

Surveying Healthcare Provider Experiences with Ademetionine Therapy Across Neurological and Psychological Conditions



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INTRODUCTION

Ademetionine, also known as S-Adenosylmethionine (SAME), is a naturally occurring compound that plays a vital role in numerous biochemical processes, including the methylation of DNA, proteins, and lipids, as well as the synthesis of polyamines and glutathione. These processes are essential for cellular repair, neuroprotection, and metabolic regulation, making Ademetionine a compound of significant therapeutic interest in neuropsychiatric and neurological disorders (1).

In the treatment of mood disorders, particularly major depressive disorder (MDD), Ademetionine has demonstrated antidepressant effects. It enhances the activity of key neurotransmitters such as serotonin and dopamine, which are critical in mood regulation. Clinical studies have highlighted its efficacy in treatment-resistant depression and its role as an adjunct to conventional antidepressants, improving both mood and overall treatment response (2). Beyond mood disorders, Ademetionine has been shown to possess neuroprotective properties, particularly in neurodegenerative conditions like mild cognitive impairment (MCI) and Alzheimer's disease. It reduces oxidative stress and neuroinflammation, both of which are central to the pathophysiology of these disorders, thereby slowing cognitive decline (3).

Furthermore, Ademetionine's anti-inflammatory and analgesic properties make it a valuable therapeutic option for conditions such as fibromyalgia and chronic pain syndromes. These conditions often present with overlapping physical and psychological components, and Ademetionine's dual action can help address both aspects simultaneously (4). However, despite its therapeutic promise, there are challenges in its clinical adoption. For instance, while Ademetionine has a favorable safety profile, gastrointestinal side effects such as nausea and diarrhea are occasionally reported. Additionally, optimal dosing strategies and the long-

term safety of Ademetionine require further investigation to guide its broader use in diverse patient populations (5).

Real-world evidence is critical to understanding Ademetionine's practical application. Unlike controlled clinical trials, real-world studies provide insights into its effectiveness in routine clinical settings, where patients often have complex comorbidities and may respond differently to treatment. These data can also illuminate factors such as adherence, cost-effectiveness, and the impact of patient-specific variables on treatment outcomes (6).

As healthcare increasingly shifts toward personalized medicine and multi-targeted approaches, exploring how Ademetionine is integrated into treatment plans for neurological and psychological conditions is imperative. This study seeks to fill this gap by analyzing healthcare providers' real-world experiences with Ademetionine. It will examine prescribing patterns, patient outcomes, and clinicians' perspectives to better understand the drug's role in modern therapeutic strategies. The findings aim to optimize its application and address barriers to its broader adoption (7).

RATIONALE OF THE STUDY

Neurological and psychological conditions, including depression, cognitive impairment, and chronic pain, pose significant challenges to global health, affecting millions of individuals and imposing a heavy socioeconomic burden. Traditional pharmacotherapies, while effective for many patients, often have limitations such as side effects, incomplete response, and contraindications in certain populations.

Ademetionine, with its multifaceted mechanism of action and potential to address both neurochemical and neuroinflammatory pathways, presents a compelling therapeutic option. Despite its growing use, there is a need to evaluate its real-world application, where patient diversity and complex clinical scenarios can influence therapeutic outcomes. This study aims to fill this gap by providing insights into the practical use of Ademetionine, its benefits, and challenges in routine clinical settings.

STUDY OBJECTIVE

The primary objective of this study is to evaluate the real-world usage, effectiveness, and tolerability of Ademetionine in the treatment of neurological and psychological conditions. Specifically, the study aims to:

1. **Assess Clinician Awareness and Familiarity:** Understand healthcare providers' knowledge of Ademetionine's mechanism of action, indications, and therapeutic potential.
2. **Evaluate Prescribing Patterns:** Identify the frequency and contexts in which Ademetionine is prescribed and its position in treatment algorithms compared to conventional therapies.
3. **Analyze Effectiveness and Safety:** Assess clinicians' perceptions of Ademetionine's efficacy and safety in managing conditions such as depression, cognitive impairment, and chronic pain.
4. **Explore Patient Demographics:** Determine which patient groups are most frequently prescribed Ademetionine and evaluate its suitability in various populations, including those with comorbidities.

5. **Identify Barriers and Opportunities:** Explore challenges to the adoption of Ademetionine in clinical practice, such as cost, availability, and perceived limitations, and identify opportunities for its broader utilization.

METHODS

The study utilized a structured, survey-based methodology to capture comprehensive data on healthcare providers' experiences with Ademetionine.

1. **Survey Design:** A detailed questionnaire was developed, addressing key areas such as clinician familiarity with Ademetionine, prescribing patterns, perceived effectiveness, safety concerns, and patient demographics. The survey was reviewed by experts in neuropsychiatry to ensure relevance and validity.
2. **Participant Recruitment:** The survey targeted neurologists, psychiatrists, pain management specialists, and general practitioners with experience in treating neurological and psychological conditions. Participants were recruited across diverse geographic regions to ensure a representative sample.
3. **Data Collection:** Responses were collected over a three-month period through a combination of digital and physical distribution methods. Anonymity was maintained to encourage candid feedback from participants.
4. **Data Analysis:** Quantitative methods were employed to identify trends and patterns in the data. Descriptive statistics summarized the findings, while comparative analyses highlighted variations in prescribing practices based on clinician specialty, patient demographics, and treatment settings.

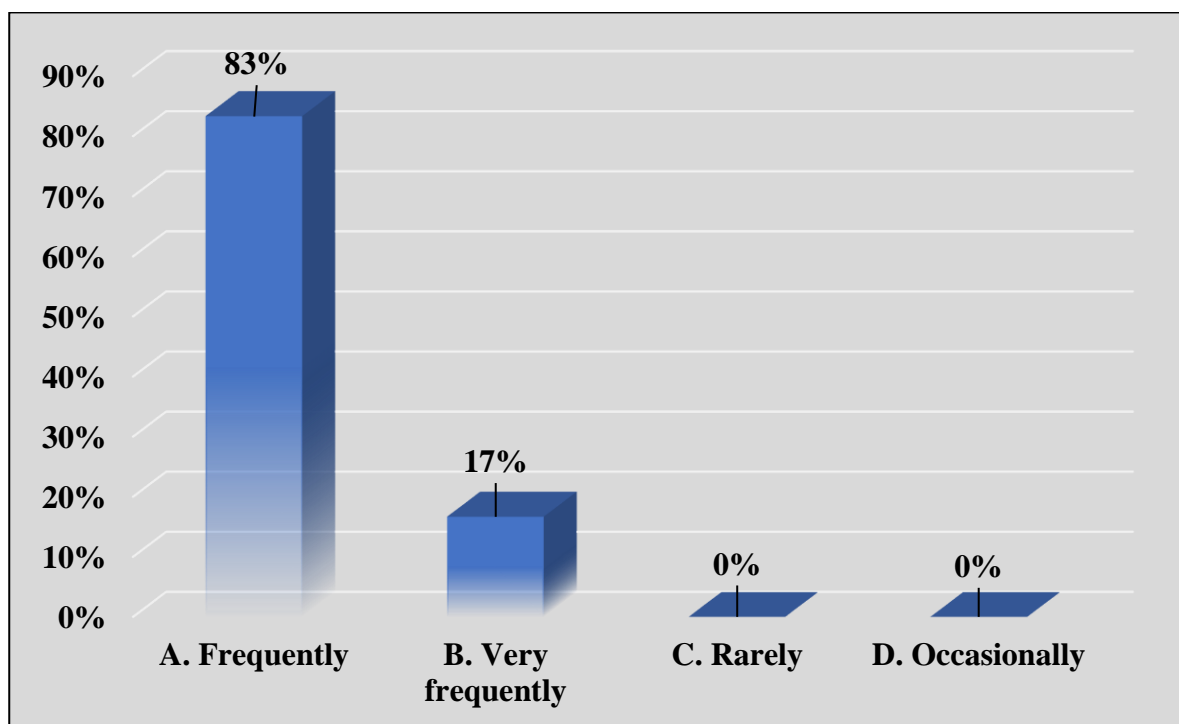
5. **Ethical Considerations:** The study adhered to ethical research guidelines, including obtaining informed consent from all participants and ensuring the confidentiality of their responses.

RESULTS

A total of 96 HCPs participated in the survey. Below is the summary of the responses.

