



Formulation and Evaluation of Belly Button Oil:- A Scientific Exploration of Traditional Navel Therapy.

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ABSTRACT

Belly button oiling, or navel therapy, is a traditional method for delivering therapeutic compounds transdermally via the umbilicus. Despite centuries of use in alternative medicine, scientific literature on the formulation and evaluation of belly button oils remains limited. This research focuses on the formulation, excipient selection, evaluation, and stability testing of three herbal belly button oil blends. A combination of carrier and essential oils was evaluated for physicochemical characteristics, microbial stability, and user acceptability. The study demonstrates the potential of navel therapy as a safe and effective complementary treatment for common health conditions such as anxiety, skin disorders, and digestive disturbances.

KEYWORDS: Belly button oil, umbilical therapy, navel oil, essential oils, herbal formulation, transdermal delivery.

INTRODUCTION:-

The umbilicus, commonly referred to as the belly button, is not only a remnant of fetal development but also a potential site for therapeutic intervention. In traditional systems of medicine such as Ayurveda and Unani, the belly button is considered a vital energy and circulatory point, often used as a route for delivering herbal oils in a practice known as navel therapy or Pechoti method. This method involves applying medicinal oils to the navel area, allowing absorption through the dense network of blood vessels and capillaries connected to internal organs.



Fig 1:- Belly Button Oil

Belly button oiling is believed to restore balance in the body by targeting multiple physiological systems including the nervous, digestive, and integumentary systems. Therapeutically, it has been used to treat ailments such as indigestion, anxiety, dry skin, insomnia, joint pain, and menstrual discomfort. The rationale behind this therapy lies in its non-invasive nature, ease of administration, and holistic action. Despite its widespread use in folk and alternative medicine, there is limited scientific literature supporting the formulation and evaluation of belly button oils. With the increasing global interest in plant-based and integrative healthcare, it becomes essential to validate such traditional practices through modern pharmaceutical standards.

This study aims to explore the formulation of stable and effective belly button oil blends using carrier and essential oils. It also focuses on evaluating their physicochemical properties, microbial safety, stability, and user acceptability. The work bridges traditional knowledge with scientific methodology to support the credibility and utility of this ancient therapy in contemporary wellness practices.

OBJECTIVE:-

- To develop and optimize herbal belly button oil formulations using carrier and essential oils.
- To evaluate the physicochemical parameters including pH, viscosity, and organoleptic properties.
- To ensure microbial safety and product stability under various storage conditions.
- To assess user acceptability and perceived therapeutic benefits.
- To validate traditional navel therapy through modern pharmaceutical approaches.



Fig 2 :- Benefits of Belly Button Oil

TRADITIONAL NAVEL THERAPY USING BELLY BUTTON OIL

- **Overview of Navel Therapy (Pechoti Method):-**

Traditional navel therapy, often referred to in Ayurvedic and Unani medicine as the Pechoti method, involves the application of herbal or essential oils directly into the umbilicus. According to ancient practices, the navel is not just a scar left from the umbilical cord but a powerful energy center connected to over 70,000 veins and nerves in the body. This belief holds that medicinal substances applied to the navel can reach various parts of the body through subtle channels (known as nadis in Ayurveda).

The Pechoti gland, although not anatomically recognized in modern science, is claimed to remain active after birth in traditional lore. It is thought to absorb oils and nutrients applied to the navel and distribute them throughout the body, influencing digestion, skin health, hormonal balance, and emotional well-being.

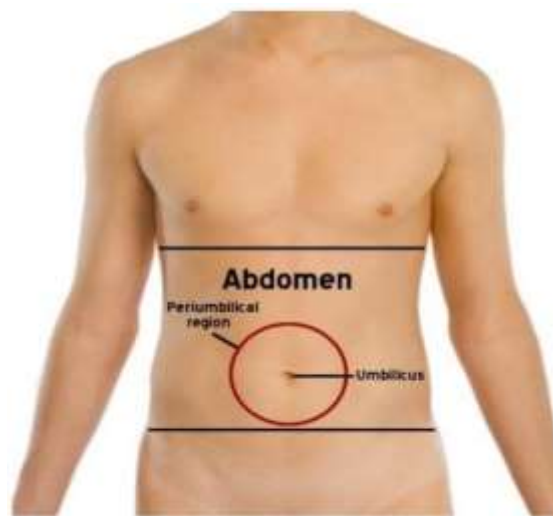


Fig 3 :- Abdominal cavity

- **Historical and Cultural Significance**

In India, Africa, and parts of the Middle East, navel therapy has been a home remedy passed down through generations. It has been used in:

Ayurveda: To balance doshas (Vata, Pitta, and Kapha), with different oils used depending on the condition and constitution.

