

# Preparation and Evaluation of Polyherbal Powdered Ghutti

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## ABSTRACT:

Children need a strong immune system because they are constantly surrounded by germs. Having enough biological defenses to ward off illness, infection, and other undesirable biological intrusions is the state of immunity. It is the body's ability to keep dangerous microbes out of it. "Balguti" is a conventional home remedy that has been shown to be both safe and effective when used as an immunobooster on infants. The powdered form enhances convenience and absorption, ensuring efficient delivery of bioactive compounds. Key herbs commonly found in such formulations include turmeric for its anti-inflammatory benefits, ginger for digestive support, and ashwagandha for stress relief and vitality. These ingredients collectively aim to promote overall well-being, support immune function, and enhance vitality. Polyherbal powdered ghuttis are often used in traditional practices to address a wide range of health concerns holistically. Their formulation principles emphasize balance and harmony within the body, leveraging centuries of traditional knowledge and modern scientific insights. As such, they continue to be a popular choice for those seeking natural remedies that integrate seamlessly into a balanced lifestyle. "Bal" signifies baby, and "guti" means paste. There are twenty therapeutic herbs in all. The traditional method of preparing balguti and its function as an immunobooster are reviewed in this article.

**KEYWORDS:** Immunity Booster, Powder, Respiratory Health, Bowel Tonic, Ghutti.

## 1. INTRODUCTION:

Churna is defined as a fine powder of drug or drugs in ayurvedic system of medicine. Churna formulation are coextensive to powder formulation in allopathic system of medicine. Powder: A powder is a homogenous mixture of more or much less finely divided particulate cloth in dry form. Powders are one of the oldest dosage forms and are used both internally and externally. The feeling of giving birth to a new generation or life is truly divine. However, being a new parent in India comes with a lot of responsibility. We have our parents or grandparents, who mentor us with their experience-based knowledge, or what the Ayurvedic term for "apta." However, the societies of our future generation are increasingly IT-based and, in line with western culture, primarily rely on "Google" to find all the answers. In our ancient Ayurvedic practice, as veterinarians, we prescribe "Balguti" to many newborns as a form of treatment (not ready-to-use syrups). Prominent pediatricians also believe that if they are able to avoid prescribing antibiotics for every seasonal variation, they will be even more appreciative of

Ayurveda. The "first 100 days" of life are a precious time, as we all know. Therefore, let's use natural remedies to stay healthy on those important days and reserve the use of antibiotics for the medical urgent situations. This review provides a comprehensive analysis of various polyherbal powdered ghuttis used in traditional Indian medicine. It covers their compositions, therapeutic uses, and pharmacological actions. The review highlights the importance of these formulations in treating various ailments and their potential in modern medicine.[1]This paper presents an overview of various polyherbal powdered ghuttis and their therapeutic uses. It discusses the traditional knowledge and modern research on these formulations, highlighting their safety and efficacy. The review also discusses the need for further scientific validation of these traditional medicines.[2]This review provides an updated analysis of polyherbal powdered ghuttis, focusing on their composition, pharmacological activities, and therapeutic uses. It discusses the scientific evidence supporting the traditional use of these formulations and their potential in modern medicine. The review also highlights the need for further research to establish their efficacy and safety.[3]This review provides an in-depth analysis of polyherbal powdered ghuttis, focusing on their composition, pharmacological actions, and therapeutic uses. It discusses the scientific evidence supporting the traditional use of these formulations and their potential in modern medicine. The review also emphasizes the need for further research to explore their safety and efficacy.[4]This review provides a detailed analysis of polyherbal powdered ghuttis, focusing on their composition, pharmacological activities, and therapeutic uses. It discusses the scientific evidence supporting their traditional use and their potential in modern medicine.[5]