1. In your clinical practice, how frequently do you prescribe ademetonine to your patients with depression?

- A. Frequently
- B. Very frequently
- C. Rarely
- D. Occasionally

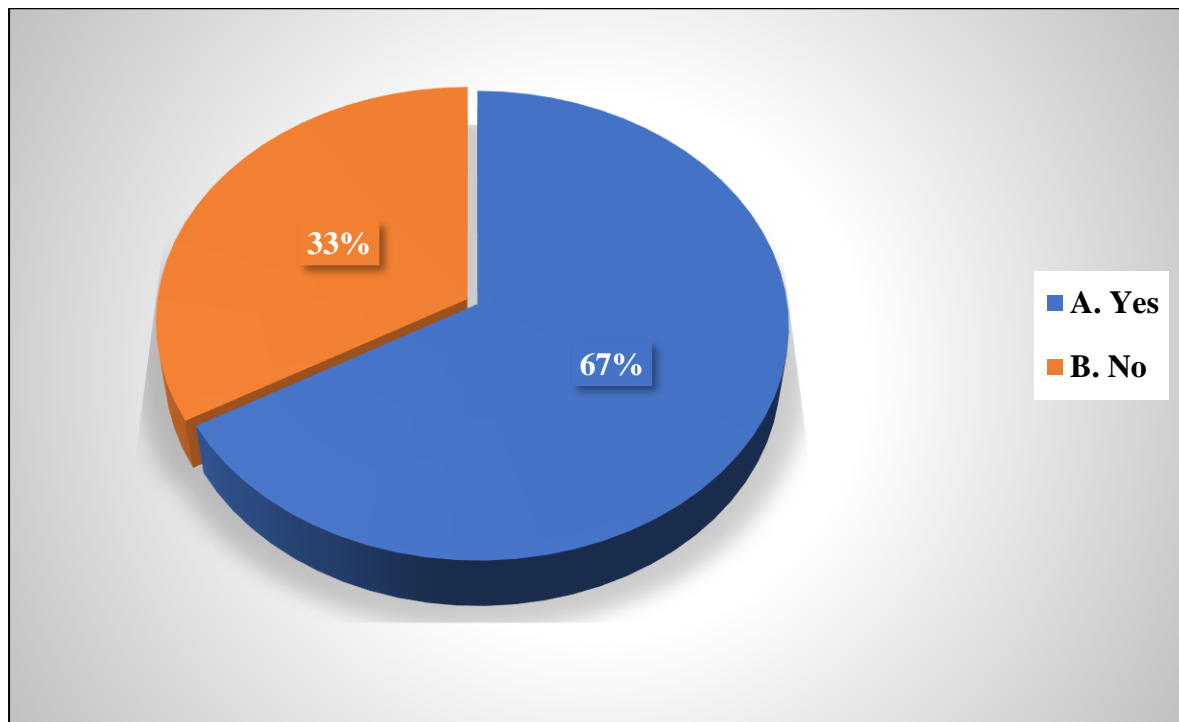


- **Frequently (83%):** The majority of clinicians report prescribing ademetonine regularly for patients with depression, reflecting its established role in treatment.
- **Very frequently (17%):** A smaller yet significant group of clinicians indicate prescribing ademetonine at a high frequency, underscoring their confidence in its efficacy.

2. Are you aware of ademetionine's potential role in the management or treatment of osteoarthritis?

A. Yes

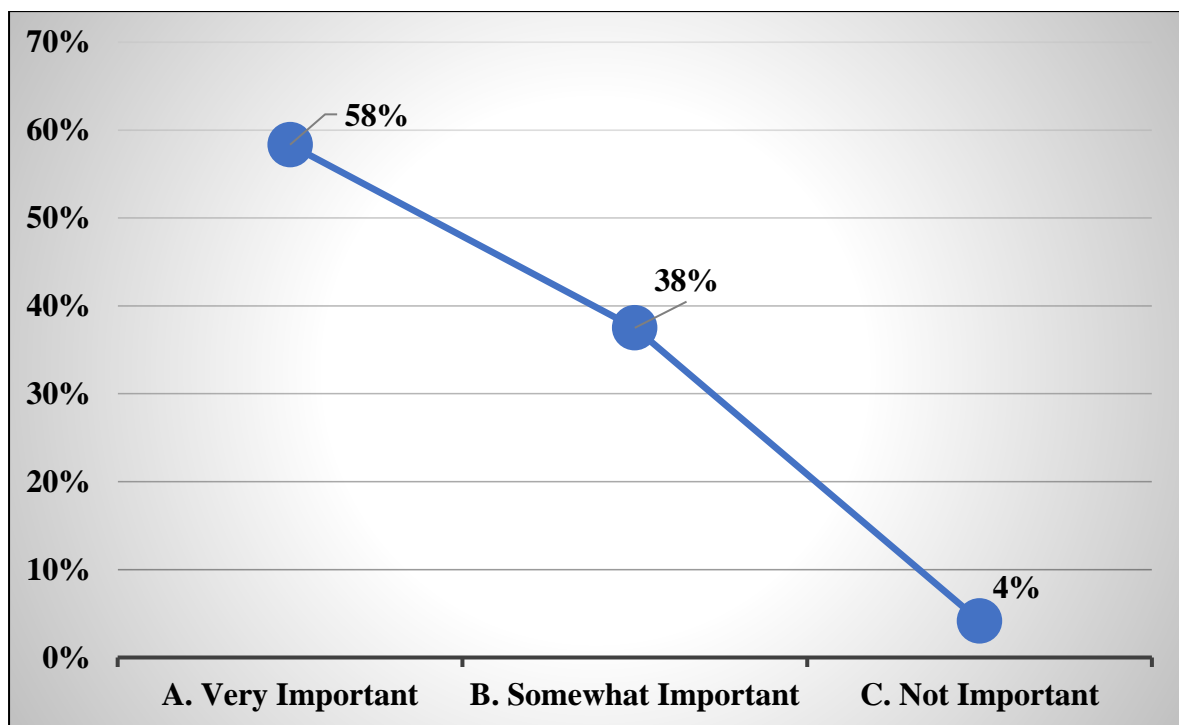
B. No



- **Yes (67%):** A majority of clinicians are aware of ademetionine's potential role in managing or treating osteoarthritis, indicating familiarity with its broader therapeutic applications.
- **No (33%):** A significant portion of clinicians are unaware of this potential use, suggesting a need for increased awareness and education on the subject.

3. How would you rate the importance of ademetonine in mitigating joint inflammation and promoting joint health in osteoarthritic patients?

- A. Very Important
- B. Somewhat Important
- C. Not Important



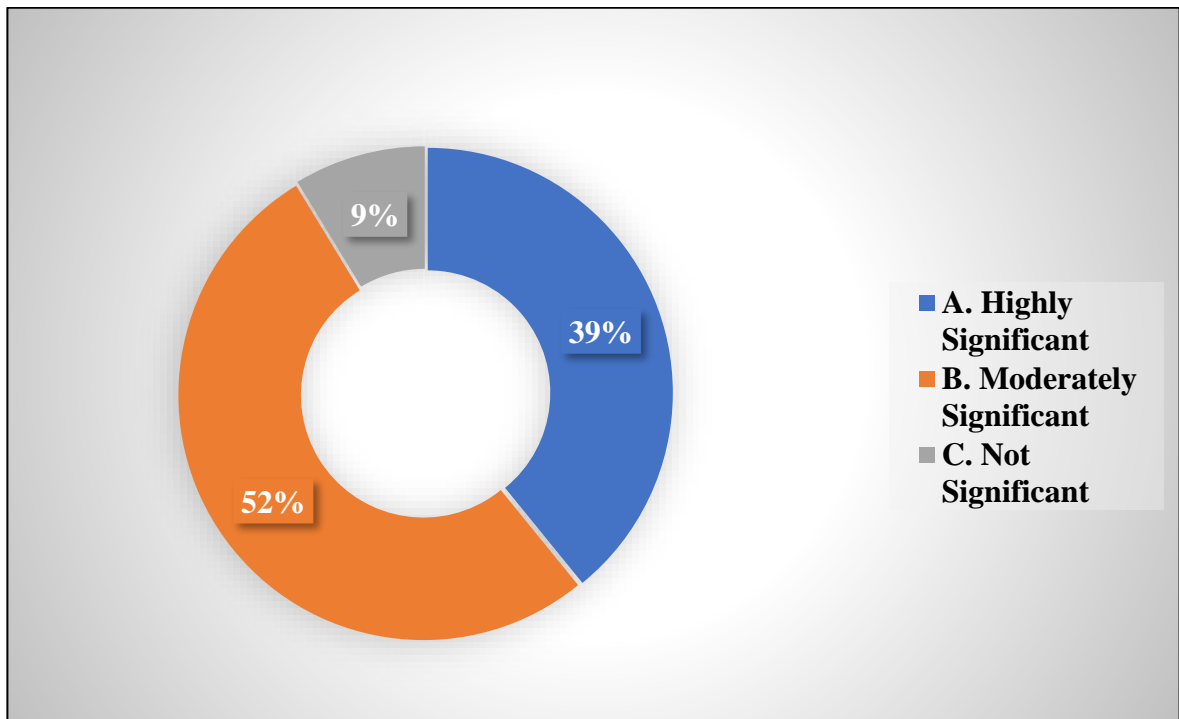
- **Very Important (58%):** A majority of clinicians consider ademetonine to be highly important in managing joint inflammation and promoting joint health in osteoarthritic patients.
- **Somewhat Important (38%):** A significant portion views it as somewhat important for joint health and inflammation.
- **Not Important (4%):** A small group of clinicians do not perceive ademetonine as important in this context.

4. How significant do you consider ademetionine's role in neuroprotection and cognitive function for Alzheimer's patients?