Unani: As a route to administer cooling or warming oils for systemic disorders.

Folk Medicine: Mothers often use navel oiling in infants to treat colic, dryness, or constipation.

Benefits Of Navel Oil Therapy

Though many benefits are anecdotal, users and practitioners claim the following effects:

- Moisturizing dry skin and lips
- Improving digestion and relieving bloating
- Reducing menstrual cramps
- Promoting better sleep and relaxation
- Improving fertility and reproductive health
- Balancing body temperature and immunity

• Scientific Perspective and Current Status

While traditional systems advocate the efficacy of navel therapy, scientific validation is still in its early stages. Limited studies have explored the absorption of oils through the umbilical region, but modern dermatological science does support transdermal delivery via skin absorption in areas with thin skin and rich vascularity.

This gap between traditional knowledge and scientific research provides an opportunity to further study the pharmacokinetics and pharmacodynamics of belly button oils using modern methods. With growing interest in alternative medicine and integrative health, navel therapy is gaining renewed attention.

MECHANISM OF ACTION OF TRADITIONAL NAVEL THERAPY USING BELLY BUTTON OIL:-

1. Anatomical and Traditional Basis

In Ayurvedic and Unani systems of medicine, the navel (umbilicus) is regarded as a central point of energy and connectivity, often linked to various internal organs via invisible energy channels called “nadis”. It is believed that the navel has access to over 70,000 nerve endings and blood vessels, making it a suitable site for therapeutic oil application. While modern anatomy does not support the concept of a functioning Pechoti gland, traditional medicine claims this gland remains active after birth and is capable of absorbing oils and transmitting their effects through the body’s network of channels and systems.

2. Transdermal Absorption Through the Umbilicus

The belly button is a region of thin, sensitive skin with a rich capillary network beneath. Oils applied to the navel can be absorbed via:

a. Passive Diffusion

Lipid-based oils penetrate the stratum corneum (outermost skin layer) more effectively due to their lipophilic nature. Essential oils with low molecular weight (e.g., linalool in lavender, menthol in peppermint) can diffuse across the skin and enter systemic circulation.

b. Follicular Absorption

Hair follicles and sebaceous glands surrounding the umbilical area allow deeper penetration of oil constituents into the dermis and bloodstream.

3. Pharmacological Effects via Active Compounds

Once absorbed, the bioactive compounds in the oils interact with target tissues to produce therapeutic effects:

These constituents can:

- Stimulate neurotransmitter receptors (e.g., serotonin, GABA) for calming effects
- Modulate immune response and reduce inflammation
- Promote microcirculation and detoxification
- Enhance hormonal balance, especially when applied during menstruation or stress

4. Reflexology and Energy Flow Theory (Ayurvedic Perspective) According to Ayurveda:

The navel is connected to energy centers (chakras), particularly the Manipura chakra responsible for digestion and metabolism. Oiling the navel is believed to balance the doshas (Vata, Pitta, and Kapha), depending on the properties of the oil used.

E.g.,
Sesame or castor oil is used to calm Vata (wind/air imbalance), Coconut oil is cooling and balances Pitta (fire imbalance), Mustard oil stimulates and clears Kapha (mucus/cold imbalance)

5. Absorption Timeline and Distribution

Initial cutaneous absorption may occur within 30 minutes of application. Lipophilic compounds may enter lymphatic circulation and bypass first-pass liver metabolism. Depending on the oil and molecule size, systemic distribution to the brain (via olfactory or transdermal pathways) or gut (via enterohepatic circulation) can occur.

- **MATERIALS AND METHODS:-**

Material:-





Fig :- lemon oil



Fig:- coconut oil



Fig:- piperminant oil



Fig:- lemon oil



Fig :- castor oil



Fig:- ghee oil

Research Through Innovation

Fig 4 :- Common Ingredients Used in Belly Button Oil

Sr.No	Ingredients	Category
1	Neem oil	Antibacterial, Anti-inflammatory
2	Coconut oil	Hair Tonic
3	Piperminant oil	Pain Relief
4	Lemon oil	Flavouring agent
5	Castor oil	Lubricants
6	Ghee oil	Clarified Butter

1. Neem Oil

Extracted from the seeds of the neem tree (*Azadirachta indica*), neem oil is known for its powerful antibacterial, antifungal, and anti-inflammatory properties. It's commonly used in skin and scalp treatments.

