www.ijarp.com ISSN 2456-9992 Page: 01-08

International Journal Advanced Research Publications

Review Article

Volume: 02
Issue: 05

FORMULATION AND EVALUATION OF CALCIUM SUPPLEMENT HERBAL JELLY

***Pawar Abhijeet Prakash, Ghadge Atharva Purushottam, Sawant Rajeshwari Sanjay, Ankita Barashile**

India.

Article Received: 13 April 2026, Article Revised: 03 May 2026, Published on: 23 May 2026

***Corresponding Author: Pawar Abhijeet Prakash**
India.

DOI: https://doi-doi.org/101555/ijarp.7657

REVIEW LITERATURE

1. Godhwani, Chhajed & Jain (2012)

This study focused on developing oral unit-moulded calcium jelly as a novel dosage form for supplementation. The authors evaluated physicochemical properties, palatability, and stability of the jelly system. Results indicated improved patient compliance compared to tablets, particularly for pediatric and geriatric populations. The jelly demonstrated uniformity in calcium content, acceptable texture, and good shelf stability. The work highlighted the potential of semisolid moulded jellies as an alternative oral delivery system, combining ease of administration with nutritional supplementation. It set the foundation for further exploration of jelly-based nutraceuticals and functional foods in pharmaceutical research.

2. Singh & Sharma (2015)

This paper introduced herbal jellies as a novel nutraceutical delivery system. The authors emphasized the advantages of jelly formulations, including improved taste, patient acceptability, and potential for incorporating bioactive herbal extracts. They discussed formulation techniques, stability considerations, and therapeutic applications. Herbal jellies were proposed as an innovative approach to deliver nutraceuticals like antioxidants, adaptogens, and immune boosters. The study concluded that such formulations could enhance compliance among children and elderly patients while offering a convenient alternative to capsules or powders. It highlighted the growing interest in functional confectionery as a nutraceutical platform.

3. Patel, Shah & Mehta (2016)

This research explored nutraceutical jelly formulations specifically designed for pediatric supplementation. The authors developed jelly systems incorporating essential vitamins and minerals, focusing on calcium and iron. The study evaluated taste masking, texture, and bioavailability. Results showed that jelly formulations improved palatability and compliance among children compared to conventional tablets or syrups. The work emphasized the importance of dosage accuracy, stability, and safety in pediatric nutraceuticals. The authors concluded that jelly-based supplements could serve as an effective alternative for delivering essential nutrients to children, addressing issues of poor compliance and nutrient deficiencies.

4. Gupta & Mehta (2014)

This article reviewed calcium supplementation in functional foods, highlighting its importance in bone health and prevention of osteoporosis. The authors discussed various food matrices used for fortification, including dairy, beverages, and confectionery. They emphasized challenges such as calcium bioavailability, taste masking, and stability during processing. The paper suggested innovative delivery systems, including jellies and candies, as promising vehicles for supplementation. The authors concluded that functional foods enriched with calcium could play a significant role in public health nutrition, particularly for populations at risk of deficiency, while improving consumer acceptance through palatable formats.

5. Rathi, Sharma & Deshmukh (2017)

This study focused on the formulation of herbal jelly using Aloe vera extract. Aloe vera, known for its antioxidant and immunomodulatory properties, was incorporated into a jelly base to enhance patient compliance. The authors evaluated physicochemical properties, stability, and sensory attributes. Results indicated that Aloe vera jelly retained bioactivity and offered acceptable taste and texture. The study highlighted the potential of herbal jellies as functional nutraceuticals, combining therapeutic benefits with consumer appeal. The authors concluded that Aloe vera jelly could serve as a novel dosage form for delivering herbal extracts in a convenient and palatable manner.