A. Highly Significant

B. Moderately Significant

C. Not Significant

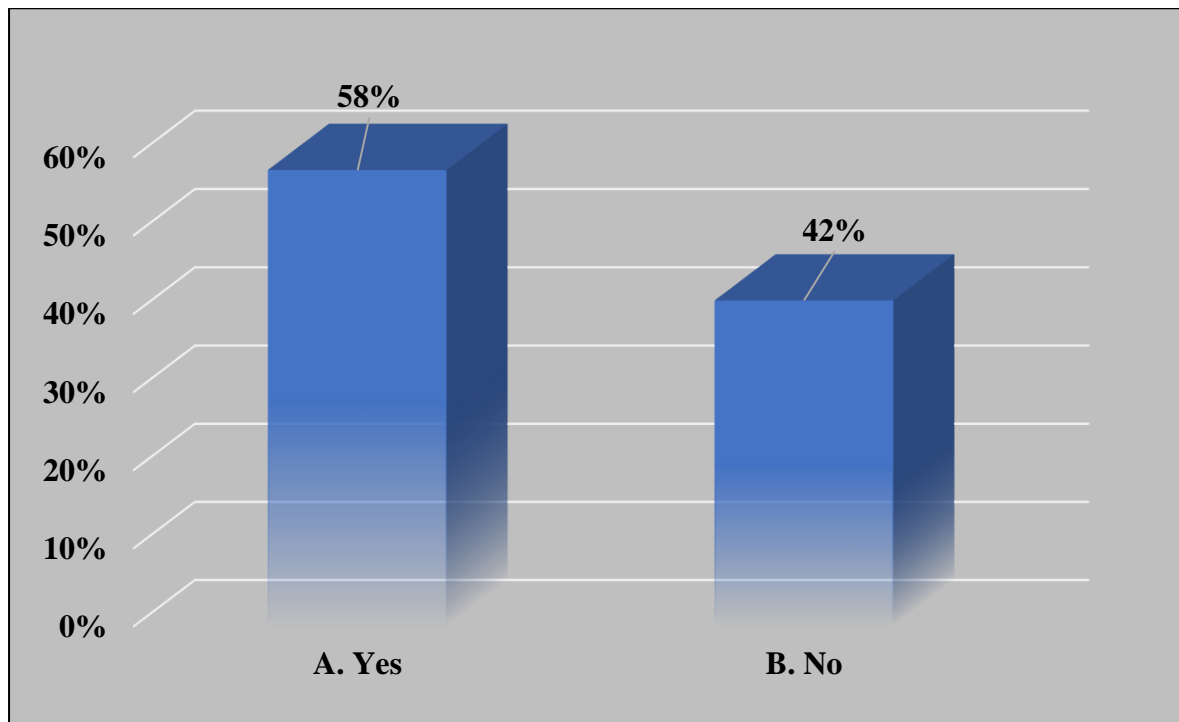


- **Highly Significant (39%):** Many clinicians see ademetionine as highly beneficial for neuroprotection and cognitive support in Alzheimer's.
- **Moderately Significant (52%):** Most view it as moderately effective.
- **Not Significant (9%):** A few consider it insignificant.

5. Are you aware of the impact of ademetionine levels on patients with traumatic brain injury TBI?

A. Yes

B. No



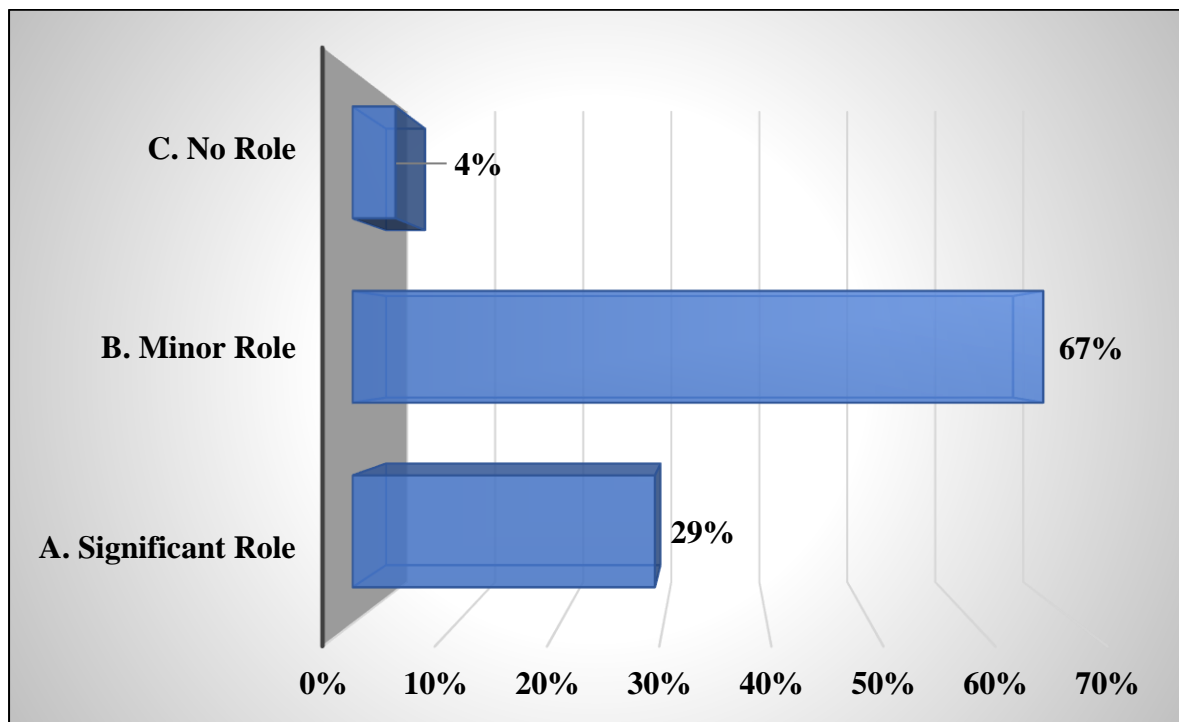
- **Yes (58%):** A majority of clinicians are aware of the impact of ademetionine levels on patients with traumatic brain injury (TBI).
- **No (42%):** A notable portion remains unaware of its impact.

6. In your opinion, what role does ademetonine play in alleviating depressive symptoms?

A. Significant Role

B. Minor Role

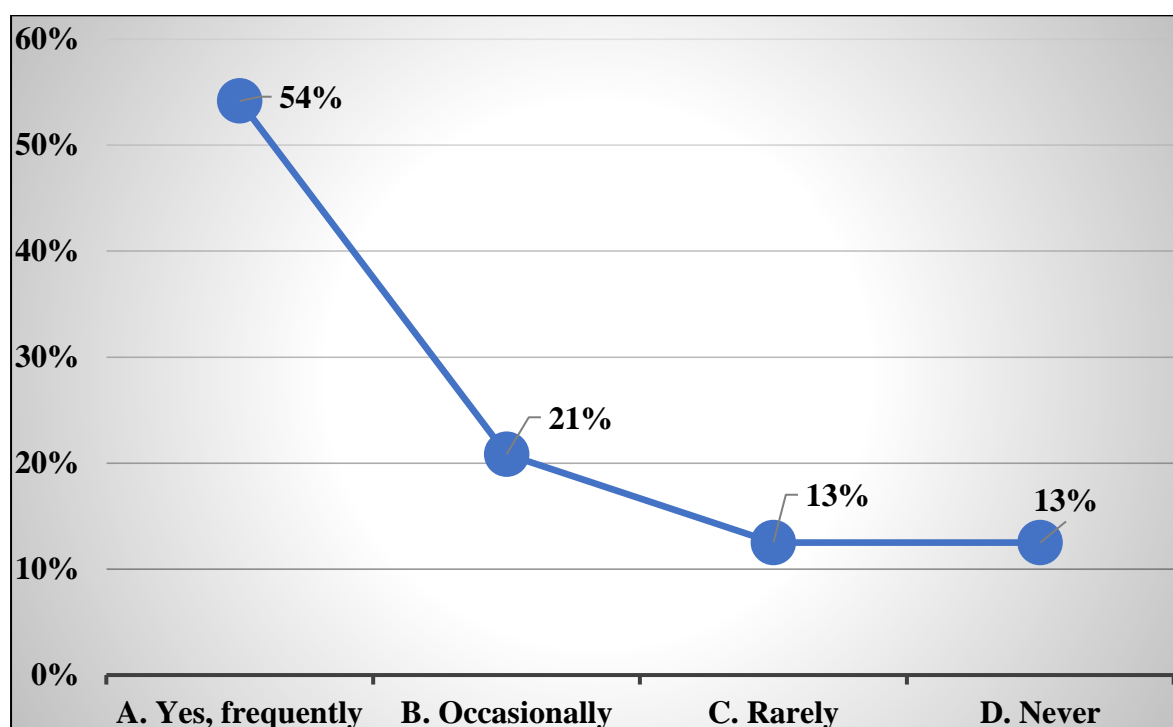
C. No Role



- **Significant Role (29%):** A smaller group of clinicians believes ademetonine plays a significant role in alleviating depressive symptoms.
- **Minor Role (67%):** The majority view its role as minor in managing depression.
- **No Role (4%):** A few clinicians consider it to have no role in alleviating depressive symptoms.

7. In your practice, have you encountered drug interactions of concern when combining Ademetonine (SAmE) with other commonly prescribed medications for depression?