2. Coconut Oil

Derived from the kernel of mature coconuts, this oil is widely used as a hair tonic due to its nourishing, moisturizing, and antimicrobial effects.

3. Peppermint Oil

Obtained from the leaves of the peppermint plant (*Mentha piperita*), this oil provides a cooling sensation and is known for its analgesic and soothing effects, making it ideal for pain relief.

4. Lemon Oil

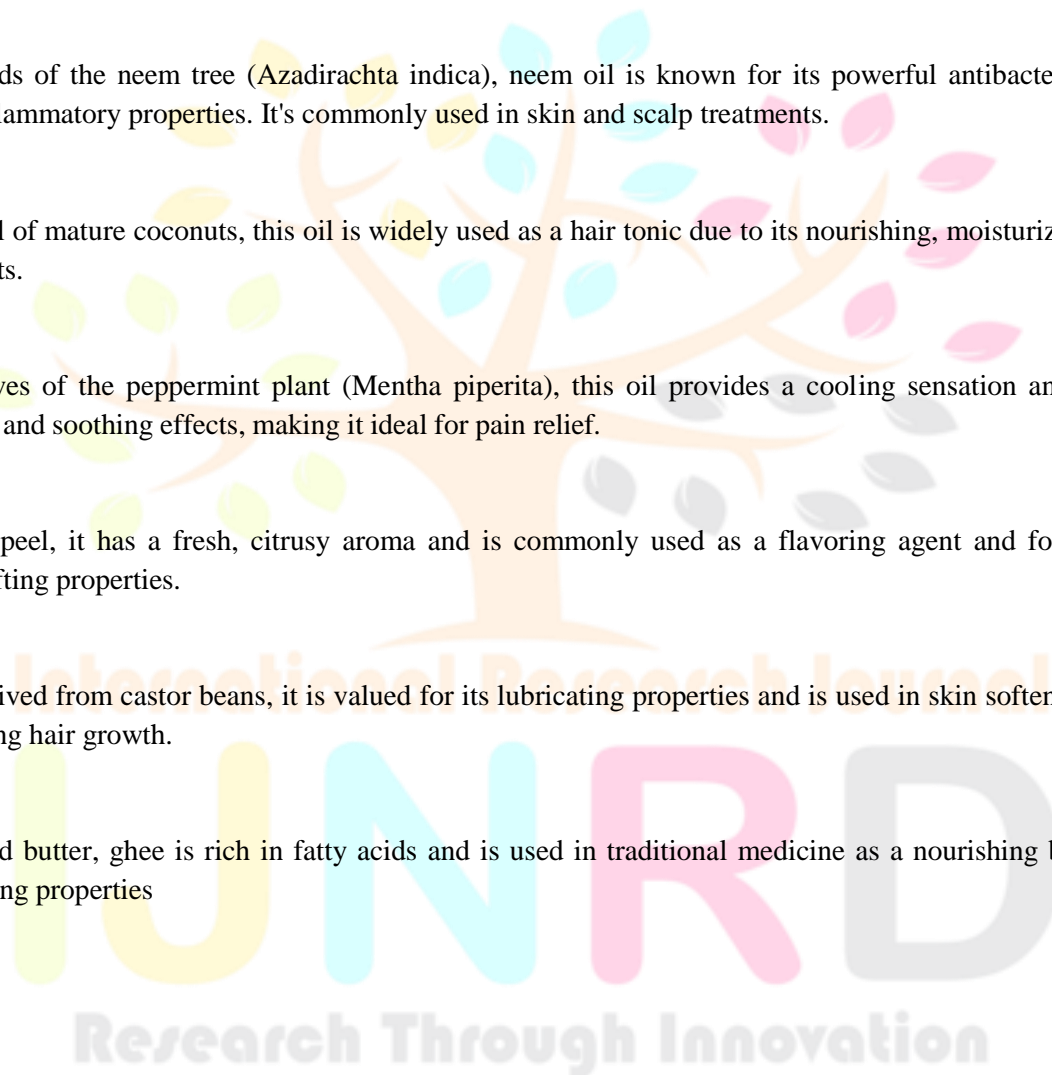
Extracted from lemon peel, it has a fresh, citrusy aroma and is commonly used as a flavoring agent and for its refreshing and mood-lifting properties.