### **1.1. Prunus amygdalus:**

Almonds, the edible seeds of the *Prunus dulcis* tree, have been a staple in the human diet for centuries. A literature survey reveals a multitude of health benefits associated with almond consumption. Rich in nutrients such as healthy fats, fiber, protein, vitamins, and minerals, almonds offer numerous health benefits. Studies have shown that regular almond consumption can help lower cholesterol levels, reduce the risk of heart disease, and manage blood sugar levels, making them particularly beneficial for individuals with diabetes. Additionally, almonds are packed with antioxidants, which help protect cells from oxidative damage and may reduce the risk of certain chronic diseases. Moreover, almonds have been linked to weight management and improved satiety, making them a valuable addition to a balanced diet. Overall, the literature supports the inclusion of almonds as part of a healthy diet to promote overall well-being and reduce the risk of chronic diseases.[6]

### **1.2. Terminalia bellerica:**

Behada, also known as *Terminalia bellerica*, is a medicinal plant that has been used in traditional Ayurvedic medicine for centuries. A literature survey reveals numerous health benefits associated with behada consumption. Rich in bioactive compounds such as tannins, flavonoids, and phenolic compounds, behada exhibits antioxidant, anti-inflammatory, antimicrobial, and hepatoprotective properties. Studies have shown that behada extract can help reduce inflammation, lower blood sugar levels, and improve liver health. Additionally, behada has been found to have anti-cancer properties, with research suggesting its potential in inhibiting the growth of cancer cells and inducing apoptosis. Furthermore, behada extract has been reported to have a beneficial effect on digestive health, promoting bowel movement and relieving constipation. Overall, the literature supports the use of behada as a natural remedy for various health conditions and highlights its potential as a therapeutic agent in modern medicine.[7]

### 1.3. Terminalia chebula:

Hirda, also known as Terminalia chebula, is a key medicinal plant in Ayurvedic medicine, known for its diverse health benefits. A literature survey reveals numerous therapeutic properties associated with hirda consumption. Rich in bioactive compounds such as tannins, flavonoids, and phenolic compounds, hirda exhibits potent antioxidant, anti-inflammatory, antimicrobial, and hepatoprotective properties. Studies have demonstrated that hirda extract can help lower blood sugar levels, reduce cholesterol, and improve liver function. Additionally, hirda has been found to have anti-cancer properties, showing potential in inhibiting the growth of cancer cells and inducing apoptosis. Furthermore, hirda extract has been reported to promote digestive health, alleviate constipation, and improve bowel movement. Its wide range of therapeutic effects makes hirda a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[8]

### 1.4. Myristica fragrans:

Jaiphal, also known as nutmeg, is a spice derived from the seed of the Myristica fragrans tree and has been used for centuries in traditional medicine. A literature survey reveals numerous health benefits associated with jaiphal consumption. Rich in bioactive compounds such as myristicin, elemicin, and eugenol, jaiphal exhibits antioxidant, anti-inflammatory, antimicrobial, and analgesic properties. Studies have shown that jaiphal extract can help improve digestive health by relieving indigestion, reducing gas, and alleviating stomach discomfort. Additionally, jaiphal has been found to have neuroprotective effects, improving memory and cognitive function, and reducing the risk of neurodegenerative diseases such as Alzheimer's. Furthermore, jaiphal extract has been reported to have anti-inflammatory properties, making it effective in relieving joint pain and inflammation associated with conditions like arthritis. Its diverse range of therapeutic effects makes jaiphal a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[9]

### 1.5. Gardenia gummifera:

Dikamali, also known as Gardenia gummifera, is a medicinal plant with a long history of use in traditional medicine systems like Ayurveda. A literature survey reveals several health benefits associated with dikamali consumption. Rich in bioactive compounds such as iridoids, flavonoids, and triterpenoids, dikamali exhibits diverse pharmacological properties including antioxidant, anti-inflammatory, antimicrobial, and analgesic activities. Studies have shown that dikamali extract possesses significant anti-inflammatory effects, making it effective in the management of inflammatory conditions such as arthritis and asthma. Additionally, dikamali has been found to have antimicrobial properties, inhibiting the growth of various pathogenic microorganisms. Furthermore, dikamali extract has been reported to have analgesic effects, providing relief from pain and discomfort. Its wide range of therapeutic effects makes dikamali a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[10]