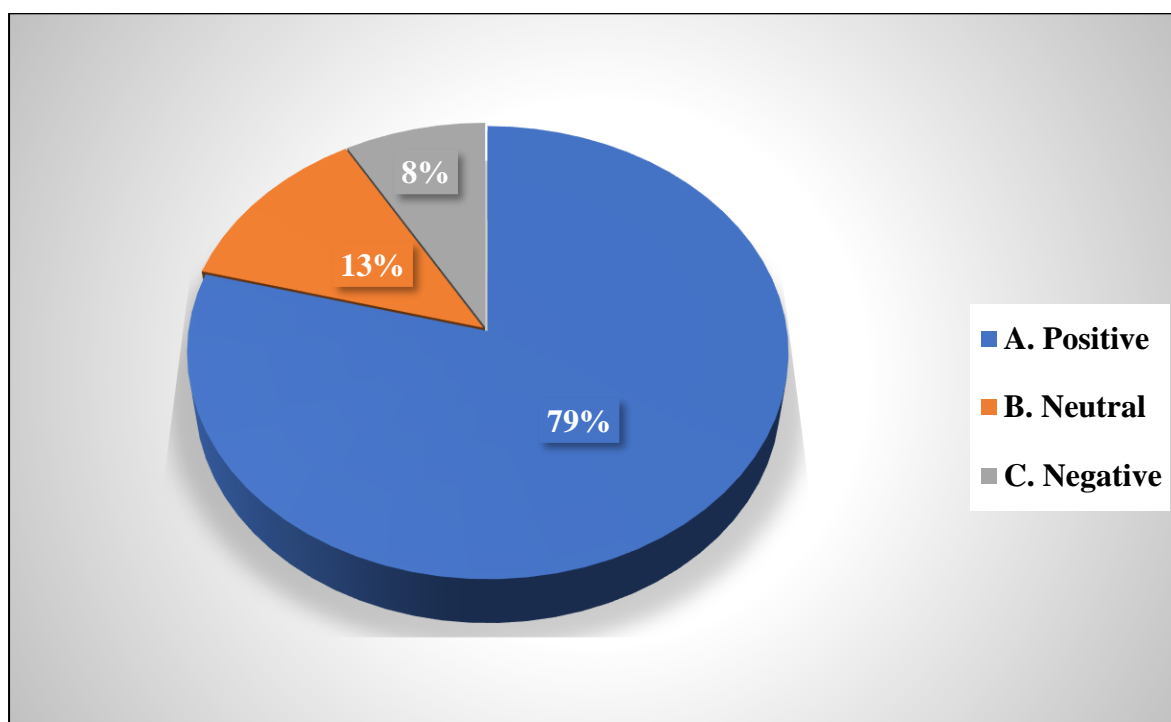
- A. Yes, frequently
- B. Occasionally
- C. Rarely
- D. Never



- **Yes, frequently (54%):** The majority of clinicians report frequently encountering drug interactions when combining Ademetonine with other antidepressants.
- **Occasionally (21%):** Some clinicians note occasional occurrences of such interactions.
- **Rarely (13%) & Never (13%):** A few clinicians have never observed drug interactions with ademetonine, while a smaller portion rarely encounters such interactions.

8. How would you rate your overall perception of ademetonine as a therapeutic agent in the context of osteoarthritis, Alzheimer's, TBI, and depression?

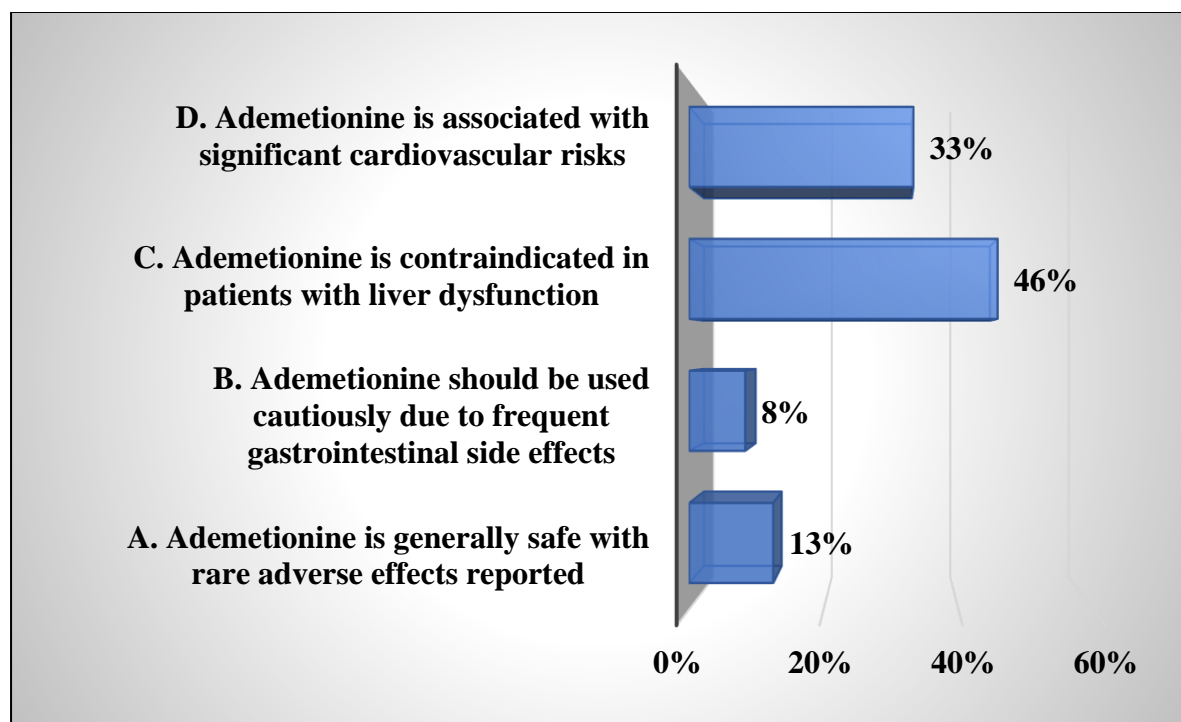
- A. Positive
- B. Neutral
- C. Negative



- **Positive (79%):** A significant majority hold a positive perception of ademetonine as a therapeutic agent across various conditions like osteoarthritis, Alzheimer's, TBI, and depression.
- **Neutral (13%):** Some clinicians have a neutral view of its therapeutic utility.
- **Negative (8%):** A minority perceive ademetonine negatively in these contexts.

9. According to you, which of the following does accurately describes the safety profile of Ademetonine in clinical use?

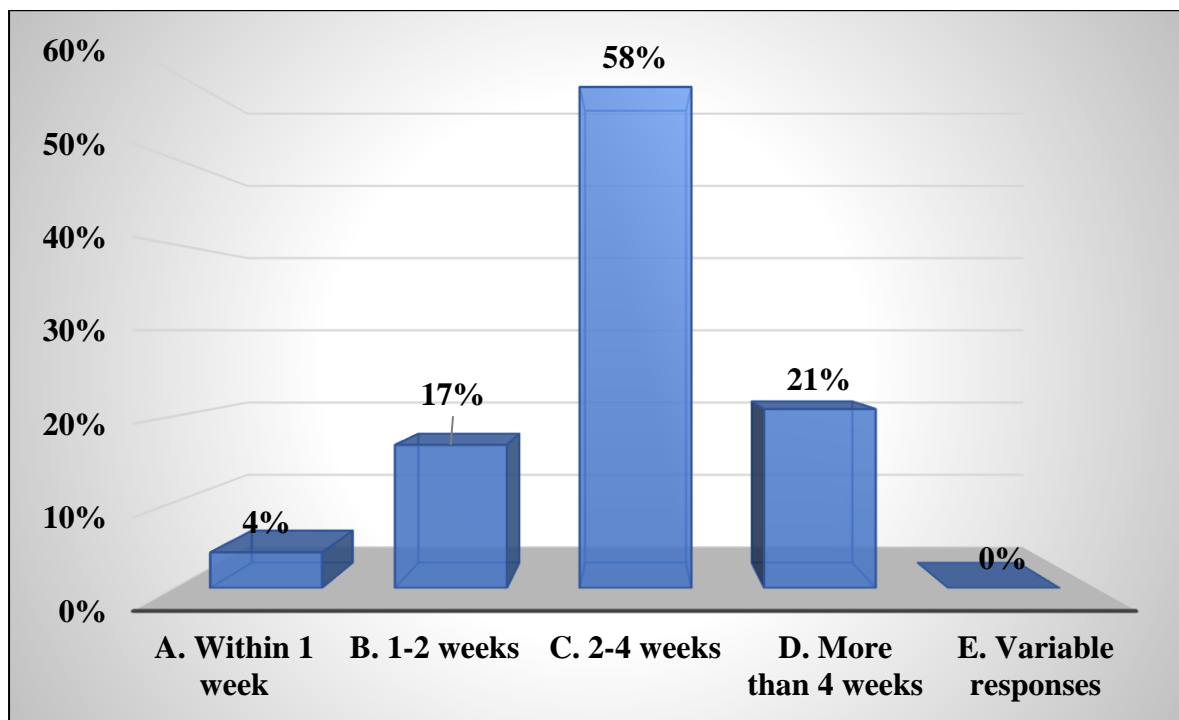
- A. Ademetonine is generally safe with rare adverse effects reported
- B. Ademetonine should be used cautiously due to frequent gastrointestinal side effects
- C. Ademetonine is contraindicated in patients with liver dysfunction
- D. Ademetonine is associated with significant cardiovascular risks



- **Ademetonine is generally safe with rare adverse effects (13%):** Few side effects reported.
- **Ademetonine should be used cautiously due to gastrointestinal side effects (8%):** Caution advised for gastrointestinal issues.
- **Ademetonine is contraindicated in liver dysfunction (46%):** Major contraindication for liver dysfunction.
- **Ademetonine is associated with significant cardiovascular risks (33%):** Concern about potential cardiovascular risks.

10. According to your experience, how soon do patients typically respond to Ademetionine (SAME) therapy in terms of mood improvement?