5. Castor Oil

A thick, viscous oil derived from castor beans, it is valued for its lubricating properties and is used in skin softening, cleansing, and promoting hair growth.

6. Ghee Oil

Also known as clarified butter, ghee is rich in fatty acids and is used in traditional medicine as a nourishing base with soothing and healing properties.



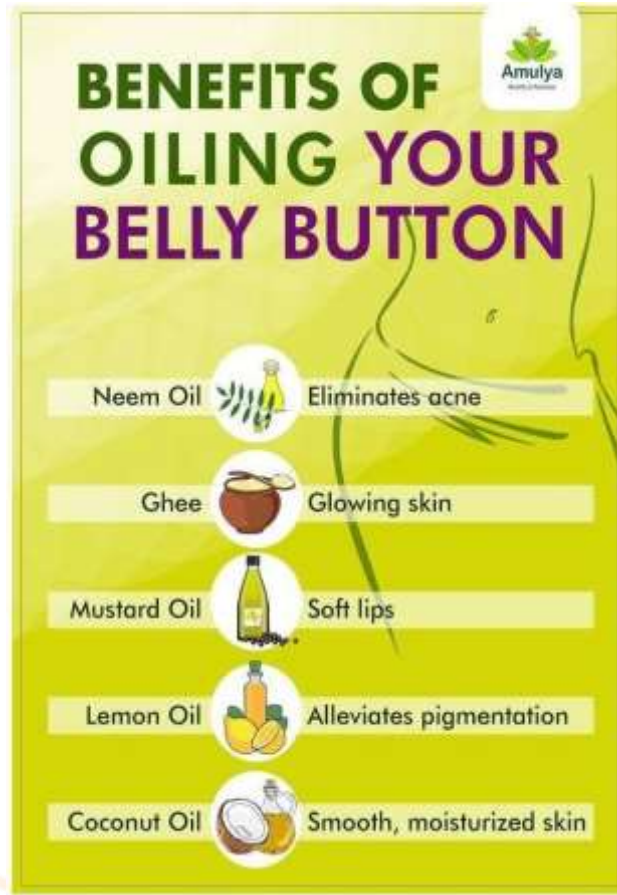


Fig 5 :- Benefits of oiling your Belly Button

METHOD OF BELLY BUTTON OIL :-

Step 1: Preparation of Work Area

Ensure all utensils, containers, and workspace are clean and sanitized to prevent contamination.

Step 2: Mixing Base Oils

In a clean beaker, combine the base oils—coconut oil, castor oil, and ghee oil. Mix thoroughly using a glass stirrer to ensure a uniform base.

Step 3: Addition of Therapeutic Oils

Add neem oil, peppermint oil, and lemon oil to the base mixture. Stir gently and continuously to achieve a homogeneous blend.

Step 4: Homogenization (Optional)

For improved stability, mild heating (not exceeding 40°C) may be applied using a water bath. This helps the oils blend better. Avoid overheating to preserve volatile components.

Step 5: Filtration (if needed)

If impurities are present, filter the oil through a muslin cloth or fine sieve.

Step 6: Filling & Storage

Transfer the prepared oil into amber glass dropper bottles using a funnel. Seal tightly. Label with name, date of preparation, and expiry.

Step 7: Storage Conditions

Store in a cool, dark place away from direct sunlight. Shelf life is typically 6–12 months.



Fig 6 :- How To Use Of Belly Buttan Oil FORMULATIONS BATCH:-

Sr.No	Ingredients	F1	F2	F3
1	Neem oil	3 ml	3 ml	1 ml
2	Coconut oil	12 ml	10 ml	10 ml
3	Piperminant oil	2 ml	2 ml	1 ml
4	Lemon oil	1 ml	2 ml	1 ml
5	Castor oil		6 ml	12 ml
6	Ghee oil		6 ml	1 ml
				15 ml
				2 ml

OBSERVATION TABLE:-

Sr.No	Ingredients	F1
1	Neem oil	3 ml
2	Coconut oil	12 ml
3	Piperminant oil	2 ml
4	Lemon oil	1 ml
5	Castor oil	6 ml
6	Ghee oil	6 ml

Preparation Method:-



Fig 7 :- belly button oil

Preparation of Belly Button Oil :- 30 ML

FORMULATIONS BATCHES :-



Fig 8 :- Formulations of Batches

Final Product :-



Fig 9 :- Belly Button Oil

- **EVALUATION PARAMETER :-**

1. Organoleptic Properties

Purpose: To assess the sensory attributes. Parameters:

- Color: Should be uniform and appropriate for the formulation.
- Odor: Should be pleasant and characteristic of the ingredients used.
- Appearance: Should be clear, without any suspended particles (unless intended).
- Texture: Smooth, non-gritty, and non-sticky.