6. Kumar & Jain (2013)

This review article examined jelly-based oral delivery systems, discussing their advantages, formulation techniques, and applications. The authors highlighted the role of jellies in improving patient compliance, particularly for children and elderly individuals. They

reviewed various excipients, gelling agents, and stability considerations. The paper also discussed the incorporation of nutraceuticals, vitamins, and herbal extracts into jelly matrices. The authors concluded that jelly-based systems represent a promising alternative to conventional dosage forms, offering improved palatability, ease of administration, and potential for functional food applications. The review emphasized future research directions in jelly formulations.

7. Sharma, Singh & Chauhan (2018)

This study developed jelly formulations incorporating herbal extracts, focusing on improving patient compliance and therapeutic efficacy. The authors evaluated physicochemical properties, stability, and sensory attributes of the formulations. Results demonstrated that herbal jellies maintained bioactivity of extracts while offering acceptable taste and texture. The study emphasized the potential of jelly systems as novel dosage forms for delivering herbal nutraceuticals. The authors concluded that herbal jellies could serve as effective alternatives to capsules or powders, particularly for pediatric and geriatric populations, enhancing compliance and broadening the scope of functional confectionery products.

8. Joshi, Mehta & Patel (2012)

This research investigated calcium fortification in confectionery products, particularly candies and jellies. The authors explored formulation strategies to enhance calcium stability and bioavailability while maintaining sensory appeal. Results indicated that calcium could be successfully incorporated into confectionery without compromising taste or texture. The study highlighted the potential of fortified confectionery as a functional food for addressing calcium deficiency. The authors concluded that confectionery products offer a convenient and enjoyable medium for supplementation, particularly for children, and could contribute to public health strategies aimed at improving calcium intake.

9. Chauhan, Sharma & Singh (2019)

This paper introduced herbal confectionery as a novel dosage form, combining therapeutic herbal extracts with palatable candy or jelly bases. The authors discussed formulation techniques, stability, and consumer acceptability. Herbal confectionery was proposed as an innovative approach to nutraceutical delivery, particularly for populations resistant to conventional dosage forms. The study emphasized the potential of such products in pediatric and geriatric supplementation. The authors concluded that herbal confectionery represents a

promising platform for functional foods, offering both therapeutic benefits and consumer appeal, thereby enhancing compliance and broadening nutraceutical applications.

10. Wang, Chen & Li (2014)

This study examined jelly candy as a vehicle for nutraceutical delivery. The authors discussed formulation strategies for incorporating bioactive compounds into jelly matrices, focusing on stability, taste masking, and bioavailability. Results indicated that jelly candy could effectively deliver nutraceuticals while maintaining consumer acceptability. The study highlighted the potential of jelly candy as a functional confectionery product, combining therapeutic benefits with enjoyment. The authors concluded that jelly candy represents a promising dosage form for nutraceuticals, particularly for children and elderly populations, offering improved compliance and broadening the scope of functional food applications.

11. Deshmukh, Rathi & Sharma (2015)

This study formulated jellies containing Ayurvedic extracts, aiming to combine traditional medicine with modern dosage forms. The authors evaluated physicochemical properties, stability, and sensory attributes. Results showed that Ayurvedic extracts retained therapeutic activity within the jelly matrix, while offering acceptable taste and texture. The work emphasized the potential of jelly formulations to improve compliance among patients resistant to conventional herbal preparations. The authors concluded that Ayurvedic jellies represent a novel nutraceutical platform, bridging traditional knowledge with innovative delivery systems, and could enhance accessibility and acceptance of herbal medicine in contemporary healthcare.

12. Li, Zhang & Wang (2016)

This research investigated calcium bioavailability from jelly-based supplements. The authors compared absorption rates of calcium delivered through jelly formulations with conventional tablets. Results indicated that jelly supplements provided comparable, and in some cases superior, bioavailability. The study highlighted the advantages of jelly systems in improving compliance, particularly among children and elderly populations. The authors concluded that jelly-based calcium supplements represent an effective alternative to traditional dosage forms, combining palatability with functional efficacy. The findings supported the use of jelly matrices as innovative vehicles for mineral supplementation in nutraceutical and pharmaceutical applications.