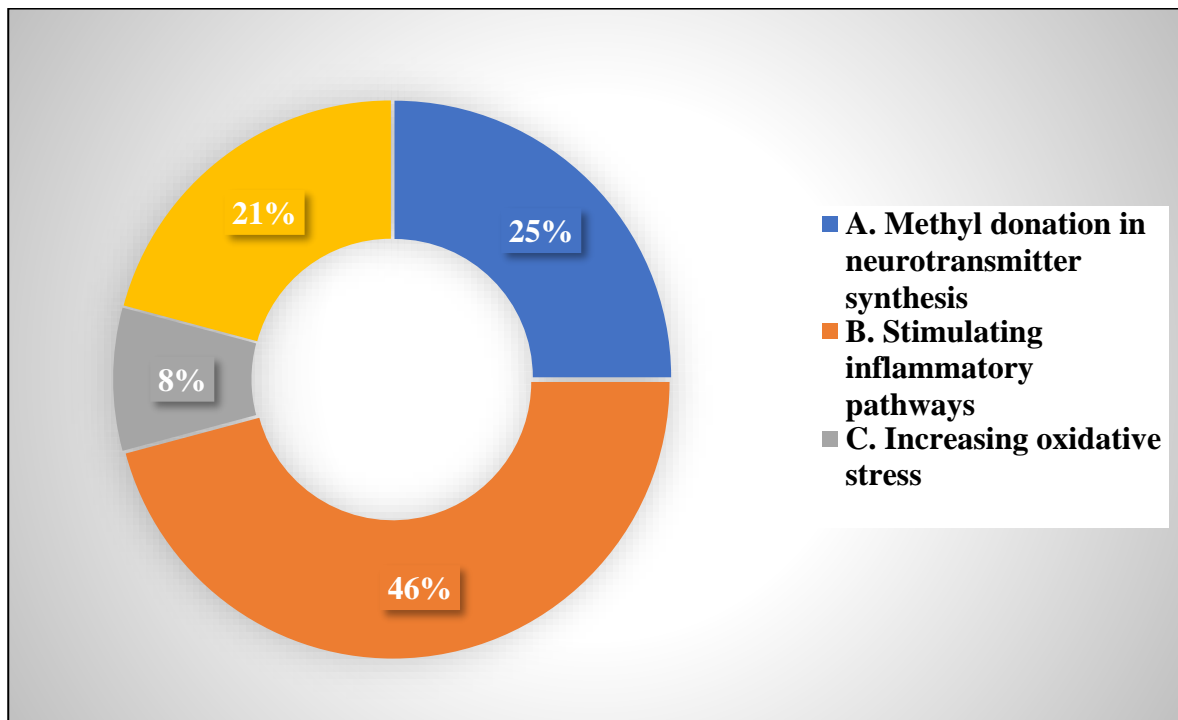
- A. Within 1 week
- B. 1-2 weeks
- C. 2-4 weeks
- D. More than 4 weeks
- E. Variable responses



- **Within 1 week (4%):** A very small percentage of clinicians report that patients typically show mood improvement within the first week of ademetionine therapy.
- **1-2 weeks (17%):** A minority of clinicians observe mood improvements within 1 to 2 weeks of treatment.
- **2-4 weeks (58%):** The majority of clinicians find that mood improvement is typically observed within 2 to 4 weeks.
- **More than 4 weeks (21%):** Some clinicians report that patients usually take more than 4 weeks to show mood improvement.

11. According to you, the neuroprotective effects of Ademetionine are attributed to:

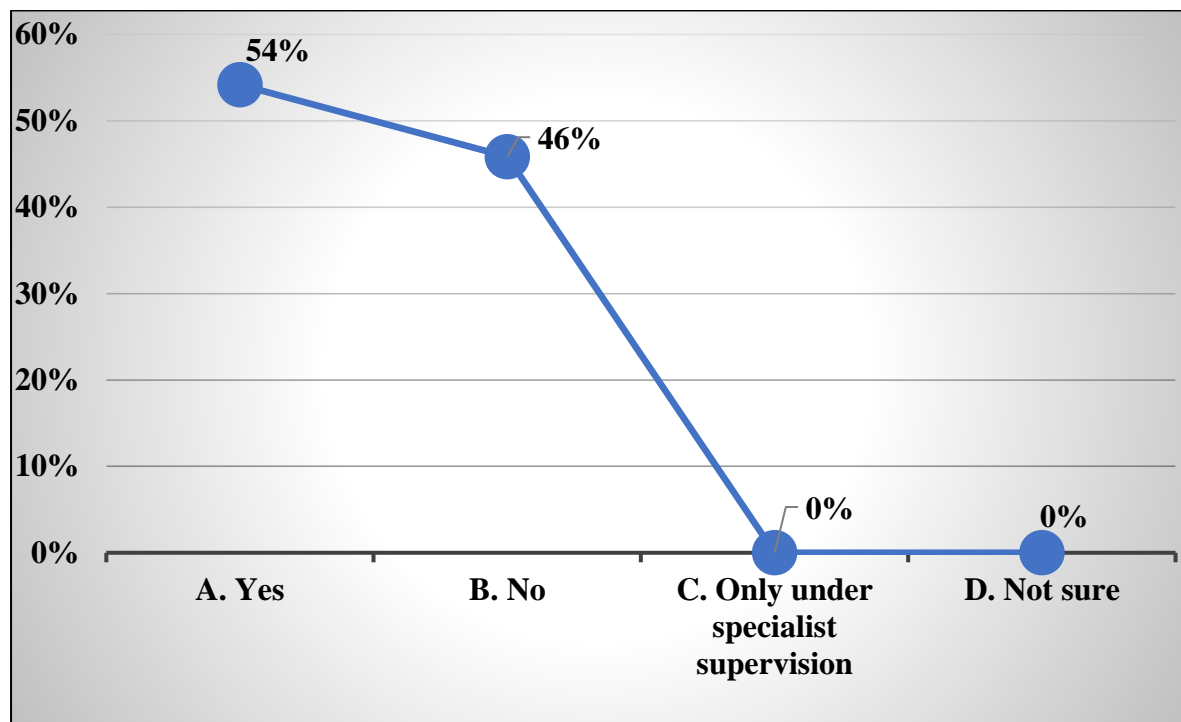
- A. Methyl donation in neurotransmitter synthesis
- B. Stimulating inflammatory pathways
- C. Increasing oxidative stress
- D. Inducing apoptosis in neurons



- **Methyl donation in neurotransmitter synthesis (25%):** A quarter of clinicians associate ademetionine's neuroprotective effects with supporting neurotransmitter synthesis.
- **Stimulating inflammatory pathways (46%):** The majority believe its neuroprotective effects are due to stimulating inflammatory pathways.
- **Increasing oxidative stress (8%):** A small group thinks ademetionine increases oxidative stress for neuroprotection.
- **Inducing apoptosis in neurons (21%):** Some clinicians think it induces neuron apoptosis as part of its neuroprotective effect.

12. Would you consider Ademetionine (SAMe) as a viable treatment option for elderly patients with treatment-resistant depression?

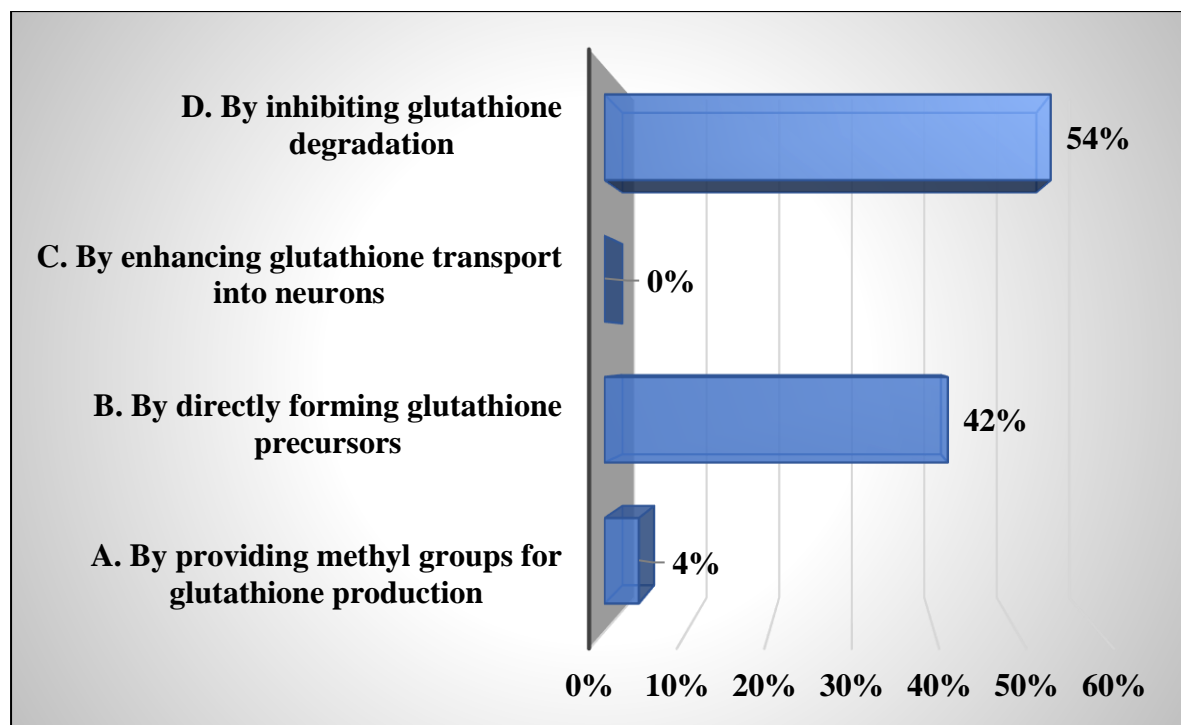
- A. Yes
- B. No
- C. Only under specialist supervision
- D. Not sure



- **Yes (54%):** More than half of clinicians consider ademetionine a viable treatment for elderly patients with treatment-resistant depression.
- **No (46%):** Nearly half do not view it as a suitable option for these patients.