### 1.6. Glycyrrhiza glabra:

Jyesthmadh, also known as Glycyrrhiza glabra or licorice, is a medicinal plant that has been widely used in traditional medicine systems such as Ayurveda and traditional Chinese medicine. A literature survey reveals numerous health benefits associated with jyesthmadh consumption. Rich in bioactive compounds such as glycyrrhizin, flavonoids, and saponins, jyesthmadh exhibits a wide range of pharmacological properties including anti-inflammatory, antimicrobial, antioxidant, hepatoprotective, and immunomodulatory activities. Studies have shown that jyesthmadh extract can help reduce inflammation, making it effective in the management of conditions such as arthritis and gastritis. Additionally, jyesthmadh has been found to have antimicrobial properties, inhibiting the growth of

various pathogenic microorganisms including bacteria and viruses. Furthermore, jyesthmadh extract has been reported to have hepatoprotective effects, protecting the liver from damage caused by toxins and oxidative stress. Its diverse range of therapeutic effects makes jyesthmadh a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[11]

### **1.7. Piper longum:**

Pimpli, also known as Piper longum or long pepper, is a medicinal plant widely used in traditional medicine systems such as Ayurveda, Siddha, and Unani. A literature survey reveals numerous health benefits associated with pimpli consumption. Rich in bioactive compounds such as piperine, alkaloids, and flavonoids, pimpli exhibits diverse pharmacological properties including antioxidant, anti-inflammatory, antimicrobial, and digestive stimulant activities. Studies have shown that pimpli extract can help improve digestion by stimulating the secretion of digestive enzymes and promoting gastrointestinal motility, making it effective in the management of digestive disorders such as indigestion, bloating, and flatulence. Additionally, pimpli has been found to have anti-inflammatory and analgesic properties, making it effective in the management of inflammatory conditions such as arthritis and muscle pain. Furthermore, pimpli extract has been reported to have antimicrobial effects, inhibiting the growth of various pathogenic microorganisms including bacteria and fungi. Its wide range of therapeutic effects makes pimpli a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[12]

### **1.8. Hemidesmus indicus:**

Sagargota, also known as Hemidesmus indicus or Indian sarsaparilla, is a medicinal plant with a long history of use in traditional medicine systems such as Ayurveda and Siddha. A literature survey reveals numerous health benefits associated with sagargota consumption. Rich in bioactive compounds such as saponins, flavonoids, and phenolic acids, sagargota exhibits diverse pharmacological properties including antioxidant, anti-inflammatory, antimicrobial, hepatoprotective, and immunomodulatory activities. Studies have shown that sagargota extract can help reduce inflammation, making it effective in the management of inflammatory conditions such as arthritis and skin disorders. Additionally, sagargota has been found to have antimicrobial properties, inhibiting the growth of various pathogenic microorganisms including bacteria and fungi. Furthermore, sagargota extract has been reported to have hepatoprotective effects, protecting the liver from damage caused by toxins and oxidative stress. Its wide range of therapeutic effects makes sagargota a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[13]

### **1.9. Anacardium occidentale:**

This information reveals numerous health benefits associated with cashew nuts (kaju) consumption. Rich in nutrients such as healthy fats, protein, vitamins, and minerals, cashew nuts offer various health benefits. Studies have shown that regular consumption of cashew nuts can help improve heart health by reducing "bad" LDL cholesterol levels and increasing "good" HDL cholesterol levels. Additionally, cashew nuts are a good source of antioxidants, which help protect cells from oxidative damage and may reduce the risk of chronic diseases such as heart disease and cancer. Moreover, cashew nuts have been linked to weight management and improved blood sugar control, making them particularly beneficial for individuals with diabetes. Furthermore, cashew nuts are a good source of minerals like magnesium, which is important for bone health and muscle function, and zinc, which is essential for immune function and wound healing. Overall, the literature supports the inclusion of cashew nuts as part of a healthy diet to promote overall well-being and reduce the risk of chronic diseases.[14]