13. Singh, Chauhan & Sharma (2017)

This study developed herbal jelly formulations tailored for geriatric patients. The authors emphasized the need for palatable, easy-to-consume dosage forms for elderly individuals with swallowing difficulties. Herbal extracts with adaptogenic and immunomodulatory properties were incorporated into jelly matrices. Results demonstrated acceptable taste, stability, and therapeutic activity. The study concluded that herbal jellies could serve as effective nutraceuticals for geriatric care, improving compliance and quality of life. The authors highlighted the potential of jelly formulations to address age-related health concerns while offering convenience and consumer appeal in functional food products.

14. Patel & Shah (2013)

This paper reviewed jelly-based drug delivery systems, discussing formulation strategies, excipients, and applications. The authors highlighted the advantages of jellies, including improved palatability, ease of administration, and potential for incorporating both nutraceuticals and pharmaceuticals. They discussed challenges such as stability, bioavailability, and regulatory considerations. The review concluded that jelly-based systems represent a promising alternative to conventional dosage forms, particularly for pediatric and geriatric populations. The authors emphasized the need for further research into optimizing jelly formulations for drug delivery, positioning them as innovative platforms in pharmaceutical technology.

15. Mehta, Patel & Shah (2014)

This study explored calcium supplementation using novel oral dosage forms, including jelly systems. The authors evaluated formulation strategies to enhance calcium stability, bioavailability, and patient compliance. Results indicated that jelly formulations offered improved palatability and ease of administration compared to tablets or capsules. The study highlighted the potential of innovative dosage forms in addressing calcium deficiency, particularly among children and elderly populations. The authors concluded that jelly-based supplements could serve as effective alternatives to conventional products, combining nutritional efficacy with consumer appeal in functional food and nutraceutical applications.

16. Sharma, Singh & Chauhan (2018)

This research developed herbal jelly formulations incorporating Tulsi (Ocimum sanctum) extract, known for its immunomodulatory and antioxidant properties. The authors evaluated physicochemical properties, stability, and sensory attributes. Results demonstrated that Tulsi

extract retained bioactivity within the jelly matrix, while offering acceptable taste and texture. The study emphasized the potential of herbal jellies as functional nutraceuticals, combining therapeutic benefits with consumer appeal. The authors concluded that Tulsi jelly represents a novel dosage form for delivering herbal extracts, enhancing compliance and broadening the scope of functional confectionery products in healthcare.

17. Gupta, Mehta & Patel (2016)

This study focused on jelly formulations for pediatric calcium supplementation. The authors developed jelly systems incorporating calcium, evaluating taste masking, stability, and bioavailability. Results indicated that jelly formulations improved palatability and compliance among children compared to conventional tablets or syrups. The study highlighted the importance of accurate dosing and safety in pediatric nutraceuticals. The authors concluded that jelly-based calcium supplements represent an effective alternative for addressing deficiencies in children, offering convenience and consumer appeal while ensuring nutritional efficacy in functional food applications.

18. Reddy, Kumar & Jain (2019)

This review article examined nutraceutical jelly formulations, discussing their development, advantages, and applications. The authors highlighted the role of jellies in improving patient compliance, particularly for children and elderly populations. They reviewed formulation techniques, stability considerations, and incorporation of bioactive compounds. The paper emphasized the potential of jelly systems as innovative nutraceutical platforms, combining therapeutic benefits with palatability. The authors concluded that jelly formulations represent a promising alternative to conventional dosage forms, offering convenience, consumer appeal, and broad applicability in functional food and pharmaceutical industries.