13. According to you, how does ademetionine contribute to the synthesis of glutathione, particularly in brain injury?

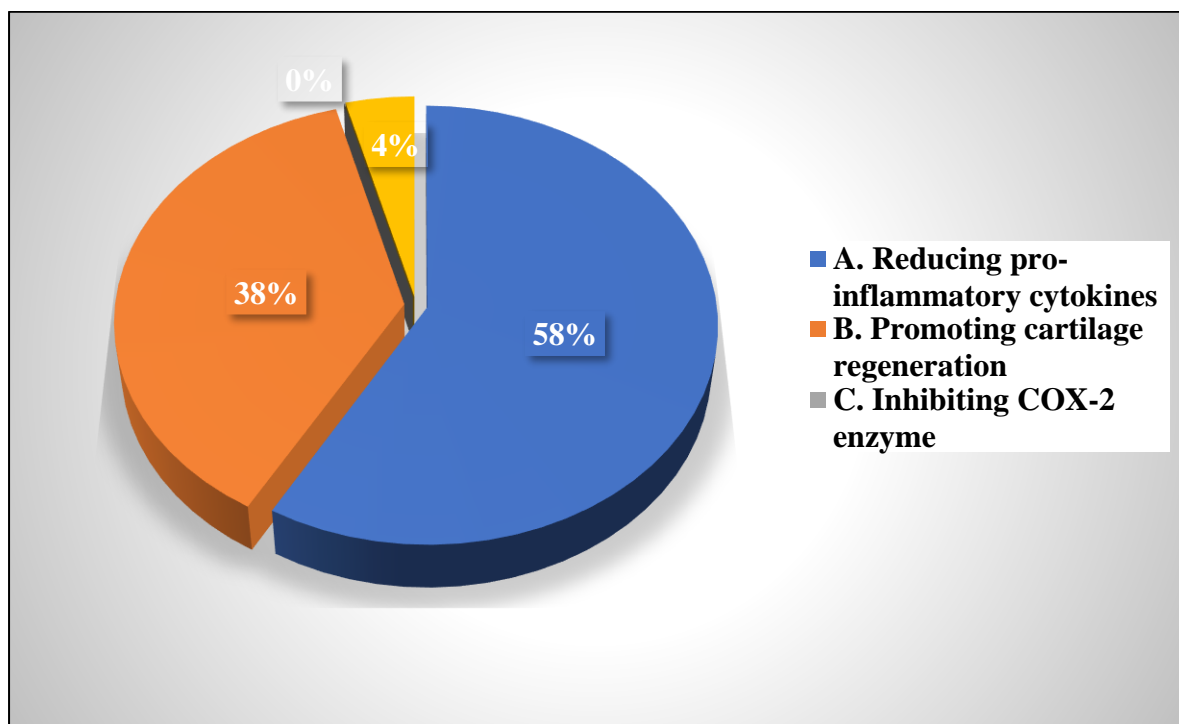
- A. By providing methyl groups for glutathione production
- B. By directly forming glutathione precursors
- C. By enhancing glutathione transport into neurons
- D. By inhibiting glutathione degradation



- **By providing methyl groups for glutathione production (4%):** A small portion of clinicians associate ademetionine with providing methyl groups for glutathione synthesis.
- **By directly forming glutathione precursors (42%):** The majority believe that ademetionine contributes by forming precursors necessary for glutathione production.
- **By inhibiting glutathione degradation (54%):** The largest group thinks ademetionine works by inhibiting the breakdown of glutathione, aiding in its preservation.

14. According to you, Ademetionine inhibit its target pathways in osteoarthritis by_____

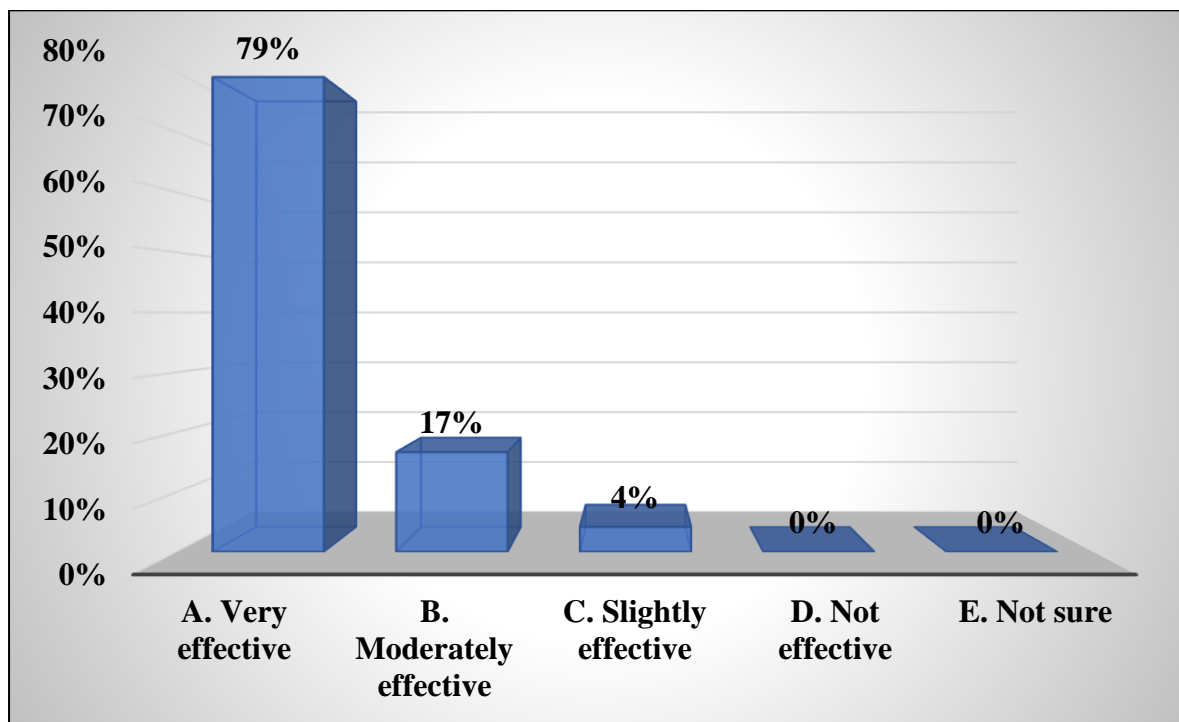
- A. Reducing pro-inflammatory cytokines
- B. Promoting cartilage regeneration
- C. Inhibiting COX-2 enzyme
- D. Modulating glutathione levels



- **Reducing pro-inflammatory cytokines (58%):** The majority of clinicians believe ademetionine works by reducing pro-inflammatory cytokines, which play a role in osteoarthritis.
- **Promoting cartilage regeneration (38%):** A smaller portion views ademetionine's role in promoting cartilage regeneration.
- **Modulating glutathione levels (4%):** A very small portion considers the modulation of glutathione levels as a key mechanism in osteoarthritis.

15. How would you rate the effectiveness of ademetionine in managing depression symptoms?

- A. Very effective
- B. Moderately effective
- C. Slightly effective
- D. Not effective
- E. Not sure



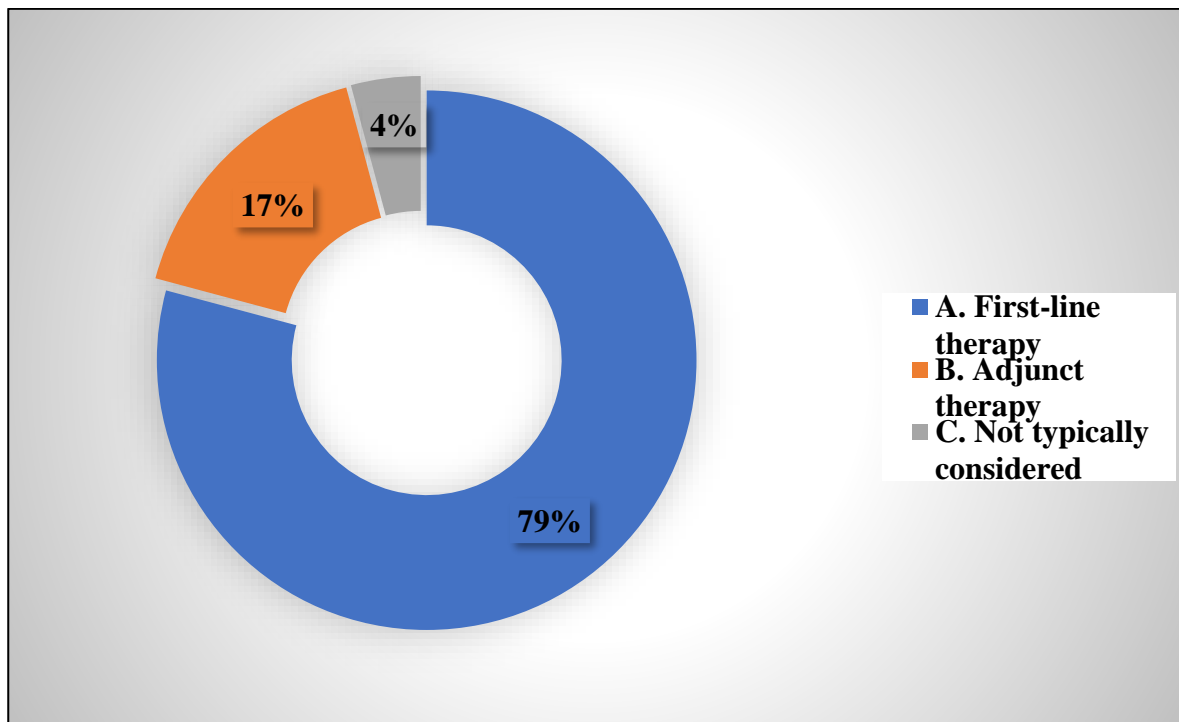
- **Very effective (79%):** A large majority of clinicians rate ademetionine as very effective in managing depression symptoms.
- **Moderately effective (17%):** Some clinicians view it as moderately effective for treating depression.
- **Slightly effective (4%):** A small number of clinicians find ademetionine only slightly effective in managing depression symptoms.

