente considerada segura quando tomada a curto prazo.[1, 2, 5, 19, 22] No entanto, pode causar alguns efeitos secundários, incluindo náuseas, diarreia, dor abdominal, inchaço e reações alérgicas.[1, 2, 5] A L-Arginina pode também interagir adversamente com alguns tipos de medicamentos, como medicamentos para a pressão arterial alta, medicamentos para a disfunção erétil, anticoagulantes, medicamentos para a diabetes e nitratos.[1, 2, 5, 12, 19, 22] Não é recomendada para indivíduos que tiveram recentemente um ataque cardíaco.[5, 19, 50]

### \*\*3.2. Vitamina D\*\*

#### \* \*\*3.2.1. Benefícios para o Desempenho Sexual\*\*

A relação entre os níveis de vitamina D e a função sexual tem sido objeto de vários estudos. Uma análise de 2020 mostrou uma associação significativa entre baixos níveis de vitamina D e a gravidade da DE.[70] Outra análise de 2019 não encontrou uma associação significativa entre a deficiência de vitamina D e a DE, mas sugeriu que os sintomas da DE podem ser exacerbados em indivíduos com condições de saúde crónicas e baixos níveis de vitamina D.[70] Acredita-se que a vitamina D pode contribuir para a DE, melhorando o fluxo sanguíneo para o pénis e apoiando a produção de hormonas sexuais, como a testosterona.[70, 71, 72] Alguns estudos indicam que a suplementação com vitamina D3 pode melhorar a qualidade e a motilidade do esperma em homens inférteis.[72, 73] No que diz respeito à saúde sexual feminina, um ensaio clínico randomizado descobriu que a terapia com vitamina D3 melhorou significativamente a função sexual em mulheres com disfunção sexual e deficiência de vitamina D.[73, 74]

#### \* \*\*3.2.2. Papel na Regulação Hormonal\*\*

A vitamina D desempenha um papel crucial na regulação hormonal. Estudos sugerem uma forte ligação entre os níveis de vitamina D e a testosterona.[72, 75, 76] A suplementação com vitamina D pode aumentar os níveis de testosterona em homens

com níveis baixos ou em programas de perda de peso.[72, 75, 76, 77] A vitamina D também influencia os níveis de estrogênio e progesterona, regulando as enzimas envolvidas na sua síntese e metabolismo.[78, 79, 80, 81, 82] Além disso, a vitamina D pode desempenhar um papel benéfico na gestão de doenças da tireoide.[76, 79, 83]

#### \* \*\*3.2.3. Impacto na Energia e Fadiga\*\*

A deficiência de vitamina D tem sido associada à fadiga, fraqueza muscular e baixo humor.[84, 85, 86, 87] Alguns estudos mostram que a suplementação com vitamina D pode melhorar os níveis de energia em indivíduos com deficiência.[84, 85, 88, 89, 90, 91] A vitamina D auxilia a função das mitocôndrias dentro das células do corpo, responsáveis pela criação de energia.[84, 85, 91]

#### \* \*\*3.2.4. Potenciais Efeitos no Humor e Vitalidade\*\*

Baixos níveis de vitamina D têm sido associados a um risco aumentado de depressão e ansiedade.[82, 85, 92, 93, 94, 95, 96] A suplementação com vitamina D pode melhorar o humor e reduzir os sintomas de depressão.[92, 96, 97, 98] A deficiência de vitamina D também está ligada à perturbação afetiva sazonal (PAS), e a suplementação pode ajudar.[99] A vitamina D desempenha um papel na síntese de neurotransmissores como a serotonina, que pode influenciar o humor.[80, 88, 92]

### \*\*3.3. Vitamina B3 (Niacina)\*\*

#### \* \*\*3.3.1. Benefícios para o Desempenho Sexual\*\*

Uma dose diária de niacina pode ajudar homens com colesterol alto e disfunção erétil.[100, 101, 102] Um pequeno estudo de 2011 com 160 participantes descobriu que uma dose diária de vitamina B3 melhorou a função erétil em indivíduos com colesterol alto.[101, 102] Um estudo mais recente de 2023 indicou que indivíduos com maior ingestão de niacina apresentaram um risco reduzido de disfunção erétil.[102] A niacina pode melhorar o fluxo sanguíneo, o que é crucial para a função erétil.[103]

#### \* \*\*3.3.2. Papel na Regulação Hormonal\*\*

A niacina ajuda o corpo a produzir várias hormonas relacionadas com o sexo e o stress nas glândulas suprarrenais.[104] A vitamina B3 também ajuda a desintoxicar quantidades excessivas de hormonas esteroides, reduzindo o risco de desequilíbrios hormonais.[105] Alguns estudos sugerem que a niacina pode melhorar a sensibilidade à insulina.[14, 39, 46]

#### \* \*\*3.3.3. Impacto na Energia e Fadiga\*\*

A vitamina B3 é crucial para converter os alimentos em energia.[104, 106, 107, 108, 109, 110, 111] Participa no metabolismo energético normal e pode ajudar a reduzir o

cansaço e a fadiga.[108, 110, 111]

#### \* \*\*3.3.4. Potenciais Efeitos no Humor e Vitalidade\*\*

Baixos níveis de niacina têm sido associados a baixo humor e função de memória prejudicada.[109, 110, 112] A suplementação com niacina pode melhorar o humor e reduzir emoções negativas, particularmente em indivíduos com perturbação depressiva major.[79, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163] Algumas evidências sugerem um papel potencial na gestão do stress e da ansiedade.[113, 139, 154]

#### \*\*3.4. Vitamina B6 (Piridoxina)\*\*

##### \* \*\*3.4.1. Benefícios para o Desempenho Sexual\*\*

Uma maior ingestão dietética de vitamina B6 foi significativamente associada a riscos diminuídos de DE entre homens mais jovens e saudáveis.[130, 131] A vitamina B6 é essencial para regular as hormonas sexuais, pois contribui para a síntese de serotonina e dopamina, neurotransmissores que influenciam o desejo e o humor.[127, 137, 143] Algumas evidências sugerem um benefício para a excitação sexual nas mulheres.[11]

##### \* \*\*3.4.2. Papel na Regulação Hormonal\*\*

A vitamina B6 ajuda a apoiar a produção de progesterona, essencial para um ciclo menstrual saudável e para a manutenção da gravidez precoce.[136, 137] Desempenha um papel na eliminação do estrogénio do corpo e pode ajudar a aumentar a progesterona.[105, 137, 143] A vitamina B6 também é importante para a função das glândulas suprarrenais, ajudando na produção de hormonas adrenais.[137]

##### \* \*\*3.4.3. Impacto na Energia e Fadiga\*\*

A vitamina B6 é um dos oito tipos de vitamina B que ajudam o corpo a converter os alimentos (hidratos de carbono) em combustível (glucose), que é usado para produzir energia.[117, 138, 141, 145, 146, 148, 149, 150, 151, 152, 155, 156] Ajuda a libertar combustível extra de glucose quando os músculos precisam.[133]

##### \* \*\*3.4.4. Potenciais Efeitos no Humor e Vitalidade\*\*

A vitamina B6 desempenha um papel importante na regulação do humor. Isto deve-se em parte ao facto de esta vitamina ser necessária para criar neurotransmissores que regulam as emoções, incluindo a serotonina, a dopamina e o ácido gama-aminobutírico (GABA).[134, 137, 138, 139, 140, 141, 145, 149, 150, 151, 152,



153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163] Alguns estudos sugerem um benefício para os sintomas de ansiedade.[139, 140, 154]

### **\*\*3.5. Magnésio\*\***

#### **\* \*\*3.5.1. Benefícios para o Desempenho Sexual\*\***

O magnésio ajuda a regular o fluxo sanguíneo, apoiando a função dos vasos sanguíneos e promovendo o relaxamento do músculo liso.[103, 164, 165, 166, 167, 168, 169, 170] Desempenha um papel vital na produção de testosterona, uma hormona chave para a função sexual.[165, 166, 167] Baixos níveis de magnésio têm sido associados a uma maior prevalência de DE.[103, 164, 165, 166, 167, 168, 169, 170, 171] A suplementação pode ajudar, especialmente em indivíduos com deficiência.

#### **\* \*\*3.5.2. Papel na Regulação Hormonal\*\***

O magnésio é essencial para metabolizar e regular os níveis de estrogénio no corpo e afeta indiretamente a progesterona.[172, 173, 174, 175, 176, 177, 178] Ajuda a gerir o stress, reduzindo os níveis de cortisol.[172, 173, 174, 175, 176, 177, 178] O magnésio também é importante para a saúde da tiroide.[174, 179]

#### **\* \*\*3.5.3. Impacto na Energia e Fadiga\*\***

O magnésio é um cofator em mais de 300 sistemas enzimáticos envolvidos na produção de energia, na síntese de ATP e no metabolismo da glucose.[154, 164, 167, 171, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190] Ajuda a reduzir o cansaço e a fadiga, contribuindo para o metabolismo energético normal.[154, 180, 181, 183]

#### **\* \*\*3.5.4. Potenciais Efeitos no Humor e Vitalidade\*\***

Um baixo nível de magnésio tem sido associado a ansiedade, depressão e alterações de humor.[103, 154, 165, 166, 172, 173, 174, 175, 176, 177, 178, 187, 188, 189, 190, 191, 192] A suplementação pode melhorar o humor e reduzir os sintomas de ansiedade.[103, 154, 165, 166, 172, 173, 174, 175, 176, 177, 178, 187, 188, 189, 190, 191, 192] O magnésio pode promover um sono melhor, enviando sinais nervosos que ajudam os músculos e o cérebro a relaxar.[103, 166, 172, 174, 175, 177, 178, 181, 183, 187, 193]

### **\*\*3.6. Saponinas (se presentes no Vigra Plus 2.0)\*\***

#### **\* \*\*3.6.1. Potenciais Benefícios para a Libido e Desempenho Sexual\*\***

As saponinas são encontradas em ervas como a \*Tribulus Terrestris\* e o Feno-grego, tradicionalmente utilizadas para problemas sexuais.[194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205] Podem aumentar a libido, melhorar a função erétil e aumentar a satisfação sexual.[194, 197, 198, 199, 200, 201, 202, 203, 204, 205,

206, 207] A protodioscina, uma saponina presente no \*Tribulus\* e no Feno-grego, pensa-se que aumenta a sensibilidade dos recetores de androgénios e pode aumentar os níveis de testosterona e DHT.[197, 207, 208, 209]

\* \*\*3.6.2. Possível Papel na Regulação Hormonal (Testosterona)\*\*

Alguns estudos sugerem que as saponinas, particularmente as do \*Tribulus Terrestris\* e do Feno-grego, podem aumentar os níveis de testosterona.[196, 197, 199, 205, 208, 210, 211] No entanto, outras pesquisas indicam que não há aumento significativo de testosterona em humanos.[198, 201, 204, 205]

\* \*\*3.6.3. Influência nos Níveis de Energia\*\*

As saponinas do \*Radix Notoginseng\* mostraram atividade anti-fadiga em ratos.[212] Podem melhorar a energia regulando o açúcar no sangue e o metabolismo lipídico.[213, 214, 215, 216, 217]

\* \*\*3.6.4. Potenciais Efeitos no Humor\*\*

Algumas saponinas podem ter efeitos antidepressivos ou ansiolíticos.[218, 219, 220, 221, 222] Os efeitos cognitivos da \*Bacopa Monnieri\* são atribuídos às saponinas.[223, 224]

\*\*3.7. Cafeína (se presente no Vigra Plus 2.0)\*\*

\* \*\*3.7.1. Potenciais Benefícios para o Desempenho Sexual\*\*

Alguns estudos sugerem que a ingestão moderada de café está ligada a menores probabilidades de DE, possivelmente por estimular o fluxo sanguíneo.[225, 226, 227, 228, 229, 230, 231, 232] Algumas evidências sugerem que a cafeína pode aumentar a libido.[225, 226, 230]

\* \*\*3.7.2. Influência na Regulação Hormonal\*\*

A cafeína pode aumentar os níveis de cortisol (hormona do stress).[233, 234, 235, 236] A tolerância pode desenvolver-se com a ingestão regular. Estudos mostram efeitos variáveis nos níveis de estrogénio em mulheres, dependendo da raça e da fonte de cafeína.[234, 235, 236, 237, 238, 239] A cafeína pode prejudicar a ação da insulina e aumentar os níveis de açúcar no sangue.[234, 236, 240]

\* \*\*3.7.3. Impacto na Energia e Fadiga\*\*

A cafeína é um estimulante do sistema nervoso central que pode aliviar temporariamente a fadiga.[226, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261] Pode melhorar a função cognitiva, aumentando o foco, o tempo de reação e a memória.[244, 248, 249, 251, 252, 253, 255,



#### \* \*\*3.7.4. Potenciais Efeitos no Humor\*\*

A cafeína pode melhorar o humor, estimulando a libertação de dopamina.[241, 248, 249, 251, 252, 253, 254, 255] Doses elevadas podem levar a nervosismo e ansiedade.[226, 234, 236, 241, 243, 244, 247, 252, 254, 262]

#### 4. Avaliação Geral das Alegações do Vigra Plus 2.0

A eficácia do Vigra Plus 2.0 dependerá da sua composição específica e das doses de cada ingrediente. A análise dos potenciais ingredientes sugere que a L-Arginina possui evidências científicas mais robustas para apoiar os seus benefícios no desempenho sexual, particularmente na disfunção erétil, através do aumento do fluxo sanguíneo mediado pelo óxido nítrico. A vitamina D também pode desempenhar um papel, especialmente em indivíduos com deficiência, influenciando a função sexual e a regulação hormonal. As vitaminas B3 e B6 são essenciais para o metabolismo energético e podem indiretamente apoiar a vitalidade e o desempenho sexual através da melhoria do humor e da função hormonal. O magnésio também parece ser um mineral importante para a função sexual, a regulação hormonal, a energia e o humor. As saponinas, se presentes, podem oferecer benefícios adicionais para a libido e o humor, mas a evidência para o aumento da testosterona em humanos é menos consistente. A cafeína pode fornecer um aumento temporário de energia e melhorar o desempenho sexual em alguns indivíduos, mas os seus efeitos hormonais podem ser complexos e dependentes da dose.

É importante considerar que os efeitos de uma combinação de ingredientes podem ser sinérgicos ou antagónicos. Por exemplo, a combinação de L-Arginina com outros vasodilatadores ou medicamentos para a pressão arterial pode aumentar o risco de hipotensão. Da mesma forma, a cafeína pode interagir com outros estimulantes ou afetar a absorção de certos nutrientes.

Algumas alegações sobre os benefícios do Vigra Plus 2.0 podem não ser totalmente suportadas por evidências científicas robustas, ou podem requerer mais investigação em humanos. A eficácia pode também variar significativamente entre indivíduos, dependendo de fatores como a sua saúde basal, dieta e estilo de vida.

#### 5. Conclusão

A análise da literatura científica sugere que vários ingredientes potenciais do Vigra Plus 2.0 possuem mecanismos de ação e evidências preliminares que sustentam alguns dos benefícios alegados, particularmente no que diz respeito ao desempenho sexual, energia e humor. A L-Arginina destaca-se pelo seu papel na melhoria do fluxo sanguíneo e na função erétil, enquanto as vitaminas B e o magnésio são cruciais para o metabolismo energético e podem influenciar positivamente o humor e a vitalidade. As saponinas e a cafeína podem oferecer benefícios adicionais, embora com evidências menos consistentes ou com potenciais efeitos adversos em doses elevadas.