**1.10. Quercus infectoria:**

Maiphal, also known as *Quercus infectoria* or oak gall, is a medicinal plant with a long history of use in traditional medicine systems such as Ayurveda, Unani, and traditional Chinese medicine. A literature survey reveals numerous health benefits associated with maiphal consumption. Rich in bioactive compounds such as tannins, flavonoids, and phenolic acids, maiphal exhibits diverse pharmacological properties including antioxidant, anti-inflammatory, antimicrobial, and astringent activities. Studies have shown that maiphal extract can help reduce inflammation, making it effective in the management of inflammatory conditions such as arthritis and skin disorders. Additionally, maiphal has been found to have antimicrobial properties, inhibiting the growth of various pathogenic microorganisms including bacteria and fungi. Furthermore, maiphal extract has been reported to have astringent effects, making it useful in the treatment of diarrhea, dysentery, and other gastrointestinal disorders. Its wide range of therapeutic effects makes maiphal a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[15]

**1.11. Zingiber officinale:**

This information reveals numerous health benefits associated with sunth, also known as dry ginger (*Zingiber officinale*). Rich in bioactive compounds such as gingerol, shogaol, and paradol, sunth exhibits diverse pharmacological properties including antioxidant, anti-inflammatory, antimicrobial, and digestive stimulant activities. Studies have shown that sunth can help improve digestion by stimulating the secretion of digestive enzymes, promoting gastrointestinal motility, and relieving gastrointestinal discomfort such as indigestion, bloating, and nausea. Additionally, sunth has been found to have anti-inflammatory and analgesic properties, making it effective in the management of inflammatory conditions such as arthritis and muscle pain. Furthermore, sunth extract has been reported to have antimicrobial effects, inhibiting the growth of various pathogenic microorganisms including bacteria and fungi. Its wide range of therapeutic effects makes sunth a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[16]

**1.12. Pistacia integerrima :**

Kakrasingi, also known as Gajapippali or Java long pepper, is a medicinal plant with a long history of use in traditional medicine systems such as Ayurveda and Siddha. A literature survey reveals numerous health benefits associated with Kakrasingi consumption. Rich in bioactive compounds such as piperine, alkaloids, and flavonoids, Kakrasingi exhibits diverse pharmacological properties including antioxidant, anti-inflammatory, antimicrobial, and digestive stimulant activities. Studies have shown that Kakrasingi extract can help improve digestion by stimulating the secretion of digestive enzymes and promoting gastrointestinal motility, making it effective in the management of digestive disorders such as indigestion, bloating, and flatulence. Additionally, Kakrasingi has been found to have anti-inflammatory and analgesic properties, making it effective in the management of inflammatory conditions such as arthritis and muscle pain. Furthermore, Kakrasingi extract has been reported to have antimicrobial effects, inhibiting the growth of various pathogenic microorganisms including bacteria and fungi. Its wide range of therapeutic effects makes Kakrasingi a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[17]

**1.13. Acorus calamus:**

Vekhand, also known as *Aloe barbadensis* or aloe vera, is a succulent plant widely recognized for its medicinal properties and therapeutic benefits. A literature survey reveals numerous health benefits associated with vekhand consumption. Rich in bioactive compounds such as polysaccharides, phenolic

compounds, and vitamins, vekhand exhibits diverse pharmacological properties including antioxidant, anti-inflammatory, antimicrobial, and wound-healing activities. Studies have shown that vekhand gel or extract can help promote wound healing by accelerating the formation of new tissue, reducing inflammation, and preventing infection. Additionally, vekhand has been found to have moisturizing and soothing properties, making it effective in the treatment of skin conditions such as burns, sunburns, eczema, and psoriasis. Furthermore, vekhand extract has been reported to have gastroprotective effects, reducing gastric acid secretion and protecting the stomach lining from damage caused by ulcerogenic agents. Its wide range of therapeutic effects makes vekhand a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[18]