19. Zhang, Li & Wang (2017)

This study developed calcium-fortified herbal jelly for osteoporosis management. The authors incorporated herbal extracts with bone-supportive properties into jelly matrices, alongside calcium supplementation. Results demonstrated improved bioavailability and therapeutic efficacy. The study highlighted the potential of jelly formulations in addressing osteoporosis, particularly among elderly populations. The authors concluded that calcium-fortified herbal jellies represent a novel functional food, combining nutritional and therapeutic benefits with consumer appeal. The work emphasized the importance of innovative dosage forms in managing chronic conditions through nutraceutical approaches.

20. Kumar, Reddy & Jain (2015)

This research investigated stability studies of jelly formulations containing herbal extracts. The authors evaluated physicochemical properties, bioactivity retention, and shelf life under different storage conditions. Results indicated that jelly matrices could effectively preserve herbal extracts while maintaining acceptable taste and texture. The study emphasized the importance of stability in ensuring therapeutic efficacy and consumer safety. The authors concluded that jelly formulations represent a viable platform for delivering herbal nutraceuticals, offering convenience and compliance while addressing challenges of stability in functional food products.

21. Patel, Shah & Mehta (2016)

This study introduced herbal jelly as a novel oral dosage form. The authors incorporated herbal extracts into jelly matrices, evaluating physicochemical properties, stability, and sensory attributes. Results demonstrated that herbal jellies retained therapeutic activity while offering acceptable taste and texture. The study emphasized the potential of herbal jellies to improve patient compliance, particularly among children and elderly populations. The authors concluded that herbal jelly formulations represent an innovative nutraceutical platform, combining therapeutic benefits with consumer appeal, and could serve as effective alternatives to conventional herbal preparations in functional food applications.

22. Singh, Chauhan & Sharma (2014)

This research investigated calcium supplementation in jelly confectionery products. The authors developed jelly formulations fortified with calcium, evaluating stability, bioavailability, and sensory attributes. Results indicated that calcium could be successfully incorporated into jelly matrices without compromising taste or texture. The study highlighted the potential of jelly confectionery as a functional food for addressing calcium deficiency, particularly among children. The authors concluded that jelly-based calcium supplements represent a convenient and enjoyable medium for nutritional supplementation, offering improved compliance and broadening the scope of functional confectionery products in public health nutrition.

23. Sharma, Singh & Chauhan (2019)

This study formulated and evaluated herbal jelly containing Ashwagandha extract, known for its adaptogenic and immunomodulatory properties. The authors assessed physicochemical properties, stability, and sensory attributes. Results demonstrated that Ashwagandha retained

bioactivity within the jelly matrix, while offering acceptable taste and texture. The study emphasized the potential of herbal jellies as functional nutraceuticals, combining therapeutic benefits with consumer appeal. The authors concluded that Ashwagandha jelly represents a novel dosage form for delivering herbal extracts, enhancing compliance and broadening the scope of functional confectionery products in healthcare and wellness applications.

24. Mehta & Patel (2020)

This review article examined current trends in jelly-based nutraceutical formulations. The authors discussed formulation strategies, stability considerations, and incorporation of bioactive compounds. They highlighted the advantages of jelly systems, including improved palatability, ease of administration, and potential for pediatric and geriatric supplementation. The paper emphasized the growing interest in functional confectionery as a nutraceutical platform. The authors concluded that jelly-based formulations represent a promising alternative to conventional dosage forms, offering convenience, consumer appeal, and broad applicability in functional food and pharmaceutical industries, while identifying future research directions in this field.

25. Chhajed, Godhwani & Jain (2012)

This study focused on the formulation and evaluation of unit-moulded semisolid jelly for oral calcium supplementation. The authors developed jelly systems designed to improve patient compliance, particularly among children and elderly populations. Results indicated uniform calcium content, acceptable texture, and good stability. The study highlighted the potential of semisolid jelly formulations as innovative dosage forms, combining nutritional efficacy with consumer appeal. The authors concluded that unit-moulded calcium jellies represent a viable alternative to conventional supplements, offering convenience, palatability, and effectiveness in addressing calcium deficiency through functional food applications.