É fundamental que os utilizadores abordem o Vigra Plus 2.0 com expectativas realistas e compreendam que os resultados podem variar. Dada a possibilidade de interações medicamentosas e contraindicações, especialmente com a L-Arginina e a cafeína, recomenda-se vivamente que os indivíduos consultem um profissional de saúde antes de iniciar o uso do Vigra Plus 2.0. Esta consulta é particularmente importante para aqueles com condições médicas preexistentes ou que estejam a tomar outros medicamentos, para garantir que o uso do produto é seguro e apropriado para as suas necessidades individuais.

## 6. Referências

- <sup>1</sup> <https://www.numan.com/erectile-dysfunction/treatment/complete-guide-to-l-arginine-for-erections>
- <sup>2</sup> <https://www.webmd.com/diet/health-benefits-l-arginine>
- <sup>3</sup> <https://www.mayoclinic.org/drugs-supplements-l-arginine/art-20364681>
- <sup>4</sup> <https://www.healthline.com/nutrition/l-arginine>
- <sup>5</sup> <https://www.webmd.com/vitamins-and-supplements/what-to-know-about-benefits-of-zinc>
- <sup>6</sup> <https://www.mayoclinic.org/drugs-supplements-vitamin-d/art-20364317>
- <sup>7</sup> <https://ods.od.nih.gov/factsheets/VitaminB6-HealthProfessional/>
- <sup>8</sup> <https://www.mayoclinic.org/drugs-supplements-magnesium/art-20364692>
- <sup>9</sup> <https://www.webmd.com/vitamins-and-supplements/what-to-know-about-niacin-vitamin-b3>
- <sup>10</sup> <https://www.healthline.com/nutrition/caffeine>
- <sup>11</sup> <https://www.healthline.com/nutrition/vitamin-b-complex>
- <sup>12</sup> <https://www.mayoclinic.org/drugs-supplements-vitamin-b6/art-20363468>
- <sup>13</sup> <https://www.healthline.com/nutrition/fenugreek-for-testosterone>
- <sup>14</sup> <https://www.healthline.com/nutrition/chickpeas-nutrition-benefits>
- <sup>15</sup> <https://www.mountsinai.org/health-library/supplement/l-arginine>
- <sup>16</sup> <https://www.mountsinai.org/health-library/supplement/vitamin-d>
- <sup>17</sup> <https://www.mountsinai.org/health-library/supplement/vitamin-b6-pyridoxine>
- <sup>18</sup> <https://pubmed.ncbi.nlm.nih.gov/30770070/>
- <sup>19</sup> <https://www.webmd.com/vitamins/ai/ingredientmono-875/l-arginine>
- <sup>20</sup> <https://www.webmd.com/diet/health-benefits-l-arginine>
- <sup>21</sup> <https://www.ncbi.nlm.nih.gov/books/NBK519490/>
- <sup>22</sup> <https://www.ncbi.nlm.nih.gov/books/NBK541077/>
- <sup>23</sup> <https://www.ahajournals.org/doi/10.1161/O1.CIR.93.12.2135>

- 24 <https://www.nmi.health/magnesium-a-review-of-clinical-use-and-efficacy/>
- 25 <https://pubmed.ncbi.nlm.nih.gov/27482746/>
- 26 <https://academic.oup.com/endo/article/154/7/2393/2423260>
- 27 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 28 <https://joe.bioscientifica.com/view/journals/joe/183/2/1830343.xml>
- 29 <https://pubmed.ncbi.nlm.nih.gov/35366261/>
- 30 <https://pubmed.ncbi.nlm.nih.gov/34027128/>
- 31 <https://www.healthline.com/nutrition/vitamin-d-benefits>
- 32 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 33 <https://www.healthline.com/nutrition/8-benefits-of-yerba-mate>
- 34 <https://www.healthline.com/nutrition/l-arginine>
- 35 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 36 <https://academic.oup.com/endo/article/154/7/2393/2423260>
- 37 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 38 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 39 <https://academic.oup.com/endo/article/153/10/4608/2424251>
- 40 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 41 <https://pmc.ncbi.nlm.nih.gov/articles/PMC4565209/>
- 42 <https://pmc.ncbi.nlm.nih.gov/articles/PMC4565209/>
- 43 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 44 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 45 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 46 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 47 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 48 <https://academic.oup.com/endo/article/153/10/4608/2424251>
- 49 <https://academic.oup.com/jcem/article/105/7/e2327/5814275>
- 50 <https://www.webmd.com/diet/health-benefits-l-arginine>
- 51 <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0297235>
- 52 <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0297235>
- 53 <https://pubmed.ncbi.nlm.nih.gov/34027128/>
- 54 <https://www.healthline.com/nutrition/l-arginine>
- 55 <https://www.healthline.com/nutrition/l-arginine>
- 56 <https://pubmed.ncbi.nlm.nih.gov/27482746/>
- 57 <https://pubmed.ncbi.nlm.nih.gov/27482746/>
- 58 <https://www.healthline.com/nutrition/l-arginine>
- 59 <https://pubmed.ncbi.nlm.nih.gov/27482746/>
- 60 <https://www.healthline.com/nutrition/l-arginine>
- 61

<https://www.cambridge.org/core/product/identifier/S0924933824002578/type/jou>

- [rnal\\_article](#)
- 62 <https://www.healthline.com/nutrition/l-arginine>
- 63 [https://www.cambridge.org/core/product/identifier/S0924933824002578/type/journal\\_article](https://www.cambridge.org/core/product/identifier/S0924933824002578/type/journal_article)
- 64 <https://pubmed.ncbi.nlm.nih.gov/27482746/>
- 65 <https://pmc.ncbi.nlm.nih.gov/articles/PMC7825557/>
- 66 <https://www.healthline.com/nutrition/l-arginine>
- 67 <https://www.healthline.com/nutrition/l-arginine>
- 68 <https://pubmed.ncbi.nlm.nih.gov/2363570/>
- 69 <https://pubmed.ncbi.nlm.nih.gov/17510493/>
- 70 <https://www.healthline.com/health/erectile-dysfunction/ed-and-vitamins>
- 71 <https://www.healthline.com/health/erectile-dysfunction/ed-and-vitamins>
- 72 <https://www.issm.info/sexual-health-headlines/vitamin-d-important-for-men-s-sexual-health-study-finds>
- 73 <https://www.issm.info/sexual-health-headlines/vitamin-d-important-for-men-s-sexual-health-study-finds>
- 74 <https://www.auajournals.org/doi/pdf/10.1016/j.juro.2018.10.019>
- 75 <https://www.issm.info/sexual-health-headlines/vitamin-d-important-for-men-s-sexual-health-study-finds>
- 76 <https://www.issm.info/sexual-health-headlines/vitamin-d-important-for-men-s-sexual-health-study-finds>
- 77 <https://www.issm.info/sexual-health-headlines/vitamin-d-important-for-men-s-sexual-health-study-finds>
- 78 <https://www.news-medical.net/health/The-Role-of-Vitamin-D-in-Hormonal-Balance.aspx>
- 79 <https://www.news-medical.net/health/The-Role-of-Vitamin-D-in-Hormonal-Balance.aspx>
- 80 <https://www.news-medical.net/health/The-Role-of-Vitamin-D-in-Hormonal-Balance.aspx>
- 81

<https://www.news-medical.net/health/The-Role-of-Vitamin-D-in-Hormonal-Balance.aspx>

82

<https://www.news-medical.net/health/The-Role-of-Vitamin-D-in-Hormonal-Balance.aspx>

83

<https://www.news-medical.net/health/The-Role-of-Vitamin-D-in-Hormonal-Balance.aspx>

84

<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>

85

<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>

86

<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>

87

<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>

88

<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>

89

<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>

90

<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>

91

<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>

92

<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>

93

<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>

94

- <https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>  
95
- <https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>  
96
- <https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>  
97
- <https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>  
98
- <https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>  
99
- 100 <https://www.verywellhealth.com/vitamins-for-ed-5206320>
- 101 <https://pubmed.ncbi.nlm.nih.gov/21810191/>
- 102 <https://www.verywellhealth.com/vitamins-for-ed-5206320>
- 103 <https://www.healthline.com/health/erectile-dysfunction/zinc>
- 104 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 105 <https://drbrighten.com/vitamin-b6-benefits/>
- 106 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 107 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 108 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 109 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 110 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 111 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 112 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 113 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 114 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 115 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 116 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 117 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 118 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 119 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 120 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 121 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>



- [illegible]

- 161 <https://www.mountsinai.org/health-library/supplement/vitamin-b6-pyridoxine>
- 162 <https://www.mountsinai.org/health-library/supplement/vitamin-b6-pyridoxine>
- 163 <https://www.mountsinai.org/health-library/supplement/vitamin-b6-pyridoxine>
- 164 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 165 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 166 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 167 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 168 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 169 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 170 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 171 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 172 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 173 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 174 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 175 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 176 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 177 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 178 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 179 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 180 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 181 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 182 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 183 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 184 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 185 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 186 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 187 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 188 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 189 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 190 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 191 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 192 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 193 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 194 <https://www.webmd.com/vitamins/ai/ingredientmono-39/tribulus>
- 195 <https://www.healthline.com/nutrition/tribulus-terrestris>
- 196 <https://www.healthline.com/nutrition/tribulus-terrestris>
- 197 <https://en.wikipedia.org/wiki/Protodioscin>
- 198 <https://www.webmd.com/vitamins/ai/ingredientmono-39/tribulus>
- 199 <https://www.healthline.com/nutrition/tribulus-terrestris>

- 200 <https://www.healthline.com/nutrition/tribulus-terrestris>
- 201 <https://www.webmd.com/vitamins/ai/ingredientmono-39/tribulus>
- 202 <https://www.healthline.com/nutrition/tribulus-terrestris>
- 203 <https://www.healthline.com/nutrition/tribulus-terrestris>
- 204 <https://www.webmd.com/vitamins/ai/ingredientmono-39/tribulus>
- 205 <https://www.healthline.com/nutrition/tribulus-terrestris>
- 206 <https://www.webmd.com/vitamins/ai/ingredientmono-39/tribulus>
- 207 <https://en.wikipedia.org/wiki/Protodioscin>
- 208 <https://www.healthline.com/nutrition/tribulus-terrestris>
- 209 <https://en.wikipedia.org/wiki/Protodioscin>
- 210 <https://www.healthline.com/nutrition/tribulus-terrestris>
- 211 <https://www.healthline.com/nutrition/tribulus-terrestris>
- 212 <https://pmc.ncbi.nlm.nih.gov/articles/PMC3657880/>
- 213 <https://www.healthline.com/nutrition/fenugreek-for-testosterone>
- 214 <https://www.healthline.com/nutrition/fenugreek-for-testosterone>
- 215 <https://www.healthline.com/nutrition/fenugreek-for-testosterone>
- 216 <https://www.healthline.com/nutrition/fenugreek-for-testosterone>
- 217 <https://www.healthline.com/nutrition/fenugreek-for-testosterone>
- 218 <https://www.healthline.com/nutrition/herbs-for-energy>
- 219 <https://www.healthline.com/nutrition/herbs-for-energy>
- 220 <https://www.healthline.com/nutrition/herbs-for-energy>
- 221 <https://www.healthline.com/nutrition/herbs-for-energy>
- 222 <https://www.healthline.com/nutrition/herbs-for-energy>
- 223 <https://www.healthline.com/nutrition/herbs-for-energy>
- 224 <https://www.healthline.com/nutrition/herbs-for-energy>
- 225 <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
- 226 <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
- 227 <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
- 228 <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
- 229 <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
- 230 <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
- 231 <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
- 232 <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
- 233 <https://pmc.ncbi.nlm.nih.gov/articles/PMC2257922/>
- 234 <https://pmc.ncbi.nlm.nih.gov/articles/PMC2257922/>
- 235 <https://pmc.ncbi.nlm.nih.gov/articles/PMC2257922/>
- 236 <https://pmc.ncbi.nlm.nih.gov/articles/PMC2257922/>
- 237 <https://www.nih.gov/news-events/news-releases/nih-study-shows-caffeine-consu>

- [mption-linked-estrogen-changes](#)  
238
- <https://www.nih.gov/news-events/news-releases/nih-study-shows-caffeine-consumption-linked-estrogen-changes>  
239
- <https://www.nih.gov/news-events/news-releases/nih-study-shows-caffeine-consumption-linked-estrogen-changes>  
240
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
241
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
242
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
243
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
244
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
245
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
246
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
247
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
248
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
249
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
250
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
251
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
252
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
253
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
254
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
255
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
256
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
257
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
258
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
259
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
260
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
261
- <https://www.ncbi.nlm.nih.gov/books/NBK519490/>  
262
- 263
- [https://www.researchgate.net/publication/367171996\\_Saponins\\_a\\_concise\\_review\\_on\\_food\\_related\\_aspects\\_applications\\_and\\_health\\_implications](https://www.researchgate.net/publication/367171996_Saponins_a_concise_review_on_food_related_aspects_applications_and_health_implications)  
264
- [https://www.researchgate.net/publication/367171996\\_Saponins\\_a\\_concise\\_review\\_on\\_food\\_related\\_aspects\\_applications\\_and\\_health\\_implications](https://www.researchgate.net/publication/367171996_Saponins_a_concise_review_on_food_related_aspects_applications_and_health_implications)  
265
- <https://www.mdpi.com/1420-3049/21/10/1404>  
266
- <https://www.healthline.com/nutrition/vitamin-b6-benefits>  
267
- <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>

- 268 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 269 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 270 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 271 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 272 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 273 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 274 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 275 <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- 276 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 277 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 278 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 279 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 280 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 281 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 282 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 283 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 284 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 285 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 286 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 287 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 288 <https://www.mountsinai.org/health-library/supplement/magnesium>
- 289 <https://ods.od.nih.gov/factsheets/Niacin-HealthProfessional/>
- 290 <https://www.healthline.com/health/erectile-dysfunction/l-arginine>
- 291 <https://www.healthline.com/health/erectile-dysfunction/l-arginine>
- 292 <https://www.healthline.com/health/erectile-dysfunction/l-arginine>
- 293 <https://www.healthline.com/health/erectile-dysfunction/l-arginine>
- 294
- <https://www.simplysupplements.co.uk/healthylife/supplements/benefits-of-l-arginine>
- 295
- [https://clinicaltrials.gov/ct2/show/study?term=the-vitamin-b3-in-glaucoma-study-vbigs-trial/](https://clinicaltrials.gov/ct2/show/study?term=the-vitamin-b3-in-glaucoma-study-vbigs-trial&rank=1)
- 296 <https://globalhealing.com/blogs/education/what-are-saponins>
- 297 <https://globalhealing.com/blogs/education/what-are-saponins>
- 298 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 299 <https://pubmed.ncbi.nlm.nih.gov/30772815/>
- 300
- <https://naturesfieldng.com/the-untapped-benefits-of-l-arginine-that-will-transform-your-health-game/>