#### **1.14. Commiphora wightii:**

Murud sheng, also known as *Commiphora wightii* or Indian bdellium, is a medicinal plant with a long history of use in traditional medicine systems such as Ayurveda and Unani. A literature survey reveals numerous health benefits associated with murud sheng consumption. Rich in bioactive compounds such as guggulsterones, flavonoids, and terpenoids, murud sheng exhibits diverse pharmacological properties including antioxidant, anti-inflammatory, antimicrobial, and lipid-lowering activities. Studies have shown that murud sheng extract can help reduce inflammation, making it effective in the management of inflammatory conditions such as arthritis and skin disorders. Additionally, murud sheng has been found to have lipid-lowering effects, reducing cholesterol and triglyceride levels in the blood, and thus reducing the risk of cardiovascular diseases. Furthermore, murud sheng extract has been reported to have antimicrobial properties, inhibiting the growth of various pathogenic microorganisms including bacteria and fungi. Its wide range of therapeutic effects makes murud sheng a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[19]

#### **1.15. Curcuma longa:**

This information reveals numerous health benefits associated with turmeric (*Curcuma longa*) consumption. Rich in bioactive compounds, particularly curcumin, turmeric exhibits diverse pharmacological properties, including antioxidant, anti-inflammatory, antimicrobial, and anticancer activities. Studies have shown that turmeric consumption can help reduce inflammation, making it effective in the management of inflammatory conditions such as arthritis and inflammatory bowel disease. Additionally, turmeric has been found to have antioxidant properties, helping to protect cells from damage caused by free radicals and oxidative stress. Furthermore, turmeric has antimicrobial effects, inhibiting the growth of various pathogenic microorganisms. Moreover, turmeric has shown promise in cancer prevention and treatment by inhibiting the growth of cancer cells and suppressing tumor development. Its wide range of therapeutic effects makes turmeric a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.([20])

#### **1.16. Phoenix dactylifera:**

This information reveals numerous health benefits associated with kharik, also known as dates fruit (*Phoenix dactylifera*), consumption. Rich in nutrients such as vitamins, minerals, fiber, and antioxidants, dates offer various health benefits. Studies have shown that regular consumption of dates can help improve heart health by reducing the risk of cardiovascular disease. Dates are low in fat and high in fiber, which can help promote digestive health by preventing constipation and promoting regular bowel movements. Additionally, dates are an excellent source of natural sugars, making them a great

alternative to refined sugars for those looking to manage their blood sugar levels. Furthermore, dates are rich in antioxidants, which help protect cells from damage caused by free radicals and may reduce the risk of chronic diseases such as cancer and diabetes. Their wide range of nutritional benefits makes dates a valuable addition to a healthy diet, highlighting their potential as an important component of a balanced lifestyle.[21]

#### **1.17. Tribulus terrestris:**

This information reveals numerous health benefits associated with kuda, also known as Tribulus terrestris. This plant has been widely used in traditional medicine systems such as Ayurveda and traditional Chinese medicine. Rich in bioactive compounds such as saponins, flavonoids, and alkaloids, kuda exhibits diverse pharmacological properties including antioxidant, anti-inflammatory, aphrodisiac, and immunomodulatory activities. Studies have shown that kuda extract can help improve sexual function and libido in both men and women, making it effective in the management of sexual disorders such as erectile dysfunction and low libido. Additionally, kuda has been found to have anti-inflammatory effects, reducing inflammation and pain associated with conditions such as arthritis and muscle soreness. Furthermore, kuda extract has been reported to have antioxidant properties, protecting cells from damage caused by free radicals and oxidative stress. Its wide range of therapeutic effects makes kuda a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[22]

#### **1.18. Withania somnifera:**

This information reveals numerous health benefits associated with ashwagandha (*Withania somnifera*) consumption. Ashwagandha, also known as Indian ginseng or winter cherry, has been used for centuries in traditional medicine systems such as Ayurveda. Rich in bioactive compounds such as withanolides, alkaloids, and flavonoids, ashwagandha exhibits diverse pharmacological properties including adaptogenic, antioxidant, anti-inflammatory, antimicrobial, and neuroprotective activities. Studies have shown that ashwagandha consumption can help reduce stress and anxiety by lowering cortisol levels and promoting relaxation. Additionally, ashwagandha has been found to have immunomodulatory effects, enhancing the immune system's response to infections and diseases. Furthermore, ashwagandha extract has been reported to improve cognitive function, memory, and concentration, making it effective in the management of neurodegenerative diseases such as Alzheimer's. Moreover, ashwagandha has been shown to have anti-inflammatory and analgesic properties, making it effective in the management of inflammatory conditions such as arthritis and muscle pain. Its wide range of therapeutic effects makes ashwagandha a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[23]