2. pH

Purpose: To ensure the oil is within a skin-friendly pH range (especially if emulsified). Method: Using a digital pH meter after preparing an emulsion with distilled water.

3. Viscosity

Purpose: To assess flow behavior and consistency. Method: Measured using a Brookfield viscometer.

4. Physical Stability

Purpose: To assess the formulation's ability to resist separation or degradation.

5. Homogeneity

Purpose: To ensure uniform distribution of ingredients throughout the formulation. Method: Visual inspection and microscopic examination (if required).

6. Skin Irritation Test

Purpose: To confirm the formulation is safe for topical use.

Method: Patch test on human volunteers or animals (as per ethical guidelines). Observation: Look for redness, itching, swelling, or irritation after 24–48 hours.

RESULT AND OBSERVATION TABLE :

Sr.No	Parameter	Observation
1	Organoleptics property	
	Colour	Light green observed, transparent
	Order	Unpleasant
	Texture	Smooth and thick
	Phase separation	No visible separation of oil layer
2	Homogeneity	Homogeneous
3	Physcial stability	Stable at room temperature

4	PH	Between 7-8
5	Skin irritation	No skin irritation

APPLICATION OF BELLY BUTTON OIL:-

- Apply 1 to 2 drops of oil into your belly button before your night rest
- Gently massage the oil around the belly button for 1 min
- Calms mind. Oil therapy on the navel region is said to have a soothing impact on the mind and promotes good mental health
- Improves skin health
- Relieves joint pain
- Soothes dry eyes
- Boosts reproductive health
- Nourishes the hair
- Enhances digestive ability
- Treats an upset stomach
- Reduces menstrual pain
- Boots up fertility in women
- Aligns the chakras inside the body
- Makes the face more glowing and radiant
- Cures face pigmentation
- Reduces pimples, blemishes and acne.

Future Scope Of Belly Button Oil:-

1. Scientific Research: More clinical and laboratory studies are needed to validate the therapeutic effects and safety of belly button oil.
2. Mechanism of Action: Further exploration into how the oil is absorbed through the umbilical region and its systemic impact is essential.
3. Advanced Formulations: Development of innovative formulations using herbal extracts, essential oils, and delivery systems can enhance effectiveness.
4. Standardization: Establishing standardized methods for preparation, dosage, and quality control will support wider acceptance.
5. Personalized Use: Potential exists for tailoring oil formulations based on individual needs, such as skin type, age, or health condition.

6. Commercial and Global Expansion: With increasing interest in natural therapies, belly button oil has strong potential in wellness, skincare, and alternative medicine markets worldwide.

CONCLUSION:-

The present study focused on the formulation and evaluation of belly button oil as a novel approach for delivering therapeutic and cosmetic benefits through the umbilical route. The prepared formulation demonstrated desirable organoleptic properties, including a pleasant aroma, clear appearance, and smooth texture. Physicochemical evaluations such as pH, viscosity, and homogeneity confirmed the oil's stability and suitability for topical application. Additionally, physical stability studies and skin irritation tests indicated that the formulation was safe, non-irritant, and stable under various storage conditions.

Overall, the results suggest that belly button oil is a promising alternative or complementary method for delivering herbal and natural actives, supporting traditional practices with scientific validation. Further clinical studies are recommended to establish its efficacy and long-term safety in larger populations.

SUMMARY

Belly button oil, also known as navel oil, is a traditional Ayurvedic practice that involves applying therapeutic oils to the umbilical area to promote holistic health. In this study, a herbal-based belly button oil was formulated and evaluated for its physical and dermatological properties. The formulation was assessed for organoleptic characteristics, pH, viscosity, physical stability, homogeneity, and skin irritation potential.

The results demonstrated that the oil had a pleasant appearance and aroma, ideal consistency, and maintained stability under various conditions. It was non-irritating to the skin and showed no signs of phase separation or degradation. These findings support the potential of belly button oil as a safe and effective method for delivering natural actives through topical application.



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