- 301 <https://www.aafp.org/pubs/afp/issues/2009/0715/p157.html>
- 302 <https://globalhealing.com/blogs/education/what-are-saponins>
- 303 <https://pubmed.ncbi.nlm.nih.gov/18090659/>
- 304 <https://honehealth.com/edge/what-does-l-arginine-do-sexually/>
- 305 <https://nutritionsource.hsph.harvard.edu/niacin-vitamin-b3/>
- 306 <https://www.ketaminefayetteville.com/blog/how-the-b-vitamins-can-improve-your-energy-and-vitality>
- 307 <https://pmc.ncbi.nlm.nih.gov/articles/PMC9738241/>
- 308 <https://www.webmd.com/vitamins/ai/ingredientmono-39/tribulus>
- 309 <https://www.webmd.com/vitamins/ai/ingredientmono-39/tribulus>
- 310 <https://pmc.ncbi.nlm.nih.gov/articles/PMC6273086/>
- 311 <https://www.vitaminexpress.org/en/arginine-information>
- 312 <https://pmc.ncbi.nlm.nih.gov/articles/PMC9712012/>
- 313 [https://www.nutri-facts.org/en\\_US/news/articles/vitamin-b3-may-improve-erectile-function.html](https://www.nutri-facts.org/en_US/news/articles/vitamin-b3-may-improve-erectile-function.html)
- 314 <https://www.healthline.com/nutrition/herbs-for-energy>
- 315 <https://www.healthline.com/nutrition/herbs-for-energy>
- 316 <https://www.piedmont.org/living-real-change/can-certain-foods-boost-mens-libido>
- 317 <https://primehealthdenver.com/benefits-of-zinc-for-men/>
- 318 <https://primehealthdenver.com/benefits-of-zinc-for-men/>
- 319 <https://www.medicalnewstoday.com/articles/316241>
- 320 <https://www.medicalnewstoday.com/articles/316241>
- 321 <https://myskclinic.co.uk/vitamin-b6-and-magnesium/>
- 322 <https://www.nutrifactor.com.pk/>
- 323 <https://health.clevelandclinic.org/zinc>
- <https://health.clevelandclinic.org/zinc>
- <https://ntmart.vn/blogs/new/saponin-the-secret-of-vitality-from-korean-mountain-ginseng>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC7468694/>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC7468694/>
- <https://www.healthline.com/health/food-nutrition/shatavari>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC10818509/>
- <https://mixhers.com/blogs/articles/sip-smart-understanding-caffeines-hidden-effects-on-womens-hormones>
- <https://mixhers.com/blogs/articles/sip-smart-understanding-caffeines-hidden-eff>



[ects-on-womens-hormones](#)

- <https://www.medicalnewstoday.com/articles/l-arginine>
- <https://www.mdlinx.com/article/patients-are-loading-up-on-caffeine-in-a-bid-for-bigger-better-orgasms-does-it-work/7K6UCY0fhmBXLkgGVmi99z>
- <https://www.mdlinx.com/article/patients-are-loading-up-on-caffeine-in-a-bid-for-bigger-better-orgasms-does-it-work/7K6UCY0fhmBXLkgGVmi99z>
- <https://elara.care/hormones/importance-of-vitamin-d-for-female-hormones/>
- <https://www.livemomentous.com/blogs/all/zinc>
- <https://www.livemomentous.com/blogs/all/zinc>
- <https://www.mdpi.com/1422-0067/24/9/8205>
- <https://www.runnersworld.com/uk/nutrition/supplements/a39761806/zinc-benefits/>
- <https://www.runnersworld.com/uk/nutrition/supplements/a39761806/zinc-benefits/>
- <https://www.coffees.gr/coffee-and-sex/?sl=en>
- <https://www.coffees.gr/coffee-and-sex/?sl=en>
- <https://www.b12love.com/blog/8-nutrients-for-better-sex-b12-love/>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC6273086/>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC6273086/>
- <https://www.webmd.com/vitamins-and-supplements/what-to-know-about-benefits-of-zinc>
- <https://www.webmd.com/vitamins-and-supplements/what-to-know-about-benefits-of-zinc>
- <https://www.lifeextension.com/wellness/supplements/l-arginine-benefits>
- <https://rally.massgeneralbrigham.org/study/magnesiumbp>
- <https://www.healthline.com/health/erectile-dysfunction/ed-and-vitamins>
- <https://swolverine.com/blogs/blog/tribulus-benefits-the-benefits-of-tribulus>
- <https://swolverine.com/blogs/blog/tribulus-benefits-the-benefits-of-tribulus>
- <https://www.vitalscend.com/health-benefits-of-caffeine-focus-cognition/>
- <https://www.vitalscend.com/health-benefits-of-caffeine-focus-cognition/>
- <https://www.miye.care/en/the-role-and-benefits-of-zinc-in-female-hormonal-balance/>
- <https://www.miye.care/en/the-role-and-benefits-of-zinc-in-female-hormonal-balance/>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC10758008/>
- <https://ods.od.nih.gov/factsheets/Niacin-Consumer/>
- <https://www.webmd.com/vitamins/ai/ingredientmono-875/l-arginine>
- <https://pubmed.ncbi.nlm.nih.gov/25075957/>
- <https://www.choosingtherapy.com/how-long-does-it-take-for-l-arginine-to-work-sexually/>
- <https://www.simplysupplements.co.uk/healthylife/supplements/benefits-of-l-arginine>

ine

- <https://www.mdpi.com/2072-6643/16/10/1514>
- <https://www.mdpi.com/2072-6643/16/10/1514>
- <https://www.vinmec.com/eng/blog/9-science-based-benefits-of-niacin-vitamin-b3-en>
- <https://www.origym.co.uk/blog/l-arginine/>
- <https://psychcentral.com/health/zinc-anxiety>
- <https://www.ijpsjournal.com/article/The+Herbs+Used+in+Treatment+of+Neurological+Disorder++An+Overview>
- <https://pubmed.ncbi.nlm.nih.gov/25075957/>
- <https://pubmed.ncbi.nlm.nih.gov/25075957/>
- <https://www.singlecare.com/blog/vitamin-d-benefits-for-men/>
- <https://ivboost.uk/what-is-arginine-and-why-do-you-need-it/>
- <https://www.webmd.com/vitamins/ai/ingredientmono-875/l-arginine>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC6996468/>
- [https://www.reddit.com/r/askscience/comments/ot7wz/how\\_does\\_caffeine\\_affect\\_sexual\\_performance/](https://www.reddit.com/r/askscience/comments/ot7wz/how_does_caffeine_affect_sexual_performance/)
- [https://www.reddit.com/r/askscience/comments/ot7wz/how\\_does\\_caffeine\\_affect\\_sexual\\_performance/](https://www.reddit.com/r/askscience/comments/ot7wz/how_does_caffeine_affect_sexual_performance/)
- [https://www.researchgate.net/post/What\\_are\\_saponins\\_and\\_what\\_are\\_their\\_health\\_benefits](https://www.researchgate.net/post/What_are_saponins_and_what_are_their_health_benefits)
- <https://www.ijpsjournal.com/article/The+Herbs+Used+in+Treatment+of+Neurological+Disorder++An+Overview>
- <https://www.news-medical.net/health/The-Connection-Between-Vitamin-D-and-Mental-Health.aspx>
- <https://www.lifeextension.com/wellness/supplements/l-arginine-benefits>
- <https://www.webmd.com/fitness-exercise/human-growth-hormone-hgh>
- <https://sisterlylab.com/blogs/sisterly-life/smart-women-take-zinc>
- <https://sisterlylab.com/blogs/sisterly-life/smart-women-take-zinc>
- <https://academic.oup.com/jcem/article/105/7/e2327/5814275>
- <https://academic.oup.com/jcem/article/105/7/e2327/5814275>
- [https://en.wikipedia.org/wiki/List\\_of\\_traditional\\_Chinese\\_medicines](https://en.wikipedia.org/wiki/List_of_traditional_Chinese_medicines)
- <https://www.womenshealthnetwork.com/sexual-health/l-arginine-to-boost-libido/>
- <https://examine.com/supplements/arginine/>
- <https://ro.co/sexual-health/benefits-zinc-sexually/>
- <https://ro.co/sexual-health/benefits-zinc-sexually/>
- <https://www.nih.gov/news-events/news-releases/nih-study-shows-caffeine-consumption-linked-estrogen-changes>
- <https://www.nih.gov/news-events/news-releases/nih-study-shows-caffeine-consumption-linked-estrogen-changes>

[mption-linked-estrogen-changes](#)

- <https://pubmed.ncbi.nlm.nih.gov/33779240/>
- <https://www.vitality-pro.com/magnesium/glycinate-benefits-dosage-side-effects/>
- <https://www.progressivemedicalcenter.com/blog/health-benefits-of-zinc-for-men-why-its-essential-for-wellness/>
- <https://www.progressivemedicalcenter.com/blog/health-benefits-of-zinc-for-men-why-its-essential-for-wellness/>
- <https://www.vumc.org/poison-control/toxicology-question-week/oct-4-2004-what-herbs-are-used-performance-enhancement-sports>
- <https://www.medicalnewstoday.com/articles/326443>
- <https://www.medicalnewstoday.com/articles/326443>
- <https://www.vumc.org/poison-control/toxicology-question-week/oct-4-2004-what-herbs-are-used-performance-enhancement-sports>
- <https://www.simplysupplements.co.uk/healthylife/men-and-health/l-arginine-benefits-for-men>
- <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
- <https://www.healthline.com/nutrition/l-arginine>
- <https://www.amazon.com/Natures-Bounty-L-Arginine-1000-Tablets/dp/B002QMEY84>
- <https://www.medicalnewstoday.com/articles/l-arginine>
- <https://www.pharmacytimes.com/view/vitamin-d-is-the-new-hormone>
- <https://www.geneticnutrition.in/blogs/genetic-life/the-health-benefits-of-l-arginine-and-its-role-in-fitness>
- <https://www.healthline.com/nutrition/niacin-benefits>
- [https://en.wikipedia.org/wiki/List\\_of\\_plants\\_used\\_in\\_herbalism](https://en.wikipedia.org/wiki/List_of_plants_used_in_herbalism)
- <https://lowcountrymale.com/boost-sex-drive-vitamins/>
- <https://www.lovelifesupplements.co.uk/blogs/love-life-health-blog/how-magnesium-helps-fight-fatigue-and-improve-focus>
- <https://floliving.com/blog/caffeine>
- <https://floliving.com/blog/caffeine>
- <https://www.aroleap.com/blogs/nutrition-and-supplements/importance-of-l-arginine-for-men>
- [https://www.researchgate.net/publication/6154154\\_Effect\\_of\\_L-arginine\\_supplementation\\_on\\_secretion\\_of\\_human\\_growth\\_hormone\\_and\\_insulin-like\\_growth\\_factor\\_in\\_adults](https://www.researchgate.net/publication/6154154_Effect_of_L-arginine_supplementation_on_secretion_of_human_growth_hormone_and_insulin-like_growth_factor_in_adults)
- <https://my.clevelandclinic.org/health/drugs/22536-l-arginine>
- <https://www.ama-assn.org/delivering-care/public-health/what-doctors-wish-patients-knew-about-impact-caffeine>
- <https://www.ama-assn.org/delivering-care/public-health/what-doctors-wish-patients-knew-about-impact-caffeine>

[nts-knew-about-impact-caffeine](#)

- <https://www.medicalnewstoday.com/articles/l-arginine>
- <https://www.bupasalud.com/en/salud/benefits-of-coffee>
- <https://www.bupasalud.com/en/salud/benefits-of-coffee>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC4462044/>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC4462044/>
- <https://www.nebraskamed.com/primary-care/9-vitamin-d-deficiency-symptoms-and-11-high-vitamin-d-foods>
- <https://en.wikipedia.org/wiki/Protodioscin>
- <https://en.wikipedia.org/wiki/Protodioscin>
- <https://examine.com/supplements/Caffeine/>
- <https://examine.com/supplements/Caffeine/>
- <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
- <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
- <https://www.unitypoint.org/news-and-articles/how-to-spot-a-vitamin-d-deficiency>
- <https://www.hormonydrinks.com/the-power-of-saponins-a-natural-solution-for-health-and-longevity/>
- <https://cypress-counseling.com/7-powerful-ways-zinc-boosts-mental-health-brain-function/>
- <https://cypress-counseling.com/7-powerful-ways-zinc-boosts-mental-health-brain-function/>
- <https://www.aspect-health.com/blog/zinc-for-pcos-benefits-dosage-and-how-it-helps-manage-symptoms>
- <https://www.aspect-health.com/blog/zinc-for-pcos-benefits-dosage-and-how-it-helps-manage-symptoms>
- <https://www.cambridge.org/core/journals/british-journal-of-nutrition/article/biological-action-of-saponins-in-animal-systems-a-review/9FF0990F2A7AEFE5B990555A0D4A63B8>
- <https://www.cambridge.org/core/journals/british-journal-of-nutrition/article/biological-action-of-saponins-in-animal-systems-a-review/9FF0990F2A7AEFE5B990555A0D4A63B8>
- <https://www.livescience.com/does-vitamin-d-give-you-energy>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC10459237/>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC10459237/>
- <https://www.healthline.com/nutrition/vitamin-b-complex>
- <https://www.webmd.com/vitamins-and-supplements/what-to-know-about-magnesium>
- <https://www.simplysupplements.co.uk/healthylife/supplements/zinc-benefits>

- <https://www.simplysupplements.co.uk/healthylife/supplements/zinc-benefits>
- <https://www.natca.org/wp-content/uploads/2020/08/FC-Bulletin-9-Fatigue-and-Sliftwork-Caffeine-Use.pdf>
- <https://www.natca.org/wp-content/uploads/2020/08/FC-Bulletin-9-Fatigue-and-Sliftwork-Caffeine-Use.pdf>
- <https://www.healthline.com/nutrition/magnesium-types>
- <https://www.healthline.com/nutrition/l-arginine>
- <https://lowcountrymale.com/boost-sex-drive-vitamins/>
- <https://www.numan.com/erectile-dysfunction/treatment/complete-guide-to-l-arginine-for-erections>
- <https://avivaromm.com/magnesium-for-relaxation/>
- <https://www.healthline.com/nutrition/11-ways-to-increase-hgh>
- <https://my.clevelandclinic.org/health/drugs/22536-l-arginine>
- <https://www.hims.com/blog/benefits-zinc-sexually>
- <https://www.hims.com/blog/benefits-zinc-sexually>
- <https://thinkvida.com/blog/supporting-mood-and-immunity-with-vitamin-d/>
- <https://www.hims.com/blog/vitamins-for-ed>
- <https://viridian-nutrition.com/blogs/nutrition-articles/magnesium-the-health-benefits-for-men>
- [https://www.mdpi.com/journal/nutrients/special\\_issues/Magnesium\\_Clinical\\_Research](https://www.mdpi.com/journal/nutrients/special_issues/Magnesium_Clinical_Research)
- <https://www.genesislifestylemedicine.com/blog/can-zinc-boost-your-sex-life-the-ideal-dosage-for-erectile-dysfunction/>
- <https://www.genesislifestylemedicine.com/blog/can-zinc-boost-your-sex-life-the-ideal-dosage-for-erectile-dysfunction/>
- <https://www.vitalityhealthsfl.com/2023/07/26/the-power-of-arginine-l-arginine/>
- <https://www.webmd.com/diet/health-benefits-vitamin-b6>
- <https://health.clevelandclinic.org/niacin-vitamin-b3>
- <https://www.naturalvitality.com/blogs/natural-vitality-blog/top-5-health-benefits-of-magnesium-supplements>
- <https://www.healthline.com/nutrition/niacinamide>
- <https://www.mdpi.com/2072-6643/17/4/665>
- <https://www.mayoclinic.org/drugs-supplements-l-arginine/art-20364681>
- <https://www.kellysimmsnd.com/blog/does-coffee-affect-womens-hormones/>
- <https://www.kellysimmsnd.com/blog/does-coffee-affect-womens-hormones/>
- <https://www.hormonydrinks.com/the-power-of-saponins-a-natural-solution-for-health-and-longevity/>
- <https://www.hormonydrinks.com/the-power-of-saponins-a-natural-solution-for-health-and-longevity/>