16. Do you consider ademetonine as a first-line or adjunct therapy for depression?

A. First-line therapy

B. Adjunct therapy

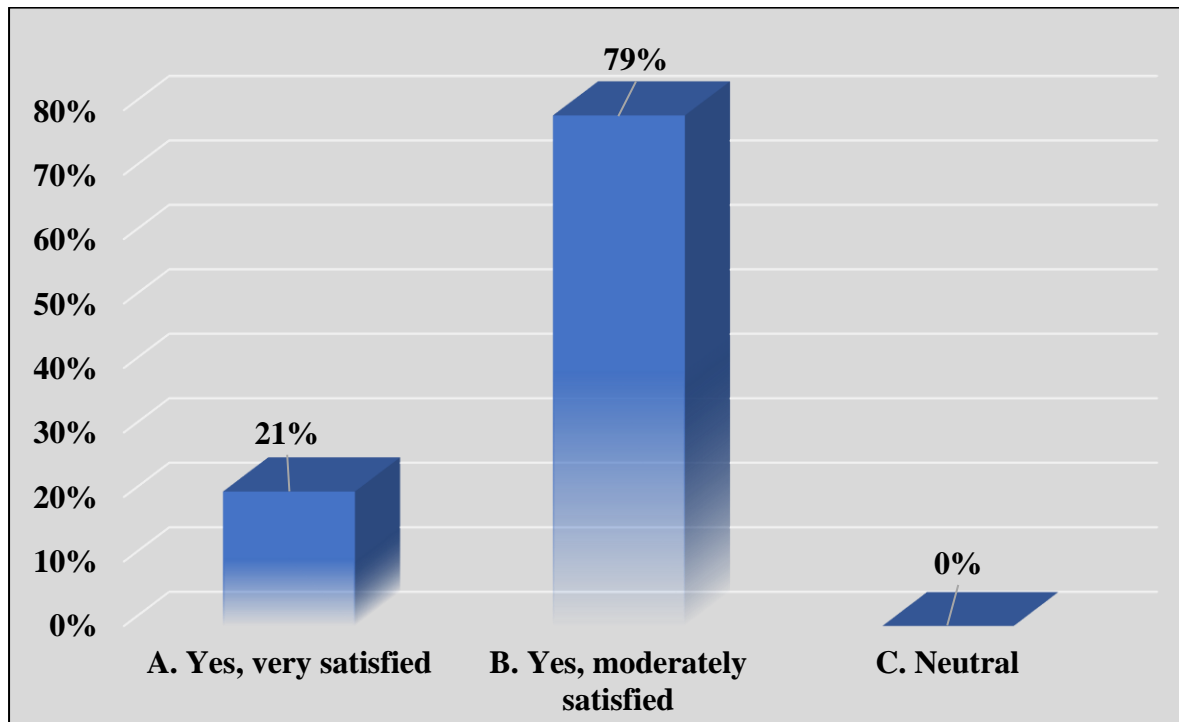
C. Not typically considered



- **First-line therapy (79%):** The majority of clinicians consider ademetonine as a first-line treatment option for depression.
- **Adjunct therapy (17%):** Some clinicians use ademetonine as an adjunct therapy for depression.
- **Not typically considered (4%):** A small portion of clinicians do not consider ademetonine for depression treatment.

17. Have your patients reported satisfaction with ademetonine for their depression?

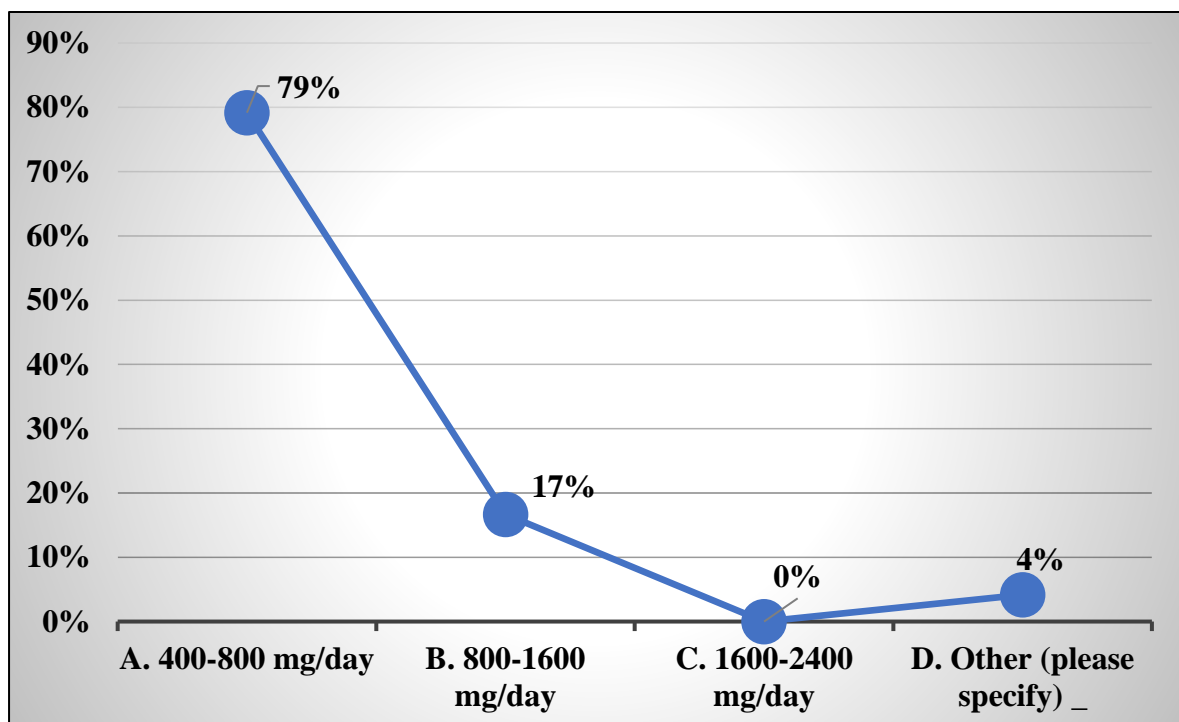
- A. Yes, very satisfied
- B. Yes, moderately satisfied
- C. Neutral



- **Yes, very satisfied (21%):** A smaller proportion of patients report being very satisfied with ademetonine for their depression.
- **Yes, moderately satisfied (79%):** The majority of patients report moderate satisfaction with ademetonine for managing their depression.
- **Neutral (0%):** No patients have expressed a neutral stance regarding ademetonine's effectiveness for depression.

18. According to you, what is your preferred dose range of ademetionine for treatment of depression?

- A. 400-800 mg/day
- B. 800-1600 mg/day
- C. 1600-2400 mg/day
- D. Other (please specify) _

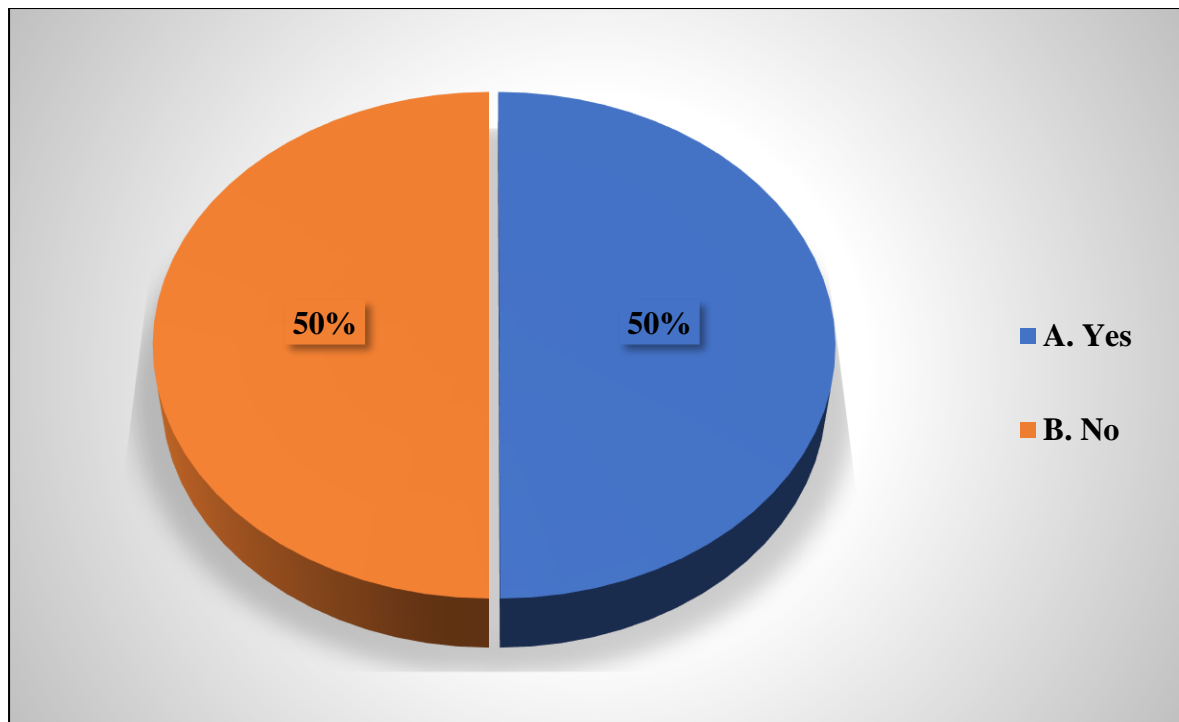


- **400-800 mg/day (79%):** A majority of clinicians prefer prescribing ademetionine within the 400-800 mg/day range for the treatment of depression.
- **800-1600 mg/day (17%):** A smaller portion of clinicians opt for a higher dose range of 800-1600 mg/day.
- **Other (4%):** A few clinicians may use doses outside the listed ranges for specific cases.