#### **1.19. Embelia ribes:**

This information reveals numerous health benefits associated with vidang, also known as *Embelia ribes*. This medicinal plant has been used for centuries in traditional medicine systems such as Ayurveda and traditional Chinese medicine. Rich in bioactive compounds such as embelin, quercitol, and fatty acids, vidang exhibits diverse pharmacological properties including antioxidant, antimicrobial, anthelmintic, anti-inflammatory, and antidiabetic activities. Studies have shown that vidang extract can help eliminate intestinal worms and parasites, making it effective in the treatment of worm infestations such as roundworm, hookworm, and tapeworm infections. Additionally, vidang has been found to have antioxidant properties, protecting cells from damage caused by free radicals and oxidative stress. Furthermore, vidang extract has been reported to have anti-inflammatory effects, reducing inflammation

and pain associated with conditions such as arthritis and inflammatory bowel disease. Moreover, vidang has been shown to have antidiabetic effects, lowering blood sugar levels and improving insulin sensitivity. Its wide range of therapeutic effects makes vidang a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[24]

### 1.20. *Moringa oleifera* :

This information reveals numerous health benefits associated with moringa (*Moringa oleifera*) consumption. Moringa, also known as the drumstick tree, is a nutrient-dense plant that has been used for centuries in traditional medicine. Rich in vitamins, minerals, antioxidants, and bioactive compounds such as flavonoids and polyphenols, moringa exhibits diverse pharmacological properties, including antioxidant, anti-inflammatory, antimicrobial, and hepatoprotective activities. Studies have shown that moringa consumption can help reduce inflammation, lower cholesterol levels, and regulate blood sugar levels, making it effective in the management of conditions such as diabetes, heart disease, and obesity. Additionally, moringa has been found to have antimicrobial properties, inhibiting the growth of various pathogenic microorganisms, including bacteria, viruses, and fungi. Furthermore, moringa extract has been reported to have hepatoprotective effects, protecting the liver from damage caused by toxins and oxidative stress. Moreover, moringa has been shown to have anticancer properties, inhibiting the growth of cancer cells and reducing the risk of cancer development. Its wide range of therapeutic effects makes moringa a valuable natural remedy for various health conditions, highlighting its potential as an important therapeutic agent in modern medicine.[25]

## 2. MATERIALS AND METHODS:

### 2.1. Plant material collection:

1. Selection of herb
2. Selection of method : a)Grinding b)Weighing c)Mixing d)Wrapping e)Storage
3. Formulation of powdered ghutti
4. Evaluation of powdered ghutti

### 2.2. Formulation of polyherbal powdered ghutti:

1. About 20 raw material were used for the preparation of formulation.
2. The raw materials used for this formulation were purchased from market and authenticated in the department of botany of walchand college of arts and science solapur.
3. The finely powdered raw material were passed through sieve number 110 and mixed in appropriate ratios.

Sr.no	NAME OF HERB	F1	F2
1	Prunus amygyadus(Almond)	2.5gm	1.5gm
2	Terminalia bellerica(Bhada)	2.5gm	1.5gm
3	Terminalia chebula(Hirda)	2.5gm	1.5gm
4	Myristica aromata(Jaiphal)	2.5gm	1.5gm
5	Gardenia gummifera (Dikamali)	2.5gm	1.5gm
6	Glycyrriza glabra(Jyesthmadh)	2.5gm	1.5gm
7	Piper longum (Pimpli)	2.5gm	1.5gm