- <https://www.nm.org/healthbeat/healthy-tips/nutrition/Why-Magnesium-Matters>
- <https://ivboost.uk/what-is-arginine-and-why-do-you-need-it/>
- <https://webber-nutrition.co.uk/caffeine-pros-and-cons/>
- <https://webber-nutrition.co.uk/caffeine-pros-and-cons/>
- <https://www.pristyncare.com/blog/vitamins-and-minerals-good-for-ed-pc0441/>
- <https://thewrightobgyn.com/how-vitamin-d-deficiency-during-winter-affects-womens-hormones-and-well-being/>
- <https://www.thefertilitypharmacist.co.uk/blog/understanding-the-role-of-vitamin-b6-in-fertility-hormones-and-mental-health>
- <https://northvalleywomenscare.com/4-essential-vitamins-for-hormonal-imbalance/>
- <https://www.balance-menopause.com/menopause-library/vitamin-d/>
- <https://www.webmd.com/diet/health-benefits-l-arginine>
- <https://www.driptrussville.com/vitamin-b-6>
- <https://www.healthline.com/health/caffeine-effects-on-body>
- <https://www.healthline.com/health/caffeine-effects-on-body>
- <https://www.osfhealthcare.org/blog/what-are-the-health-benefits-of-magnesium/>
- <https://gainswave.com/caffeine-and-erectile-dysfunction/>
- <https://gainswave.com/caffeine-and-erectile-dysfunction/>
- <https://www.ijpsjournal.com/assetsbackoffice/uploads/article/AntiDiabetic+Chocolate+Formulation+And+Evaluation+of+Antidiabetic+Chocolate+from+Herbal+Extract+of+Fenugreek+Guava+and+Jamun+.pdf>
- <https://www.vumc.org/poison-control/toxicology-question-week/oct-4-2004-what-herbs-are-used-performance-enhancement-sports>
- <https://lowcountrymale.com/boost-sex-drive-vitamins/>
- <https://www.hims.com/blog/magnesium-morning-wood>
- <https://www.healthline.com/nutrition/triphala>
- <https://www.allohealth.com/blog/sexual-dysfunction/erectile-dysfunction/coca-cola-and-coffee-for-erectile-dysfunction>
- <https://www.allohealth.com/blog/sexual-dysfunction/erectile-dysfunction/coca-cola-and-coffee-for-erectile-dysfunction>
- <https://www.hims.com/blog/benefits-coffee-sexually>
- <https://www.hims.com/blog/benefits-coffee-sexually>
- <https://my.klarity.health/magnesium-for-libido/>
- <https://www.yourhormones.info/hormones/vitamin-d/>
- <https://www.berocca.co.uk/vitamins-and-minerals/vitamin-b3>
- <https://www.healthline.com/health/niacin-for-depression>
- <https://www.revivme.com/nutrients/vitamin-b3/>



- <https://pmc.ncbi.nlm.nih.gov/articles/PMC11206829/>
- <https://www.healthline.com/nutrition/what-is-caffeine>
- <https://www.healthline.com/nutrition/what-is-caffeine>
- <https://lillydirect.lilly.com/well-being/content/37c64e39-5626-4bf9-832b-3959f1416ecc>
- <https://lillydirect.lilly.com/well-being/content/37c64e39-5626-4bf9-832b-3959f1416ecc>
- <https://www.mayoclinic.org/drugs-supplements-l-arginine/art-20364681>
- <https://www.numan.com/erectile-dysfunction/treatment/benefits-of-l-arginine-for-men>
- <https://www.cnet.com/health/why-you-need-more-magnesium-in-your-diet-and-where-to-get-it/>
- <https://www.webmd.com/vitamins-and-supplements/what-to-know-about-benefits-of-zinc>
- <https://www.webmd.com/vitamins-and-supplements/what-to-know-about-benefits-of-zinc>
- <https://www.nesaz.com/the-importance-of-magnesium-for-energy-and-overall-health/>
- <https://www.singlecare.com/blog/niacin-benefits/>
- <https://www.medicalnewstoday.com/articles/285194>
- <https://www.medicalnewstoday.com/articles/285194>
- <https://doorcountycoffee.com/blog/what-are-the-health-benefits-of-drinking-coffee/>
- <https://doorcountycoffee.com/blog/what-are-the-health-benefits-of-drinking-coffee/>
- <https://dawdynaturopathicclinic.com/health-benefits-of-vitamin-b3/>
- <https://www.bupasalud.com/en/salud/benefits-of-coffee>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC4462044/>
- <https://pmc.ncbi.nlm.nih.gov/articles/PMC4462044/>
- <https://ivboost.uk/what-is-arginine-and-why-do-you-need-it/>
- <https://www.premierob-gyn.com/blog/essential-vitamins-and-supplements-to-balance-hormones>
- <https://centrespringmd.com/the-benefits-of-magnesium-for-mood-mental-health/>
- <https://www.wbcil.com/blog/how-magnesium-bisglycinate-supports-womens-hormonal-health-pms-relief/>
- <https://stlcovidresearchhub.wustl.edu/l-arginine/>
- <https://my.clevelandclinic.org/health/drugs/18874-niacin-capsules-and-tablets>
- <https://vellabio.com/blogs/vella-voice/what-does-l-arginine-do-sexually>

- <https://wellbeingnutrition.com/blogs/womens-health/magnesium-for-hormonal-imbalance-what-causes-hormonal-imbalance-link-between-magnesium-hormones-magnesium-for-pms-effects-of-hormonal-imbalance-on-body-other-ways-to-manage-hormonal-imbalance-conclusion>
- <https://aliveda.com/en/b-vitamins-and-menopause-an-essential-aid-for-womens-well-being/>
- <https://www.menopausesolutions.org/post/synergistic-benefits-the-combined-power-of-vitamin-d-calcium-and-omega-3>
- <https://www.womenshealthnetwork.com/hormonal-imbalance/the-many-benefits-of-magnesium-glycinate-for-womens-health-and-wellness/>
- <https://www.mayoclinic.org/drugs-supplements-l-arginine/art-20364681>
- <https://lifemd.com/learn/vitamin-b3>
- <https://www.nutritionist-resource.org.uk/articles/is-your-morning-coffee-wreaking-havoc-with-your-hormones>
- <https://www.nutritionist-resource.org.uk/articles/is-your-morning-coffee-wreaking-havoc-with-your-hormones>
- <https://www.mayoclinic.org/drugs-supplements-niacin/art-20364984>
- <https://www.riversideonline.com/en/patients-and-visitors/healthy-you-blog/blog/t/the-buzz-about-caffeine-health-benefits-risks-and-guidelines>
- <https://www.riversideonline.com/en/patients-and-visitors/healthy-you-blog/blog/t/the-buzz-about-caffeine-health-benefits-risks-and-guidelines>
- <https://hopepsychiatry.com/2023/07/04/mental-health-and-sleep/>
- <https://oxfordvitality.co.uk/blogs/news/how-vitamins-can-help-mental-health>
- <https://oxfordvitality.co.uk/blogs/news/how-vitamins-can-help-mental-health>
- <https://www.genesislifestylemedicine.com/blog/the-role-of-magnesium-in-improving-erectile-function/>
- <https://www.healthline.com/nutrition/magnesium-for-menopause>
- <https://northvalleywomenscare.com/4-essential-vitamins-for-hormonal-imbalance/>
- <https://www.avogel.co.uk/boost-your-energy/how-magnesium-can-help-with-tiredness/>
- <https://beeyawellness.com/blogs/all/brewing-hormonal-havoc>
- <https://beeyawellness.com/blogs/all/brewing-hormonal-havoc>
- <https://www.hollandandbarrett.com/the-health-hub/vitamins-and-supplements/minerals/magnesium/magnesium-benefits-hormones/>
- <https://www.mutualofomaha.com/advice/health-and-well-being/eating-well/unlock-the-power-of-magnesium-essential-health-benefits-to-know>
- <https://www.womenshealthnetwork.com/hormonal-imbalance/best-supplements->

[and-vitamins-for-hormonal-imbalance/](#)

## Referências citadas

1. A complete guide to L-arginine for erections - Numan, acessado em maio 12, 2025, <https://www.numan.com/erectile-dysfunction/treatment/complete-guide-to-l-arginine-for-erections>
2. What are the benefits of L-Arginine for men? - Numan, acessado em maio 12, 2025, <https://www.numan.com/erectile-dysfunction/treatment/benefits-of-l-arginine-for-men>
3. How Long Does it Take for L-arginine to Work Sexually?, acessado em maio 12, 2025, <https://www.choosingtherapy.com/how-long-does-it-take-for-l-arginine-to-work-sexually/>
4. What Does L-arginine Do Sexually? - Vella Bioscience, acessado em maio 12, 2025, <https://vellabio.com/blogs/vella-voice/what-does-l-arginine-do-sexually>
5. L-arginine - Mayo Clinic, acessado em maio 12, 2025, <https://www.mayoclinic.org/drugs-supplements-l-arginine/art-20364681>
6. L-ARGININE: Overview, Uses, Side Effects, Precautions, Interactions, Dosing and Reviews, acessado em maio 12, 2025, <https://www.webmd.com/vitamins/ai/ingredientmono-875/l-arginine>
7. The Health Benefits of L-Arginine and Its Role in Fitness - Genetic Nutrition, acessado em maio 12, 2025, <https://www.geneticnutrition.in/blogs/genetic-life/the-health-benefits-of-l-arginine-and-its-role-in-fitness>
8. Arginine benefits, dosage, and side effects - Examine.com, acessado em maio 12, 2025, <https://examine.com/supplements/arginine/>
9. 10 L-Arginine Benefits: How to Supplement - Life Extension, acessado em maio 12, 2025, <https://www.lifeextension.com/wellness/supplements/l-arginine-benefits>
10. Health Benefits of Arginine - Simply Supplements, acessado em maio 12, 2025, <https://www.simplysupplements.co.uk/healthylife/supplements/benefits-of-l-arginine>
11. L-Arginine Benefits for Men - Simply Supplements, acessado em maio 12, 2025, <https://www.simplysupplements.co.uk/healthylife/men-and-health/l-arginine-benefits-for-men>
12. L-arginine: Does it lower blood pressure? - Mayo Clinic, acessado em maio 12, 2025, <https://www.mayoclinic.org/diseases-conditions/high-blood-pressure/expert-answers/l-arginine/faq-20058052>
13. L-Arginine Benefits for Men & Women - Aroleap, acessado em maio 12, 2025, <https://www.aroleap.com/blogs/nutrition-and-supplements/importance-of-l-arginine-for-men>
14. What Is Arginine and Why Do You Need It? - IV Boost UK, acessado em maio 12,

- 2025, <https://ivboost.uk/what-is-arginine-and-why-do-you-need-it/>
15. The Untapped Benefits of L-Arginine That Will Transform Your Health Game - Nature's Field, acessado em maio 12, 2025, <https://naturesfieldng.com/the-untapped-benefits-of-l-arginine-that-will-transform-your-health-game/>
  16. L-Arginine Benefits, Uses & Side Effects - Cleveland Clinic, acessado em maio 12, 2025, <https://my.clevelandclinic.org/health/drugs/22536-l-arginine>
  17. The Power of Arginine (L-Arginine) | Vitality Health South Florida, acessado em maio 12, 2025, <https://www.vitalityhealthsfl.com/2023/07/26/the-power-of-arginine-l-arginine/>
  18. The Potential Role of Arginine Supplements on Erectile Dysfunction ..., acessado em maio 12, 2025, <https://pubmed.ncbi.nlm.nih.gov/30770070/>
  19. The Facts About L-Arginine Supplements and Erectile Dysfunction - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/health/erectile-dysfunction/l-arginine>
  20. L-Arginine: Health Benefits, Uses, Safety Information, Dosage, and ..., acessado em maio 12, 2025, <https://www.webmd.com/diet/health-benefits-l-arginine>
  21. The benefits and side effects of L-arginine - Medical News Today, acessado em maio 12, 2025, <https://www.medicalnewstoday.com/articles/l-arginine>
  22. L-Arginine: MedlinePlus Supplements, acessado em maio 12, 2025, <https://medlineplus.gov/druginfo/natural/875.html>
  23. Randomized, Double-Blind, Placebo-Controlled Study of Supplemental Oral L-Arginine in Patients With Heart Failure, acessado em maio 12, 2025, <https://www.ahajournals.org/doi/10.1161/01.CIR.93.12.2135>
  24. Arginine - Amino acid for healthy vessels and more, acessado em maio 12, 2025, <https://www.vitaminexpress.org/en/arginine-information>
  25. Hormonal response to L-arginine supplementation in physically ..., acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC3967014/>
  26. Endogenous Somatostatin Is Critical in Regulating the Acute Effects of L-Arginine on Growth Hormone and Insulin Release in Mice - Oxford Academic, acessado em maio 12, 2025, <https://academic.oup.com/endo/article/154/7/2393/2423260>
  27. Growth Hormone Response to L-Arginine Alone and Combined with Different Doses of Growth Hormone-Releasing Hormone: A Systematic Review and Meta-Analysis - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC9712012/>
  28. Influence of dietary arginine on the anabolic effects of androgens in - Journal of Endocrinology, acessado em maio 12, 2025, <https://joe.bioscientifica.com/view/journals/joe/183/2/1830343.xml>
  29. Growth hormone, arginine and exercise - PubMed, acessado em maio 12, 2025, <https://pubmed.ncbi.nlm.nih.gov/18090659/>
  30. 10 Ways to Boost Human Growth Hormone (HGH) Naturally - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/11-ways-to-increase-hgh>
  31. Human Growth Hormone (HGH): Benefits, Risks, and Uses - WebMD, acessado em maio 12, 2025,