19. Do you use ademetonine in combination with other medications or therapies?

A. Yes

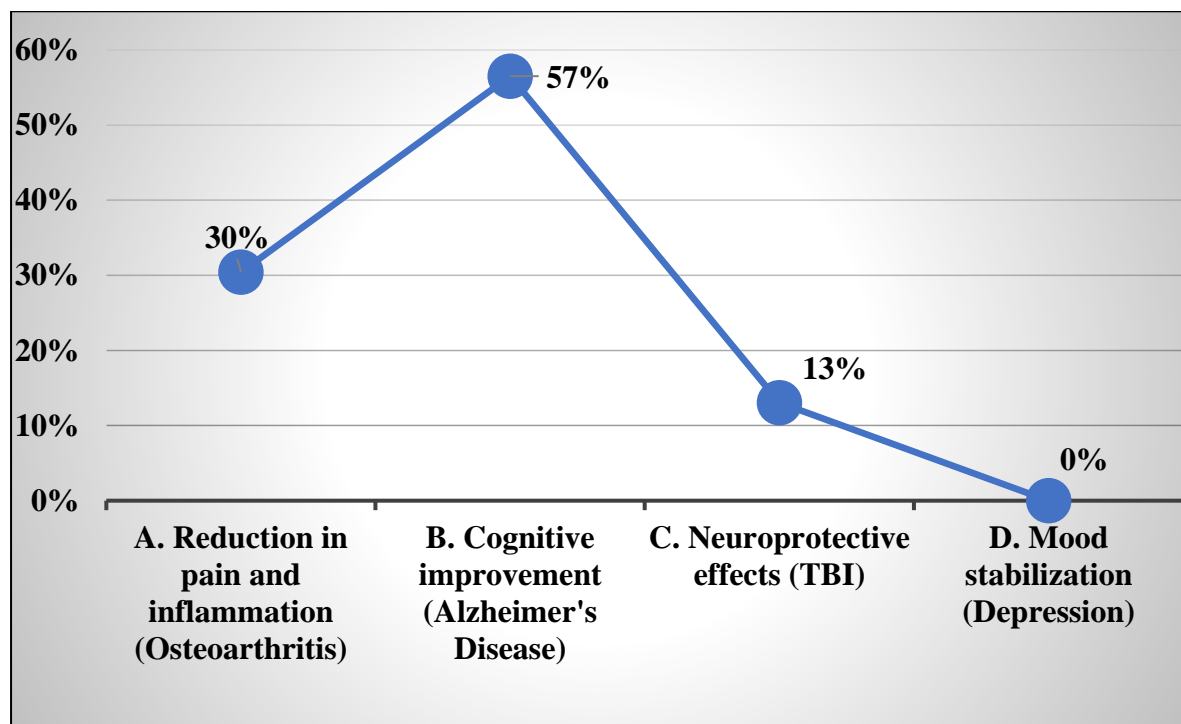
B. No



- **Yes (50%):** Half of the clinicians use ademetonine in combination with other medications or therapies for enhanced efficacy.
- **No (50%):** The other half prefer using ademetonine as a standalone therapy.

20. According to your clinical practice, what improvements have you observed in patients treated with ademetionine?

- A. Reduction in pain and inflammation (Osteoarthritis)
- B. Cognitive improvement (Alzheimer's Disease)
- C. Neuroprotective effects (TBI)
- D. Mood stabilization (Depression)



- **Reduction in pain and inflammation (Osteoarthritis) (30%):** A portion of clinicians observe improvements in osteoarthritis-related pain and inflammation with ademetionine use.
- **Cognitive improvement (Alzheimer's Disease) (57%):** The majority of clinicians report cognitive improvements in Alzheimer's patients treated with ademetionine.
- **Neuroprotective effects (TBI) (13%):** Some clinicians note neuroprotective benefits for patients with traumatic brain injury (TBI).

SUMMARY

This study provides insights into clinical practices and experiences with ademetonine across various conditions, particularly depression, osteoarthritis, Alzheimer's, and TBI. Key findings highlight the frequency of prescribing, awareness of its broader therapeutic potential, and its perceived efficacy and safety profile.

- **Frequently Prescribed (83%):** The majority of clinicians regularly prescribe ademetonine for depression, reflecting its established role.
- **Familiarity with Osteoarthritis Use (67%):** A significant portion of clinicians is aware of ademetonine's potential in managing osteoarthritis.
- **Importance in Joint Health (58%):** Many clinicians consider ademetonine highly important for mitigating joint inflammation in osteoarthritis.
- **Neuroprotective Role (39%):** Many clinicians recognize ademetonine's significance in supporting cognitive function in Alzheimer's.
- **Impact on TBI (58%):** The majority are aware of ademetonine's potential impact on traumatic brain injury patients.
- **Role in Depression (29%):** A smaller group believes ademetonine plays a significant role in alleviating depressive symptoms.
- **Drug Interactions (54%):** A majority report encountering drug interactions when combining ademetonine with other antidepressants.
- **Positive Perception (79%):** Most clinicians hold a positive view of ademetonine as a therapeutic agent across conditions.

- **Safety Profile:** Ademetionine is considered generally safe with rare side effects (13%), though some clinicians are cautious due to gastrointestinal issues (8%) and liver concerns (46%).
- **Mood Improvement Timeline (58%):** Most clinicians observe mood improvement within 2-4 weeks of therapy.
- **Mechanism of Action:** A significant portion associates ademetionine's neuroprotective effects with the formation of glutathione precursors (42%) and inhibiting its degradation (54%).
- **Dosage Preferences (79%):** The preferred dose range for depression is 400-800 mg/day.
- **Combination Therapy (50%):** Half of clinicians use ademetionine in combination with other treatments.
- **Patient Outcomes:** Positive outcomes, including cognitive improvements in Alzheimer's (57%) and reduction in osteoarthritis symptoms (30%).

DISCUSSION

Based on the survey data, Ademetionine is widely regarded as an effective and safe treatment option across various therapeutic areas. Clinicians recognize its value in managing depression, osteoarthritis, Alzheimer's, and TBI, especially in patients unresponsive to conventional therapies. While side effects are generally manageable, continued education and monitoring are necessary to optimize treatment.

CLINICAL RECOMMENDATIONS

- **Treatment Integration:** Consider ademetionine for patients with depression, osteoarthritis, and Alzheimer's, especially when other therapies are insufficient.
- **Dosage and Monitoring:** Follow the 400-800 mg/day dosage range for depression and monitor for gastrointestinal or liver issues.
- **Combination Therapy:** Explore combining ademetionine with other medications to enhance efficacy in treating depression or other conditions.
- **Patient Education:** Ensure patients are informed about potential side effects and the benefits of ademetionine for their conditions.

CONSULTANT OPINION

Experts view ademetionine favorably for managing multiple conditions, particularly where other treatments have limited efficacy or fail. It is especially valued in treatment-resistant cases, such as depression, osteoarthritis, Alzheimer's disease, and traumatic brain injury. Ademetionine's neuroprotective properties and its role in reducing inflammation make it a significant option when traditional therapies fall short. Experts emphasize the need for continued research to better understand its mechanisms of action, particularly its role in glutathione production and neuroprotection. Ongoing studies are encouraged to explore new therapeutic indications, potentially expanding its clinical applications and improving patient outcomes.

MARKET OPPORTUNITIES

- **Unmet Needs:** Ademetionine offers a promising alternative for patients not responding to traditional therapies, especially in depression and osteoarthritis.
- **High Prescription Rates:** The widespread use of ademetionine reflects strong market adoption and clinician confidence.
- **Patient Satisfaction:** High patient satisfaction with ademetionine indicates its strong potential for market growth.
- **Rapid Action:** Ademetionine's relatively quick onset of action enhances its appeal for treating acute symptoms.

MARKET POSITIONING

- **Targeted Marketing:** Emphasize the drug's unique benefits, such as its non-vasoconstrictor properties, in communications aimed at healthcare professionals.
- **Educational Programs:** Continue to educate clinicians on ademetionine's role across different therapeutic areas through CME courses and peer-reviewed publications.
- **Patient-Centric Strategies:** Highlight ademetionine's effectiveness and minimal side effects in marketing aimed at patients.
- **Strategic Pricing:** Ensure affordability and accessibility through partnerships with insurance providers.
- **Future Development:** Promote ongoing research to explore new formulations and efficacy improvements.

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Developed by:



Weston Medical Education Foundation of India

CTS-77, Shop No.11, Swapna Siddhi CHS LTD, Akurli Road Near Malad Sahakari Bank
Kandivali (E), Mumbai - 400101. M: 9322615653 | W: www.wmefi.co.in