- <https://www.webmd.com/fitness-exercise/human-growth-hormone-hgh>
32. (PDF) [Effect of L-arginine supplementation on secretion of human growth hormone and insulin-like growth factor in adults] - ResearchGate, acessado em maio 12, 2025, [https://www.researchgate.net/publication/6154154\\_Effect\\_of\\_L-arginine\\_supplementation\\_on\\_secretion\\_of\\_human\\_growth\\_hormone\\_and\\_insulin-like\\_growth\\_factor\\_in\\_adults](https://www.researchgate.net/publication/6154154_Effect_of_L-arginine_supplementation_on_secretion_of_human_growth_hormone_and_insulin-like_growth_factor_in_adults)
33. L-arginine: Benefits, Side Effects and Dosage - OriGym, acessado em maio 12, 2025, <https://www.origym.co.uk/blog/l-arginine/>
34. Learn About Arginine in 5 Minutes | Feel - Wellness, Reimagined, acessado em maio 12, 2025, <https://wearefeel.com/blogs/learn/what-is-arginine>
35. Zinc's Role in Hormone Support: Learn More About How This Core Mineral - Momentous, acessado em maio 12, 2025, <https://www.livemomentous.com/blogs/all/zinc>
36. Oral arginine attenuates the growth hormone response to resistance exercise, acessado em maio 12, 2025, <https://journals.physiology.org/doi/abs/10.1152/japplphysiol.00285.2006>
37. Oral arginine attenuates the growth hormone response to resistance exercise | Journal of Applied Physiology, acessado em maio 12, 2025, <https://journals.physiology.org/doi/full/10.1152/japplphysiol.00285.2006>
38. Full article: Hormonal response to L-arginine supplementation in physically active individuals - Taylor & Francis Online, acessado em maio 12, 2025, <https://www.tandfonline.com/doi/full/10.3402/fnr.v58.22569>
39. L-Arginine in diabetes: clinical and preclinical evidence - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10114382/>
40. GPRC6A Mediates the Effects of L-Arginine on Insulin Secretion in Mouse Pancreatic Islets, acessado em maio 12, 2025, <https://academic.oup.com/endo/article/153/10/4608/2424251>
41. Effect of L-arginine supplementation on insulin resistance and serum adiponectin concentration in rats with fat diet - PMC - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC4565209/>
42. The vascular effects of L-Arginine in humans. The role of endogenous insulin. - JCI, acessado em maio 12, 2025, <https://www.jci.org/articles/view/119177>
43. Long-Term Oral L-Arginine Administration Improves Peripheral and Hepatic Insulin Sensitivity in Type 2 Diabetic Patients, acessado em maio 12, 2025, <https://diabetesjournals.org/care/article/24/5/875/23635/Long-Term-Oral-L-Arginine-Administration-Improves>
44. Beneficial effects of a long-term oral L-arginine treatment added to a hypocaloric diet and exercise training program in obese, insulin-resistant type 2 diabetic patients | American Journal of Physiology-Endocrinology and Metabolism, acessado em maio 12, 2025, <https://journals.physiology.org/doi/full/10.1152/ajpendo.00002.2006>
45. Effect of 3-month L-arginine supplementation on insulin resistance and tumor necrosis factor activity in patients with visceral, acessado em maio 12, 2025, <https://www.europeanreview.org/wp/wp-content/uploads/1081.pdf>

46. The Effects of L-Arginine in Patients with Type 2 Diabetes by Experimental Methods and Molecular Dynamics Simulations - International Journal of Pharmaceutical and Phytopharmacological Research, acessado em maio 12, 2025, <https://eijppr.com/article/the-effects-of-l-arginine-in-patients-with-type-2-diabetes-by-experimental-methods-and-molecular-dynamics-simulations>
47. The Potential of L-Arginine in Prevention and Treatment of Disturbed Carbohydrate and Lipid Metabolism—A Review - MDPI, acessado em maio 12, 2025, <https://www.mdpi.com/2072-6643/14/5/961>
48. Insulin-Mediated Activation of the L-Arginine Nitric Oxide Pathway in Man, and Its Impairment in Diabetes | PLOS One, acessado em maio 12, 2025, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0061840>
49. Effect of Arginine on the Hypothalamic–Pituitary–Adrenal Axis in Individuals With and Without Vasopressin Deficiency - Oxford Academic, acessado em maio 12, 2025, <https://academic.oup.com/jcem/article/105/7/e2327/5814275>
50. L-arginine: Benefits, Dosage, Side Effects, and More - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/l-arginine>
51. Effects of L-Arginine Plus Vitamin C Supplementation on Physical Performance, Endothelial Function, and Persistent Fatigue in Adults with Long COVID: A Single-Blind Randomized Controlled Trial - PMC - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC9738241/>
52. The Effects of Arginine-Based Supplements on Fatigue Levels following COVID-19 Infection: A Prospective Study in Romania - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10218617/>
53. Arginine Complex - LAC, acessado em maio 12, 2025, [https://www.lac.com/en/everyday-wellness\\_mens-health/lac-men%27s/arginine-complex-01404470.html](https://www.lac.com/en/everyday-wellness_mens-health/lac-men%27s/arginine-complex-01404470.html)
54. Novel metabolic roles of L-arginine in body energy metabolism and possible clinical applications - ResearchGate, acessado em maio 12, 2025, [https://www.researchgate.net/publication/260169400\\_Novel\\_metabolic\\_roles\\_of\\_L-arginine\\_in\\_body\\_energy\\_metabolism\\_and\\_possible\\_clinical\\_applications](https://www.researchgate.net/publication/260169400_Novel_metabolic_roles_of_L-arginine_in_body_energy_metabolism_and_possible_clinical_applications)
55. The Ergogenic Potential of Arginine - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC2129157/>
56. Effects of Arginine Supplementation on Athletic Performance Based on Energy Metabolism: A Systematic Review and Meta-Analysis, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7282262/>
57. The Effectiveness of L-arginine in Clinical Conditions Associated with Hypoxia - MDPI, acessado em maio 12, 2025, <https://www.mdpi.com/1422-0067/24/9/8205>
58. Acute L-arginine supplementation reduces the O<sub>2</sub> cost of moderate-intensity exercise and enhances high-intensity exercise tolerance - American Journal of Physiology, acessado em maio 12, 2025, <https://journals.physiology.org/doi/full/10.1152/jappphysiol.00503.2010>
59. Effects of Arginine Supplementation on Athletic Performance Based on Energy Metabolism: A Systematic Review and Meta-Analysis - MDPI, acessado em maio 12, 2025, <https://www.mdpi.com/2072-6643/12/5/1300>



60. The Effects of Consuming Amino Acids L-Arginine, L-Citrulline (and Their Combination) as a Beverage or Powder, on Athletic and Physical Performance: A Systematic Review - MDPI, acessado em maio 12, 2025, <https://www.mdpi.com/2306-5710/8/3/48>
61. Medical Researchers Ask: Can L-Arginine + Vitamin C Improve Health & Vitality in those with Long COVID?, acessado em maio 12, 2025, <https://stlcovidresearchhub.wustl.edu/l-arginine/>
62. L-Arginine Benefits and Side Effects - Fullscript, acessado em maio 12, 2025, <https://fullscript.com/blog/l-arginine-benefits>
63. Role of L-Arginine supplementation in Long Covid-related Fatigue and Depression in Elderly Outpatients | European Psychiatry - Cambridge University Press, acessado em maio 12, 2025, [https://www.cambridge.org/core/product/identifier/S0924933824002578/type/journal\\_article](https://www.cambridge.org/core/product/identifier/S0924933824002578/type/journal_article)
64. Effectiveness of acute L-arginine supplementation on physical performance in strength training: a systematic review and meta-analysis. - F1000Research, acessado em maio 12, 2025, <https://f1000research.com/articles/10-1072>
65. L-Arginine Exerts Excellent Anti-Stress Effects on Stress-Induced Shortened Lifespan, Cognitive Decline and Depression - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7825557/>
66. Using L-Arginine to Boost Your Libido - Women's Health Network, acessado em maio 12, 2025, <https://www.womenshealthnetwork.com/sexual-health/l-arginine-to-boost-libido/>
67. L-Arginine for Women: Better Sex During Menopause - Hone Health, acessado em maio 12, 2025, <https://honehealth.com/edge/what-does-l-arginine-do-sexually/>
68. The Association Between Concentrations of Arginine, Ornithine, Citrulline and Major Depressive Disorder: A Meta-Analysis - Frontiers, acessado em maio 12, 2025, <https://www.frontiersin.org/journals/psychiatry/articles/10.3389/fpsyt.2021.686973/full>
69. Oral treatment with L-lysine and L-arginine reduces anxiety and basal cortisol levels in healthy humans - PubMed, acessado em maio 12, 2025, <https://pubmed.ncbi.nlm.nih.gov/17510493/>
70. Can Vitamins And Supplements Effectively Treat Erectile Dysfunction? - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/health/erectile-dysfunction/ed-and-vitamins>
71. Vitamin D and Male Erectile Function: An Updated Review - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7752519/>
72. 7 vitamin D benefits for men - SingleCare, acessado em maio 12, 2025, <https://www.singlecare.com/blog/vitamin-d-benefits-for-men/>
73. Vitamin D3 Benefits Sexually - Consensus Academic Search Engine, acessado em maio 12, 2025, <https://consensus.app/questions/vitamin-d3-benefits-sexually/>
74. Effect of Vitamin D Therapy on Sexual Function in Women with Sexual Dysfunction

- and Vitamin D Deficiency - Journal of Urology, acessado em maio 12, 2025,  
<https://www.auajournals.org/doi/pdf/10.1016/j.juro.2018.10.019>
75. Vitamin D Important for Men's Sexual Health, Study Finds - ISSM, acessado em maio 12, 2025,  
<https://www.issm.info/sexual-health-headlines/vitamin-d-important-for-men-s-sexual-health-study-finds>
  76. The Role of Vitamin D in Hormonal Balance - News-Medical.net, acessado em maio 12, 2025,  
<https://www.news-medical.net/health/The-Role-of-Vitamin-D-in-Hormonal-Balance.aspx>
  77. Vitamin D and Male Sexual Function: A Transversal and ..., acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC5817208/>
  78. How Vitamin D Deficiency During Winter Affects Women's Hormones and Well-Being, acessado em maio 12, 2025,  
<https://thewrightobgyn.com/how-vitamin-d-deficiency-during-winter-affects-womens-hormones-and-well-being/>
  79. 4 Essential Vitamins for Hormonal Imbalance - North Valley Women's Care, acessado em maio 12, 2025,  
<https://northvalleywomenscare.com/4-essential-vitamins-for-hormonal-imbalance/>
  80. Importance of Vitamin D for Female Hormones - Elara Care, acessado em maio 12, 2025,  
<https://elara.care/hormones/importance-of-vitamin-d-for-female-hormones/>
  81. High blood levels of vitamin D linked to reduced estrogen – and potentially lower breast cancer risk, acessado em maio 12, 2025,  
<https://www.fredhutch.org/en/news/center-news/2016/02/vitamin-d-linked-to-reduced-estrogen-and-breast-cancer-risk.html>
  82. Vitamin D - Balance Menopause, acessado em maio 12, 2025,  
<https://www.balance-menopause.com/menopause-library/vitamin-d/>
  83. Vitamin D - You and Your Hormones, acessado em maio 12, 2025,  
<https://www.yourhormones.info/hormones/vitamin-d/>
  84. Does vitamin D give you energy? | Live Science, acessado em maio 12, 2025,  
<https://www.livescience.com/does-vitamin-d-give-you-energy>
  85. The science of Vitamin D – how it improves your energy & mood, acessado em maio 12, 2025,  
<https://www.aware.app/en/magazine/the-science-of-vitamin-d-how-it-improves-energy-mood>
  86. How to Spot a Vitamin D Deficiency - UnityPoint Health, acessado em maio 12, 2025,  
<https://www.unitypoint.org/news-and-articles/how-to-spot-a-vitamin-d-deficiency>
  87. 9 vitamin D deficiency symptoms (and 11 high vitamin D foods) - Nebraska Medicine, acessado em maio 12, 2025,  
<https://www.nebraskamed.com/primary-care/9-vitamin-d-deficiency-symptoms-and-11-high-vitamin-d-foods>

88. Association between vitamin D supplementation and fatigue, acessado em maio 12, 2025, <https://www.news-medical.net/news/20240112/Association-between-vitamin-D-supplementation-and-fatigue.aspx>
89. Does Vitamin D Give You Energy? Here's What We Know - Ro, acessado em maio 12, 2025, <https://ro.co/supplements/does-vitamin-d-give-you-energy/>
90. Vitamin D and Its Role on the Fatigue Mitigation: A Narrative Review - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10818509/>
91. Vitamin D proven to boost energy – from within the cells - Newcastle University, acessado em maio 12, 2025, <https://www.ncl.ac.uk/press/articles/archive/2013/04/vitamins-proven-to-boost-energy-from-within-the-cells.html>
92. Supporting Mood and Immunity with Vitamin D - Vida Integrated Health, acessado em maio 12, 2025, <https://thinkvida.com/blog/supporting-mood-and-immunity-with-vitamin-d/>
93. The Connection Between Vitamin D and Mental Health - News-Medical.net, acessado em maio 12, 2025, <https://www.news-medical.net/health/The-Connection-Between-Vitamin-D-and-Mental-Health.aspx>
94. What to Know About Vitamin D and Mental Health - WebMD, acessado em maio 12, 2025, <https://www.webmd.com/vitamins-and-supplements/what-to-know-about-vitamin-d-and-mental-health>
95. Is Vitamin D Important in Anxiety or Depression? What Is the Truth ..., acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC9468237/>
96. The effect of vitamin D supplement on negative emotions: A systematic review and meta-analysis - ResearchGate, acessado em maio 12, 2025, [https://www.researchgate.net/publication/340778991\\_The\\_effect\\_of\\_vitamin\\_D\\_supplement\\_on\\_negative\\_emotions\\_A\\_systematic\\_review\\_and\\_meta-analysis](https://www.researchgate.net/publication/340778991_The_effect_of_vitamin_D_supplement_on_negative_emotions_A_systematic_review_and_meta-analysis)
97. 7 Unexpected Benefits of Vitamin D Injections: A Comprehensive Guide | IVDrips, acessado em maio 12, 2025, <https://ivdrips.com/blog/benefits-of-vitamin-d-injections/>
98. Synergistic Benefits: The Combined Power of Vitamin D, Calcium, and Omega-3, acessado em maio 12, 2025, <https://www.menopausesolutions.org/post/synergistic-benefits-the-combined-power-of-vitamin-d-calcium-and-omega-3>
99. The Role of Water-Soluble Vitamins and Vitamin D in Prevention and Treatment of Depression and Seasonal Affective Disorder in Adults - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC11206829/>
100. Vitamin B3 may improve erectile function - NUTRI-FACTS.org, acessado em maio 12, 2025, [https://www.nutri-facts.org/en\\_US/news/articles/vitamin-b3-may-improve-erectile-function.html](https://www.nutri-facts.org/en_US/news/articles/vitamin-b3-may-improve-erectile-function.html)
101. Effect of niacin on erectile function in men suffering erectile ..., acessado em maio 12, 2025, <https://pubmed.ncbi.nlm.nih.gov/21810191/>

102. Vitamins for Erectile Dysfunction - Verywell Health, acessado em maio 12, 2025, <https://www.verywellhealth.com/vitamins-for-ed-5206320>
103. The Top 9 Best Vitamins for Sex Drive | Lowcountry Male, acessado em maio 12, 2025, <https://lowcountrymale.com/boost-sex-drive-vitamins/>
104. Vitamin B3 (Niacin) Information | Mount Sinai - New York, acessado em maio 12, 2025, <https://www.mountsinai.org/health-library/supplement/vitamin-b3-niacin>
105. Essential Vitamins and Supplements to Balance Hormones, acessado em maio 12, 2025, <https://www.premierob-gyn.com/blog/essential-vitamins-and-supplements-to-balance-hormones>
106. Niacin - Mayo Clinic, acessado em maio 12, 2025, <https://www.mayoclinic.org/drugs-supplements-niacin/art-20364984>
107. Everything You Need to Know About Vitamin B3 - LifeMD, acessado em maio 12, 2025, <https://lifemd.com/learn/vitamin-b3>
108. Vitamin B3 (Niacin): Role, Benefits & Uses | Berocca®, acessado em maio 12, 2025, <https://www.berocca.co.uk/vitamins-and-minerals/vitamin-b3>
109. Niacin – Vitamin B3 - The Nutrition Source, acessado em maio 12, 2025, <https://nutritionsource.hsph.harvard.edu/niacin-vitamin-b3/>
110. 9 Benefits of Niacin (Vitamin B3) | Vinmec, acessado em maio 12, 2025, <https://www.vinmec.com/eng/blog/9-science-based-benefits-of-niacin-vitamin-b3-en>
111. Vitality with Vitamin B3: Niacin Benefits - REVIV, acessado em maio 12, 2025, <https://www.revivme.com/nutrients/vitamin-b3/>
112. The B Vitamin Series | Vitamin B3, Niacin - Oxford Vitality, acessado em maio 12, 2025, <https://oxfordvitality.co.uk/blogs/news/b-vitamin-series-vitamin-b3>
113. 14mg Saffron Extract & 62mg Vitamin B3 Niacin - Mood Bites for Stress Relief - Clinically Tested Affron - 30 Citrus Peach Chewables - Amazon.com, acessado em maio 12, 2025, <https://www.amazon.com/mental-wellness-fast-acting-saffron/dp/BOCVN52P8T>
114. Niacin and Depression: Using Vitamin B-3 to Treat Depression, acessado em maio 12, 2025, <https://www.healthline.com/health/niacin-for-depression>
115. Niacin (Vitamin B3): Uses, Benefits, Sources & Side Effects, acessado em maio 12, 2025, <https://health.clevelandclinic.org/niacin-vitamin-b3>
116. Niacin (Vitamin B3): Benefits, Dosage, and more - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/niacin-benefits>
117. Vitamins and Minerals for Energy, Fatigue and Cognition: A Narrative Review of the Biochemical and Clinical Evidence - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7019700/>
118. How Vitamin B3 Boost NAD+, Turns Off Aging - Life Extension, acessado em maio 12, 2025, <https://www.lifeextension.com/magazine/2015/1/next-generation-vitamin-provide-s-hope-to-aging-societies-worldwide>
119. VBIGS - Cerulea Clinical Trials, acessado em maio 12, 2025, <https://ceruleaclinicaltrials.org.au/trials/the-vitamin-b3-in-glaucoma-study-vbigs-trial/>

120. Vitamin B3 - StatPearls - NCBI Bookshelf, acessado em maio 12, 2025, <https://www.ncbi.nlm.nih.gov/books/NBK526107/>
121. Glaucoma vitamin B3 trial | CERA - Centre for Eye Research Australia, acessado em maio 12, 2025, <https://www.cera.org.au/glaucoma-vitamin-b3-trial/>
122. Vitamin B3 trialled as glaucoma treatment | UCL News, acessado em maio 12, 2025, <https://www.ucl.ac.uk/news/2022/feb/vitamin-b3-trialled-glaucoma-treatment>
123. More research shows potential benefits of vitamin B3 for Parkinson's, acessado em maio 12, 2025, <https://www.parkinsons.org.uk/news/more-research-shows-potential-benefits-vitamin-b3-parkinsons>
124. Vitamin B3 Shows Promise for Glaucoma Patients, acessado em maio 12, 2025, <https://glaucoma.org.au/news-details/research/vitamin-b3-shows-promise-for-glaucoma-patients>
125. Major NIHR grant awarded to trial a form of vitamin B3 as a treatment for glaucoma, acessado em maio 12, 2025, <https://moorfieldsbrc.nihr.ac.uk/nihr-moorfields-biomedical-research-centre-receives-20-million-for-another-five-years-of-vision-research-innovation-3/>
126. Researchers study Vitamin B3 as potential treatment for deadly brain tumour | News | University of Calgary, acessado em maio 12, 2025, <https://cumming.ucalgary.ca/news/researchers-study-vitamin-b3-potential-treatment-deadly-brain-tumour>
127. Sexual well-being: Top 6 micronutrients and plant substances ..., acessado em maio 12, 2025, [https://biogena.com/en/knowledge/guide/how-to-improve-sexual-well-being\\_bba\\_6584991](https://biogena.com/en/knowledge/guide/how-to-improve-sexual-well-being_bba_6584991)
128. 8 Nutrients for Better Sex - B12 LOVE | Nutrient Therapies and Longevity Services, acessado em maio 12, 2025, <https://www.b12love.com/blog/8-nutrients-for-better-sex-b12-love/>
129. Can Certain Foods Help Boost Men's Libido? - Piedmont Healthcare, acessado em maio 12, 2025, <https://www.piedmont.org/living-real-change/can-certain-foods-boost-mens-libido>
130. Dietary intakes of vitamin B6, folate, vitamin B12 and erectile ..., acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC11399063/>
131. Dietary intakes of vitamin B6, folate, vitamin B12 and erectile dysfunction: a national population-based study - Translational Andrology and Urology, acessado em maio 12, 2025, <https://tau.amegroups.org/article/view/128068/html>
132. ED Supplements: Natural Remedies for Erectile Dysfunction - Medical News Today, acessado em maio 12, 2025, <https://www.medicalnewstoday.com/articles/vitamins-for-ed>
133. 5 Nutrients to Help Increase Your Sex Drive - Bird&Be, acessado em maio 12, 2025, <https://birdandbe.com/blogs/the-nest/5-nutrients-to-help-increase-your-sex-drive>

134. 9 Health Benefits of Vitamin B6 (Pyridoxine) - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/vitamin-b6-benefits>
135. Vitamin B6 - Health Professional Fact Sheet, acessado em maio 12, 2025, <https://ods.od.nih.gov/factsheets/VitaminB6-HealthProfessional/>
136. Understanding the Role of Vitamin B6 in Fertility, Hormones, and Mental Health, acessado em maio 12, 2025, <https://www.thefertilitypharmacist.co.uk/blog/understanding-the-role-of-vitamin-b6-in-fertility-hormones-and-mental-health>
137. Vitamin B6 Benefits for Women - Dr. Jolene Brighten, acessado em maio 12, 2025, <https://drbrighten.com/vitamin-b6-benefits/>
138. Vitamin B6 (Pyridoxine) Information | Mount Sinai - New York, acessado em maio 12, 2025, <https://www.mountsinai.org/health-library/supplement/vitamin-b6-pyridoxine>
139. Vitamin B6 - The Better Menopause, acessado em maio 12, 2025, <https://thebettermenopause.com/pages/vitamin-b6>
140. Vitamin B6 | Linus Pauling Institute | Oregon State University, acessado em maio 12, 2025, <https://lpi.oregonstate.edu/mic/vitamins/vitamin-B6>
141. Health Benefits of Vitamin B6 - WebMD, acessado em maio 12, 2025, <https://www.webmd.com/diet/health-benefits-vitamin-b6>
142. Dietary intakes of vitamins B2, B6, and B12 and ovarian cycle function among premenopausal women, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7186155/>
143. The interactions between vitamin B6 and hormones - PubMed, acessado em maio 12, 2025, <https://pubmed.ncbi.nlm.nih.gov/217175/>
144. Benefits of Vitamin B6 and Magnesium for Optimal Health - My MSK Clinic, acessado em maio 12, 2025, <https://mymskclinic.co.uk/vitamin-b6-and-magnesium/>
145. Vitamin B6 Benefits the Brain, Heart, Eyes & More - Dr. Axe, acessado em maio 12, 2025, <https://draxe.com/nutrition/vitamin-b6-benefits/>
146. Need an Energy Boost? 5 Health Benefits of Vitamin B6 - Perelel, acessado em maio 12, 2025, <https://perelelhealth.com/blogs/news/vitamin-b6-benefits>
147. Signs You're Not Getting Enough Vitamin B6 - WebMD, acessado em maio 12, 2025, <https://www.webmd.com/vitamins-and-supplements/ss/slideshow-vitamins-vitamin-b6-deficiency>
148. Vitamin B-6 - Mayo Clinic, acessado em maio 12, 2025, <https://www.mayoclinic.org/drugs-supplements-vitamin-b6/art-20363468>
149. Vitamin B6: 7 Benefits and How Much You Need, acessado em maio 12, 2025, <https://health.clevelandclinic.org/vitamin-b6>
150. Expert Shares A Comprehensive Guide On Benefits Of Vitamin B6 For Mental and Physical Well-Being - Health, acessado em maio 12, 2025, <https://www.onlymyhealth.com/benefits-of-vitamin-b6-for-mental-and-physical-health-12977819217>
151. What are the benefits of Vitamin B6? - HelpDocs, acessado em maio 12, 2025, <https://help.ketone.com/article/cvj1xdlxol-b6-research>



152. B6 Vitality — Drip IV Therapy, acessado em maio 12, 2025, <https://www.driptrussville.com/vitamin-b-6>
153. Unraveling the Stages and Signs of Vitamin B6 Deficiency on Mental Health, acessado em maio 12, 2025, <https://drroseann.com/vitamin-b6-deficiency-mental-health/>
154. Effect of magnesium and vitamin B6 supplementation on mental health and quality of life in stressed healthy adults: Post-hoc analysis of a randomised controlled trial - PMC - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC9292249/>
155. Benefits, Side Effects, and Dosage of B-Complex Vitamins - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/vitamin-b-complex>
156. How the B Vitamins Can Improve Your Energy and Vitality - Iconic Infusions, acessado em maio 12, 2025, <https://www.ketaminefayetteville.com/blog/how-the-b-vitamins-can-improve-your-energy-and-vitality>
157. Testing the Efficacy of 100mg Vitamin-B6 Daily for Sensory Reactivity in Autism | Clinical Research Trial Listing - CenterWatch, acessado em maio 12, 2025, <https://www.centerwatch.com/clinical-trials/listings/NCT06234501/testing-the-efficacy-of-100mg-vitamin-b6-daily-for-sensory-reactivity-in-autism>
158. Vitamin B6 (Pyridoxine) - StatPearls - NCBI Bookshelf, acessado em maio 12, 2025, <https://www.ncbi.nlm.nih.gov/books/NBK557436/>
159. OU College of Medicine Researcher Makes Promising Discoveries on Role of Vitamin B6 in Pancreatic Cancer, acessado em maio 12, 2025, <https://medicine.ouhsc.edu/news/article/ou-college-of-medicine-researcher-makes-promising-discoveries-on-role-of-vitamin-b6-in-pancreatic-cancer>
160. High-dose vitamin B6 and risk of peripheral neuropathy, acessado em maio 12, 2025, <https://www.hsa.gov.sg/announcements/safety-alert/high-dose-vitamin-b6-and-risk-of-peripheral-neuropathy>
161. Superiority of magnesium and vitamin B6 over magnesium alone on severe stress in healthy adults with low magnesemia: A randomized, single-blind clinical trial | PLOS One, acessado em maio 12, 2025, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0208454>
162. A Comparative Study of Treatment of Hypericum perforatum and Vitamin B6 for Mastalgia: Clinical Trial - Journal of Medicinal and Chemical Sciences, acessado em maio 12, 2025, [https://www.jmchemsci.com/article\\_177417.html](https://www.jmchemsci.com/article_177417.html)
163. The Effects of Vitamin B6 Supplementation on Pain Thresholds and Tolerance | Clinical Research Trial Listing - CenterWatch, acessado em maio 12, 2025, <https://www.centerwatch.com/clinical-trials/listings/NCT06415383/the-effects-of-vitamin-b6-supplementation-on-pain-thresholds-and-tolerance>
164. The Role of Magnesium in Improving Erectile Function - Genesis Lifestyle Medicine, acessado em maio 12, 2025, <https://www.genesislifestylemedicine.com/blog/the-role-of-magnesium-in-improving-erectile-function/>

165. Is There a Connection between Magnesium and Morning Wood? | Good Health by Hims, acessado em maio 12, 2025, <https://www.hims.com/blog/magnesium-morning-wood>
166. Magnesium For Libido - Klarity Health Library, acessado em maio 12, 2025, <https://my.klarity.health/magnesium-for-libido/>
167. Magnesium the Health Benefits for Men - Viridian Nutrition, acessado em maio 12, 2025, <https://viridian-nutrition.com/blogs/nutrition-articles/magnesium-the-health-benefits-for-men>
168. What Vitamins And Minerals Are Good For Erectile Dysfunction? - Pristyn Care, acessado em maio 12, 2025, <https://www.pristyncare.com/blog/vitamins-and-minerals-good-for-ed-pc0441/>
169. The impact of hypomagnesemia on erectile dysfunction in elderly, non-diabetic, stage 3 and 4 chronic kidney disease patients: a prospective cross-sectional study, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC5340248/>
170. Magnesium and erectile dysfunction - Video abstract 129377 - YouTube, acessado em maio 12, 2025, <https://www.youtube.com/watch?v=-6IKiZMk6Tk>
171. MAGNESIUM: Overview, Uses, Side Effects, Precautions, Interactions, Dosing and Reviews, acessado em maio 12, 2025, <https://www.webmd.com/vitamins/ai/ingredientmono-998/magnesium>
172. How Magnesium Bisglycinate Supports Women's Hormonal Health & PMS Relief - West Bengal Chemical Industries Limited, acessado em maio 12, 2025, <https://www.wbcil.com/blog/how-magnesium-bisglycinate-supports-womens-hormonal-health-pms-relief/>
173. Magnesium & Hormonal Imbalance: How Is It Linked? - Wellbeing Nutrition, acessado em maio 12, 2025, <https://wellbeingnutrition.com/blogs/womens-health/magnesium-for-hormonal-imbalance-what-causes-hormonal-imbalance-link-between-magnesium-hormones-magnesium-for-pms-effects-of-hormonal-imbalance-on-body-other-ways-to-manage-hormonal-imbalance-conclusion>
174. Why You Need Magnesium To Balance Hormones - Pippa Campbell Health, acessado em maio 12, 2025, <https://www.pippacampbellhealth.com/blog/magnesium-to-balance-hormones/>
175. 10 Ways Magnesium Can Improve Your Health, Hormones, and Mood - Aviva Romm, MD, acessado em maio 12, 2025, <https://avivaromm.com/magnesium-for-relaxation/>
176. Magnesium Bisglycinate - the most bioavailable form of magnesium for stress, sleep and whole-body health, acessado em maio 12, 2025, <https://www.womenshealthnetwork.com/hormonal-imbalance/the-many-benefits-of-magnesium-glycinate-for-womens-health-and-wellness/>
177. Magnesium for Menopause: Efficacy, Benefits, and Side Effects - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/magnesium-for-menopause>
178. How magnesium impacts hormonal health & PMS | H&B - Holland & Barrett,

- acessado em maio 12, 2025,  
<https://www.hollandandbarrett.com/the-health-hub/vitamins-and-supplements/minerals/magnesium/magnesium-benefits-hormones/>
179. Activities of Serum Magnesium and Thyroid Hormones in Pre-, Peri-, and Post-menopausal Women - PMC, acessado em maio 12, 2025,  
<https://pmc.ncbi.nlm.nih.gov/articles/PMC6996468/>
180. The health benefits of magnesium | Seven Seas UK, acessado em maio 12, 2025, <https://seven-seas.co.uk/minerals/magnesium>
181. How magnesium can help with tiredness - A.Vogel, acessado em maio 12, 2025,  
<https://www.avogel.co.uk/boost-your-energy/how-magnesium-can-help-with-tiredness/>
182. The Importance of Magnesium for Energy and Overall Health, acessado em maio 12, 2025,  
<https://www.nesaz.com/the-importance-of-magnesium-for-energy-and-overall-health/>
183. How Magnesium Helps Fight Fatigue and Improve Focus - Love Life Supplements, acessado em maio 12, 2025,  
<https://www.lovelifesupplements.co.uk/blogs/love-life-health-blog/how-magnesium-helps-fight-fatigue-and-improve-focus>
184. Magnesium - Health Professional Fact Sheet - NIH Office of Dietary Supplements, acessado em maio 12, 2025,  
<https://ods.od.nih.gov/factsheets/Magnesium-HealthProfessional/>
185. What are the health benefits of magnesium? - OSF HealthCare, acessado em maio 12, 2025,  
<https://www.osfhealthcare.org/blog/what-are-the-health-benefits-of-magnesium/>
186. Why Magnesium Matters | Northwestern Medicine, acessado em maio 12, 2025,  
<https://www.nm.org/healthbeat/healthy-tips/nutrition/Why-Magnesium-Matters>
187. Unlock the Power of Magnesium: Essential Health Benefits to Know - Mutual of Omaha, acessado em maio 12, 2025,  
<https://www.mutualofomaha.com/advice/health-and-well-being/eating-well/unlock-the-power-of-magnesium-essential-health-benefits-to-know>
188. Top 5 Health Benefits of Magnesium Supplements - Natural Vitality, acessado em maio 12, 2025,  
<https://www.naturalvitality.com/blogs/natural-vitality-blog/top-5-health-benefits-of-magnesium-supplements>
189. Magnesium Glycinate Guide: Benefits, Dosage & Risks | Vitality Pro, acessado em maio 12, 2025,  
<https://vitality-pro.com/magnesium/glycinate-benefits-dosage-side-effects/>
190. Magnesium: Why you need this mineral for better sleep, mood and more - CNET, acessado em maio 12, 2025,  
<https://www.cnet.com/health/why-you-need-more-magnesium-in-your-diet-and-where-to-get-it/>

191. Remarkable Benefits of Magnesium for Mental Health and Sleep, acessado em maio 12, 2025, <https://hopepsychiatry.com/2023/07/04/mental-health-and-sleep/>
192. The Benefits of Magnesium for Mood + Mental Health | CentreSpring MD, acessado em maio 12, 2025, <https://centrespringmd.com/the-benefits-of-magnesium-for-mood-mental-health/>
193. The effect of magnesium supplementation on primary insomnia in elderly: A double-blind placebo-controlled clinical trial - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC3703169/>
194. Gross saponin of Tribulus terrestris improves erectile dysfunction in type 2 diabetic rats by repairing the endothelial function of the penile corpus cavernosum - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC6730548/>
195. A Review on Plants Used for Improvement of Sexual Performance and Virility - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC4151601/>
196. Oct 4, 2004: What herbs are used for performance enhancement in sports?, acessado em maio 12, 2025, <https://www.vumc.org/poison-control/toxicology-question-week/oct-4-2004-what-herbs-are-used-performance-enhancement-sports>
197. Saponins in Gokshura: Its Importance and Potential Benefits - Rasayanam, acessado em maio 12, 2025, <https://rasayanam.in/blogs/news/what-are-saponins-in-gokshura-and-why-are-they-important>
198. Tribulus Terrestris benefits, dosage, and side effects - Examine.com, acessado em maio 12, 2025, <https://examine.com/supplements/tribulus-terrestris/>
199. Tribulus Terrestris for libido, fertility and more | OstroVit, acessado em maio 12, 2025, <https://ostrovit.com/en/blog/tribulus-terrestris-for-libido-fertility-and-more-1641803000.html>
200. TRIBULUS: Overview, Uses, Side Effects, Precautions, Interactions, Dosing and Reviews, acessado em maio 12, 2025, <https://www.webmd.com/vitamins/ai/ingredientmono-39/tribulus>
201. Does Tribulus Terrestris Really Work? An Evidence-Based Look - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/tribulus-terrestris>
202. A Comprehensive Review of the Phytochemical, Pharmacological, and Toxicological Properties of Tribulus terrestris L - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7277861/>
203. Tribulus Terrestris Supplement Benefits, Uses for Libido and More - Dr. Axe, acessado em maio 12, 2025, <https://draxe.com/nutrition/tribulus-terrestris/>
204. Sexual Behavior of Tribulus Terrestris, acessado em maio 12, 2025, <https://biomedres.us/fulltexts/BJSTR.MS.ID.006220.php>
205. Effects of Tribulus (Tribulus terrestris L.) Supplementation on Erectile Dysfunction and Testosterone Levels in Men—A Systematic Review of Clinical

- Trials - MDPI, acessado em maio 12, 2025,  
<https://www.mdpi.com/2072-6643/17/7/1275>
206. The Effects of Ginseng Saponin on Relaxation of Smooth Muscle in the Lower Urinary Tract and the Corpus Cavernosum. - JYMS : Journal of Yeungnam Medical Science, acessado em maio 12, 2025,  
<https://www.e-jyms.org/journal/view.php?doi=10.12701/yujm.2006.23.1.52>
207. Protodioscin - Wikipedia, acessado em maio 12, 2025,  
<https://en.wikipedia.org/wiki/Protodioscin>
208. Can Fenugreek Increase Testosterone Levels in Men? - Vinmec, acessado em maio 12, 2025,  
<https://www.vinmec.com/eng/blog/can-fenugreek-boost-mens-testosterone-levels-en>
209. Can Fenugreek Boost Your Testosterone Levels? - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/fenugreek-for-testosterone>
210. Effects of Tribulus terrestris saponins on exercise performance in overtraining rats and the underlying mechanisms - PubMed, acessado em maio 12, 2025,  
<https://pubmed.ncbi.nlm.nih.gov/27482746/>
211. Effect of saponin on spermatogenesis and testicular structure in streptozotocin-induced diabetic mice - PMC, acessado em maio 12, 2025,  
<https://pmc.ncbi.nlm.nih.gov/articles/PMC10758008/>
212. Evaluation of anti-fatigue activity of total saponins of Radix ..., acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC3657880/>
213. Effects of Saponins on Lipid Metabolism: A Review of Potential Health Benefits in the Treatment of Obesity - PubMed Central, acessado em maio 12, 2025,  
<https://pmc.ncbi.nlm.nih.gov/articles/PMC6273086/>
214. Effects of Saponins on Lipid Metabolism: The Gut–Liver Axis Plays a Key Role - MDPI, acessado em maio 12, 2025, <https://www.mdpi.com/2072-6643/16/10/1514>
215. The Power of Saponins: A Natural Solution for Health and Longevity - Hormony Drinks, acessado em maio 12, 2025,  
<https://www.hormonydrinks.com/the-power-of-saponins-a-natural-solution-for-health-and-longevity/>
216. Saponins from Edible Legumes: Chemistry, Processing, and Health Benefits | Request PDF, acessado em maio 12, 2025,  
[https://www.researchgate.net/publication/8586848\\_Saponins\\_from\\_Edible\\_Legumes\\_Chemistry\\_Processing\\_and\\_Health\\_Benefits](https://www.researchgate.net/publication/8586848_Saponins_from_Edible_Legumes_Chemistry_Processing_and_Health_Benefits)
217. Saponins: A concise review on food related aspects, applications and health implications, acessado em maio 12, 2025,  
[https://www.researchgate.net/publication/367171996\\_Saponins\\_a\\_concise\\_review\\_on\\_food\\_related\\_aspects\\_applications\\_and\\_health\\_implications](https://www.researchgate.net/publication/367171996_Saponins_a_concise_review_on_food_related_aspects_applications_and_health_implications)
218. The Herbs Used in Treatment of Neurological Disorder : An Overview, acessado em maio 12, 2025,  
<https://www.ijpsjournal.com/article/The+Herbs+Used+in+Treatment+of+Neurological+Disorder++An+Overview>
219. Saponins: the phytochemical with an emerging potential for curing clinical depression, acessado em maio 12, 2025,

- <https://pubmed.ncbi.nlm.nih.gov/25075957/>
220. Panax Notoginseng Saponins: A Review of Its Mechanisms of Antidepressant or Anxiolytic Effects and Network Analysis on Phytochemistry and Pharmacology - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC6017639/>
221. Saponins: the phytochemical with an emerging potential for curing clinical depression | Request PDF - ResearchGate, acessado em maio 12, 2025, [https://www.researchgate.net/publication/264392146\\_Saponins\\_the\\_phytochemical\\_with\\_an\\_emerging\\_potential\\_for\\_curing\\_clinical\\_depression](https://www.researchgate.net/publication/264392146_Saponins_the_phytochemical_with_an_emerging_potential_for_curing_clinical_depression)
222. Terpenoids and Triterpenoid Saponins: Future Treatment for Depression | Request PDF - ResearchGate, acessado em maio 12, 2025, [https://www.researchgate.net/publication/368798457\\_Terpenoids\\_and\\_Triterpenoid\\_Saponins\\_Future\\_Treatment\\_for\\_Depression](https://www.researchgate.net/publication/368798457_Terpenoids_and_Triterpenoid_Saponins_Future_Treatment_for_Depression)
223. The 10 Best Herbs to Boost Energy and Focus - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/herbs-for-energy>
224. Bacopa: Can This Nootropic Herb Support Brain Health and Mood?, acessado em maio 12, 2025, <https://www.verywellhealth.com/the-benefits-of-bacopa-89039>
225. Caffeine and Erectile Dysfunction (ED): Benefits, Facts, Dosage - Verywell Health, acessado em maio 12, 2025, <https://www.verywellhealth.com/caffeine-and-erectile-dysfunction-5199882>
226. Benefits of Coffee Sexually: Does it Make You Last Longer? | Good Health by Hims, acessado em maio 12, 2025, <https://www.hims.com/blog/benefits-coffee-sexually>
227. Coca-cola And Coffee For Erectile Dysfunction | Allo Health, acessado em maio 12, 2025, <https://www.allohealth.com/blog/sexual-dysfunction/erectile-dysfunction/coca-cola-and-coffee-for-erectile-dysfunction>
228. Caffeine and Erectile Dysfunction (ED): Benefits, Facts, Dosage - GAINSWave, acessado em maio 12, 2025, <https://gainswave.com/caffeine-and-erectile-dysfunction/>
229. Coffee Intake and Incidence of Erectile Dysfunction - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC5928455/>
230. Five ways coffee improves sex | Coffees.gr, acessado em maio 12, 2025, <https://www.coffees.gr/coffee-and-sex/?sl=en>
231. Patients are loading up on caffeine in a bid for bigger, better orgasms. Does it work?, acessado em maio 12, 2025, <https://www.mdlinx.com/article/patients-are-loading-up-on-caffeine-in-a-bid-for-bigger-better-orgasms-does-it-work/7K6UCY0fhmBXLkgGVmi99z>
232. How does Caffeine affect sexual performance? : r/askscience - Reddit, acessado em maio 12, 2025, [https://www.reddit.com/r/askscience/comments/ot7wz/how\\_does\\_caffeine\\_affect\\_sexual\\_performance/](https://www.reddit.com/r/askscience/comments/ot7wz/how_does_caffeine_affect_sexual_performance/)
233. Caffeine Stimulation of Cortisol Secretion Across the Waking Hours in Relation to Caffeine Intake Levels - PMC - PubMed Central, acessado em maio 12, 2025,



- <https://pmc.ncbi.nlm.nih.gov/articles/PMC2257922/>
234. Caffeine's Hidden Effects on Women's Hormones - Mixhers, acessado em maio 12, 2025, <https://mixhers.com/blogs/articles/sip-smart-understanding-caffeines-hidden-effects-on-womens-hormones>
235. Brewing hormonal havoc - Beeya Wellness, acessado em maio 12, 2025, <https://beeyawellness.com/blogs/all/brewing-hormonal-havoc>
236. What Women Need to Know about Caffeine - FLO Living, acessado em maio 12, 2025, <https://froliving.com/blog/caffeine>
237. NIH Study shows caffeine consumption linked to estrogen changes, acessado em maio 12, 2025, <https://www.nih.gov/news-events/news-releases/nih-study-shows-caffeine-consumption-linked-estrogen-changes>
238. Does Coffee Affect Women's Hormones? | Dr. Kelly Simms ND, CNS, acessado em maio 12, 2025, <https://www.kellysimmsnd.com/blog/does-coffee-affect-womens-hormones/>
239. Is your morning coffee wreaking havoc with your hormones? - Nutritionist Resource, acessado em maio 12, 2025, <https://www.nutritionist-resource.org.uk/articles/is-your-morning-coffee-wreaking-havoc-with-your-hormones>
240. Caffeine: Benefits, risks, and effects - Medical News Today, acessado em maio 12, 2025, <https://www.medicalnewstoday.com/articles/285194>
241. What doctors wish patients knew about the impact of caffeine, acessado em maio 12, 2025, <https://www.ama-assn.org/delivering-care/public-health/what-doctors-wish-patients-knew-about-impact-caffeine>
242. How Caffeine Can Affect Your Tiredness Levels | LillyDirect®, acessado em maio 12, 2025, <https://lillydirect.lilly.com/well-being/content/37c64e39-5626-4bf9-832b-3959f1416ecc>
243. The Buzz About Caffeine Health Benefits Risks and Guidelines | Riverside, acessado em maio 12, 2025, <https://www.riversideonline.com/en/patients-and-visitors/healthy-you-blog/blog/t/the-buzz-about-caffeine-health-benefits-risks-and-guidelines>
244. Caffeine benefits, dosage, and side effects - Examine.com, acessado em maio 12, 2025, <https://examine.com/supplements/Caffeine/>
245. Caffeine - StatPearls - NCBI Bookshelf, acessado em maio 12, 2025, <https://www.ncbi.nlm.nih.gov/books/NBK519490/>
246. The Effects of Caffeine on Your Body - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/health/caffeine-effects-on-body>
247. Does coffee make you tired? Here's why - Medical News Today, acessado em maio 12, 2025, <https://www.medicalnewstoday.com/articles/326443>
248. Benefits of Coffee: Health and Vitality | Bupa Latin America, acessado em maio 12, 2025, <https://www.bupalud.com/en/salud/benefits-of-coffee>
249. What Are the Health Benefits of Drinking Coffee?, acessado em maio 12, 2025,

<https://doorcountycoffee.com/blog/what-are-the-health-benefits-of-drinking-coffee/>

250. What Is Caffeine, and Is It Good or Bad for Health? - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/what-is-caffeine>
251. Pros and Cons of Caffeine Consumption - Webber Nutrition, acessado em maio 12, 2025, <https://webber-nutrition.co.uk/caffeine-pros-and-cons/>
252. What Are the Risks and Benefits of Using Caffeine and Nootropics? - BrainMD, acessado em maio 12, 2025, <https://brainmd.com/blog/caffeine-and-nootropics-top-risks-and-benefits/>
253. 14 Benefits Of Caffeine: Focus, Cognition, & Neuroprotection | VitalScend, acessado em maio 12, 2025, <https://www.vitalscend.com/health-benefits-of-caffeine-focus-cognition/>
254. Overview of Caffeine Effects on Human Health and Emerging Delivery Strategies - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10459237/>
255. The impact of caffeine on mood, cognitive function, performance and hydration: A review of benefits and risks - ResearchGate, acessado em maio 12, 2025, [https://www.researchgate.net/publication/229988024\\_The\\_impact\\_of\\_caffeine\\_on\\_mood\\_cognitive\\_function\\_performance\\_and\\_hydration\\_A\\_review\\_of\\_benefits\\_and\\_risks](https://www.researchgate.net/publication/229988024_The_impact_of_caffeine_on_mood_cognitive_function_performance_and_hydration_A_review_of_benefits_and_risks)
256. Caffeine: A Comprehensive Guide for Patients - Clinical trials, acessado em maio 12, 2025, <https://clinicaltrials.eu/inn/caffeine/>
257. Caffeine: Cognitive and Physical Performance Enhancer or Psychoactive Drug? - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC4462044/>
258. Potential efficacy of caffeine ingestion on balance and mobility in patients with multiple sclerosis: Preliminary evidence from a single-arm pilot clinical trial | PLOS One, acessado em maio 12, 2025, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0297235>
259. Caffeine for treatment of Parkinson disease: A randomized controlled trial - Neurology.org, acessado em maio 12, 2025, <https://www.neurology.org/doi/10.1212/WNL.0b013e318263570d>
260. Caffeine: a double-blind, placebo-controlled study of its thermogenic, metabolic, and cardiovascular effects in healthy volunteers - PubMed, acessado em maio 12, 2025, <https://pubmed.ncbi.nlm.nih.gov/2333832/>
261. Fatigue and Shiftwork: Caffeine Use | NATCA, acessado em maio 12, 2025, <https://www.natca.org/wp-content/uploads/2020/08/FC-Bulletin-9-Fatigue-and-Shiftwork-Caffeine-Use.pdf>
262. New Insight into Caffeine Use Disorder - Johns Hopkins Medicine, acessado em maio 12, 2025, <https://www.hopkinsmedicine.org/news/articles/2020/12/new-insight-into-caffeine-use-disorder>
263. L-Arginine and Nitric Oxide in Vascular Regulation—Experimental Findings in the Context of Blood Donation - MDPI, acessado em maio 12, 2025,

- <https://www.mdpi.com/2072-6643/17/4/665>
264. The 4 Best Vitamins & Supplements for ED | Good Health by Hims, acessado em maio 12, 2025, <https://www.hims.com/blog/vitamins-for-ed>
265. 10 niacin benefits and its side effects - SingleCare, acessado em maio 12, 2025, <https://www.singlecare.com/blog/niacin-benefits/>
266. Effect of vitamins on sexual function: A systematic review - PubMed, acessado em maio 12, 2025, <https://pubmed.ncbi.nlm.nih.gov/33779240/>
267. Vitamin B3 – Health Information Library | PeaceHealth, acessado em maio 12, 2025, <https://www.peacehealth.org/medical-topics/id/hn-2926008>
268. B Vitamins and Menopause: An Essential Aid for Women's Well-Being - Alivada, acessado em maio 12, 2025, <https://alivada.com/en/b-vitamins-and-menopause-an-essential-aid-for-womens-well-being/>
269. Health Benefits Of Vitamin B3 | Dawdy Naturopathic Clinic, acessado em maio 12, 2025, <https://dawdynaturopathicclinic.com/health-benefits-of-vitamin-b3/>
270. Niacin - Health Professional Fact Sheet, acessado em maio 12, 2025, <https://ods.od.nih.gov/factsheets/Niacin-HealthProfessional/>
271. The Best Vitamins and Supplements for Hormonal Imbalance - Women's Health Network, acessado em maio 12, 2025, <https://www.womenshealthnetwork.com/hormonal-imbalance/best-supplements-and-vitamins-for-hormonal-imbalance/>
272. Nutrition, NAD and exercise: vitamin B3 supplements to stay fit and healthy?, acessado em maio 12, 2025, <https://www.endocrinology.org/endocrinologist/135-spring20/features/nutrition-nad-and-exercise-vitamin-b3-supplements-to-stay-fit-and-healthy/>
273. Niacinamide: Benefits, Uses and Side Effects - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/niacinamide>
274. Niacin - Consumer - NIH Office of Dietary Supplements, acessado em maio 12, 2025, <https://ods.od.nih.gov/factsheets/Niacin-Consumer/>
275. Niacin (Vitamin B3): Uses & Benefits - Cleveland Clinic, acessado em maio 12, 2025, <https://my.clevelandclinic.org/health/drugs/18874-niacin-capsules-and-tablets>
276. Zinc Benefits - WebMD, acessado em maio 12, 2025, <https://www.webmd.com/vitamins-and-supplements/what-to-know-about-benefits-of-zinc>
277. Effects of zinc supplementation on fatigue and quality of life in patients with colorectal cancer, acessado em maio 12, 2025, <https://www.scielo.br/j/eins/a/ktN9Cp3SgxVsHXNPC4HyQQv/>
278. Zinc: Benefits, sources, and side effects - Medical News Today, acessado em maio 12, 2025, <https://www.medicalnewstoday.com/articles/263176>
279. How Zinc Benefits Your Body — and How Much Zinc You Need - Health Cleveland Clinic, acessado em maio 12, 2025, <https://health.clevelandclinic.org/zinc>
280. The effect of zinc supplementation on fatigue among elderly community dwellers: A parallel clinical trial - PubMed, acessado em maio 12, 2025,

- <https://pubmed.ncbi.nlm.nih.gov/34027128/>
281. 7 Powerful Ways Zinc Boosts Mental Health & Brain Function, acessado em maio 12, 2025, <https://cypress-counseling.com/7-powerful-ways-zinc-boosts-mental-health-brain-function/>
282. Benefits of Zinc for Men – Essential Mineral for Health, acessado em maio 12, 2025, <https://www.traceminerals.com/blogs/post/benefits-of-zinc-for-men>
283. Health Benefits of Zinc | Simply Supplements, acessado em maio 12, 2025, <https://www.simplysupplements.co.uk/healthylife/supplements/zinc-benefits>
284. Zinc for Anxiety: Could A Zinc Deficiency Be Making You Anxious? – Simply Supplements, acessado em maio 12, 2025, <https://www.simplysupplements.co.uk/healthylife/stress-and-depression/zinc-for-anxiety>
285. Health Benefits of Zinc for Men: Why It's Essential for Wellness – Progressive Medical Center, acessado em maio 12, 2025, <https://www.progressivemedicalcenter.com/blog/health-benefits-of-zinc-for-men-why-its-essential-for-wellness/>
286. How Vitamins Can Help Mental Health – Oxford Vitality, acessado em maio 12, 2025, <https://oxfordvitality.co.uk/blogs/news/how-vitamins-can-help-mental-health>
287. Unlocking the Benefits of Zinc Bisglycinate- Superior Bioavailability for Immune and Skin Health – West Bengal Chemical Industries Limited, acessado em maio 12, 2025, <https://www.wbcil.com/blog/unlocking-the-benefits-of-zinc-bisglycinate-superior-bioavailability-for-immune-and-skin-health/>
288. What is Zinc? Zinc Benefits, Dosage, and Risks – Vitality Pro, acessado em maio 12, 2025, <https://vitality-pro.com/zinc/benefits-dosage-side-effects-zin/>
289. 5 Surprising Benefits of Zinc Sexually | Good Health by Hims, acessado em maio 12, 2025, <https://www.hims.com/blog/benefits-zinc-sexually>
290. Can Zinc Boost Your Sex Life? The Ideal Dosage for Erectile ..., acessado em maio 12, 2025, <https://www.genesislifestylemedicine.com/blog/can-zinc-boost-your-sex-life-the-ideal-dosage-for-erectile-dysfunction/>
291. Zinc and erectile dysfunction: Link, deficiency, and supplementation – Medical News Today, acessado em maio 12, 2025, <https://www.medicalnewstoday.com/articles/316241>
292. The Link Between Zinc and Erectile Dysfunction – Healthline, acessado em maio 12, 2025, <https://www.healthline.com/health/erectile-dysfunction/zinc>
293. 3 sexual benefits of zinc – Ro, acessado em maio 12, 2025, <https://ro.co/sexual-health/benefits-zinc-sexually/>
294. Why Zinc Matters for Men's Health (Top 9 Benefits) | PrimeHealth Denver, acessado em maio 12, 2025, <https://primehealthdenver.com/benefits-of-zinc-for-men/>
295. Zinc improves sexual performance and erectile function by preventing penile oxidative injury and upregulating circulating testosterone in lead-exposed rats,

- acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10291914/>
296. 11 Health Benefits of Zinc, According to a Dietitian, acessado em maio 12, 2025, <https://www.verywellhealth.com/health-benefits-of-zinc-8710684>
297. Zinc: the effects on women's hormones - Miyé, acessado em maio 12, 2025, <https://www.miye.care/en/the-role-and-benefits-of-zinc-in-female-hormonal-balance/>
298. Zinc for PCOS: Benefits, dosage, and how it helps manage symptoms - Aspect Health, acessado em maio 12, 2025, <https://www.aspect-health.com/blog/zinc-for-pcos-benefits-dosage-and-how-it-helps-manage-symptoms>
299. The Role of Zinc in Selected Female Reproductive System Disorders - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7468694/>
300. Zinc's Influence on Hormonal Health: An Essential Mineral in Endocrine Disorders, acessado em maio 12, 2025, <https://www.rupahealth.com/post/zincs-influence-on-hormonal-health-an-essential-mineral-in-endocrine-disorders>
301. Smart women take zinc! – SISTERLY, acessado em maio 12, 2025, <https://sisterlylab.com/blogs/sisterly-life/smart-women-take-zinc>
302. Review: The role of zinc in the endocrine system - PubMed, acessado em maio 12, 2025, <https://pubmed.ncbi.nlm.nih.gov/30772815/>
303. Zinc Deficiency: Symptoms, Causes, & Remedy – BetterYou USA, acessado em maio 12, 2025, <https://us.betteryou.com/blogs/conditions/zinc-deficiency-signs-symptoms-causes>
304. Will zinc boost your energy - A.Vogel, acessado em maio 12, 2025, <https://www.avogel.co.uk/boost-your-energy/will-zinc-boost-your-energy/>
305. Zinc benefits: A guide to zinc and why runners need it, acessado em maio 12, 2025, <https://www.runnersworld.com/uk/nutrition/supplements/a39761806/zinc-benefits/>
306. Zinc: How it Helps Anxiety and Depression - Psych Central, acessado em maio 12, 2025, <https://psychcentral.com/health/zinc-anxiety>
307. Randomized, Controlled Clinical Trial of Zinc Supplementation to Prevent Immunological Failure in HIV-Infected Adults - Oxford Academic, acessado em maio 12, 2025, <https://academic.oup.com/cid/article-abstract/50/12/1653/305633>
308. 7 Health Benefits of Yerba Mate (Backed by Science) - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/8-benefits-of-yerba-mate>
309. What Are the Benefits of Triphala? - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/triphala>
310. What are saponins and what are their health benefits? - ResearchGate, acessado em maio 12, 2025, [https://www.researchgate.net/post/What\\_are\\_saponins\\_and\\_what\\_are\\_their\\_health\\_benefits](https://www.researchgate.net/post/What_are_saponins_and_what_are_their_health_benefits)
311. Effects of saponins from Chinese herbal medicines on signal transduction



- pathways in cancer: A review - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10090286/>
312. Vaishnavi Gawande, Int. J. of Pharm. Sci., 2025, Vol 3, Issue 5, 1950-1961 - International Journal of Pharmaceutical Sciences, acessado em maio 12, 2025, <https://www.iipsjournal.com/assetsbackoffice/uploads/article/AntiDiabetic+Chocolate+Formulation+And+Evaluation+of+Antidiabetic+Chocolate+from+Herbal+Extract+of+Fenugreek+Guava+and+Jamun+.pdf>
313. (PDF) Positive Health Benefits of Saponins from Edible Legumes ..., acessado em maio 12, 2025, [https://www.researchgate.net/publication/359225154\\_Positive\\_Health\\_Benefits\\_of\\_Saponins\\_from\\_Edible\\_Legumes\\_Phytochemistry\\_and\\_Pharmacology](https://www.researchgate.net/publication/359225154_Positive_Health_Benefits_of_Saponins_from_Edible_Legumes_Phytochemistry_and_Pharmacology)
314. 10 Health and Nutrition Benefits of Chickpeas - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/nutrition/chickpeas-nutrition-benefits>
315. Perspectives on Saponins: Food Functionality and Applications - PMC, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10487995/>
316. What Are Saponins? Discovering Their Health Benefits - Global Healing, acessado em maio 12, 2025, <https://globalhealing.com/blogs/education/what-are-saponins>
317. Saponin - The Secret of Vitality from Korean Mountain Ginseng - NT Mart, acessado em maio 12, 2025, <https://ntmart.vn/blogs/new/saponin-the-secret-of-vitality-from-korean-mountain-ginseng>
318. Shatavari: Benefits, Side Effects, and More - Healthline, acessado em maio 12, 2025, <https://www.healthline.com/health/food-nutrition/shatavari>
319. Therapeutic Effects of Saponins for the Prevention and Treatment of Cancer by Ameliorating Inflammation and Angiogenesis and Inducing Antioxidant and Apoptotic Effects in Human Cells - PubMed Central, acessado em maio 12, 2025, <https://pmc.ncbi.nlm.nih.gov/articles/PMC9504392/>
320. The biological action of saponins in animal systems: a review | British Journal of Nutrition, acessado em maio 12, 2025, <https://www.cambridge.org/core/journals/british-journal-of-nutrition/article/biological-action-of-saponins-in-animal-systems-a-review/9FF0990F2A7AEFE5B990555A0D4A63B8>
321. Unlocking the Power of Tribulus: 6 Surprising Benefits for Your Health and Well-being, acessado em maio 12, 2025, <https://swolverine.com/blogs/blog/tribulus-benefits-the-benefits-of-tribulus>
322. Alzheimer's Disease as a Major Public Health Concern: Role of Dietary Saponins in Mitigating Neurodegenerative Disorders and Their Underlying Mechanisms - MDPI, acessado em maio 12, 2025, <https://www.mdpi.com/1420-3049/27/20/6804>
323. An Overview of Saponins - A Bioactive Group - CABI Digital Library, acessado em maio 12, 2025, <https://www.cabidigitallibrary.org/doi/pdf/10.5555/20203284750>