8	Caesalpinia bonducella(Sagargota)	2.5gm	1.5gm
9	Anacardium occidentale (Cashew)	2.5gm	1.5gm
10	Quercus infectoria (Maiphal)	2.5gm	1.5gm
11	Ginger officinale (Sunth)	2.5gm	1.5gm
12	Pistacia integerrima(Kakra singhi)	2.5gm	1.5gm
13	Acorus calamus (Vekhand)	2.5gm	1.5gm
14	Helicteres isora(Murud sheng)	2.5gm	1.5gm
15	Curcuma longa (Turmeric)	2.5gm	1.5gm
16	Phonix dactylifera(Kharik )	2.5gm	1.5gm
17	Holarrhena antidysentrica (Kuda)	2.5gm	1.5gm
18	Withnia somnifera (Ashwagandha)	2.5gm	1.5gm
19	Embelia ribes(Vavding)	2.5gm	1.5gm
20	Moringa oleifera(Moringa)	2.5gm	1.5gm

**Table 1:Composition on formulation ingredients for polyherbal powdered ghutti.**

**3.Evaluation:**

**1. Angle of repose:** Angle of repose was determined by using funnel method, in a funnel the accurately weighed blend was taken. The funnel height was arranged in a manner that the funnel tip just touches the “apex of the heap” or “head of blend”. Through the funnel “the drug excipient blend” was allowed to flow freely on to the surface. Table 2 shows the relationship between Angle of Repose and Powder Flow. The diameter of the powder cone and angle of repose were calculated by using the following equation.[26]

$$\tan \theta = h/r$$

Where, **h** = height of powder cone formed,  
**r** = radius of the powder cone formed.

**Table 2: Relationship between angle of repose (θ) and powder flow.**

Angle of Repose(θ)	Type of flow
25	Excellent
25-30	Good
30-40	Passable
>40	Very poor

Angle of Repose of prepared powder was found to be 29.76 C

**2. Bulk density:** By pouring the weighed quantity of blend into graduated cylinder and measuring the volume.[26]

$$\text{Bulk Density} = \frac{\text{Weight of powder}}{\text{Volume of packing}}$$

Bulk density of formulated tablets was found to be 0.433 mg/ml

- 3. Tapped bulk density:** A known mass of drug excipient blend was placed in a graduated cylinder. The cylinder was tapped on to a hard surface from the height of 10 cm at two second interval. Tapping was continued, “Until no further change in volume was noted” .[26]

$$\text{Tapped Bulk Density} = \frac{\text{Weight of the powder}}{\text{Volume of the tapped packing}}$$

Tapped density of prepared powder was found to be 0.552 gm/ml

- 4. Hausnars Ratio:** The hausner predict the the flow properties of powder by using interparticle friction and it is a simple index that can be determined on small quantities of powder.[26]

Hausner ratio	Type of flow
<1.25	Good Flow
>1.25	Poor Flow

Hausner ratio = Tapped density / Poured density

- 5. Compressibility index:** The Compressibility index of the blends was determined by Carr’s compressibility index. Table 3 shows grading of powders for their flow properties.[26]

$$\text{Compressibility index (\%)} = \frac{\text{Tapped bulk density} - \text{Loose bulk density}}{\text{Tapped bulk density}} \times 100$$

**Table 3: Grading of powders for their flow properties.**

Consolidation Flow index (Carr’s index)	Flow
5-15	Excellent
12-16	Good
18-21	Fair to Passable
23-35	Poor
33-38	Very Poor
<40	Very Very Poor

Compressibility index of prepared material was found to 14 %

**6. Physical evaluation of powder:**

1. Colour: Buff
2. Odour: Aromatic
3. Appearance: Crystalline
4. Taste : Pungent

**7. Loss on drying:**

1. The crude drug is placed in a weighing bottle .It is then dried at 105 degree in hot air oven and weigh after 15 min.
2. When the weight of crude drug become constant then percentage of water loss on drying is calculated.[27]

**8.Total ash value:**

1. 2g of crude drug is weigh accurately in a previously ignited crucible.The material is ignited at temperature 500-600 degree until it turns white indicating the absence of carbon.
2. It is then cooled and total ash in mg/g is calculated.[27]

**9. Acid insoluble ash value:**

1. Boil total ash obtained with 25ml of 2M hydrochloric acid for 5 minute.Collect the insoluble matter in a gooch crucible or on ash filter , wash with hot water , ignite,cool in a dessicator and weigh.[28]

**10.Water insoluble ash value:**

1. Dissolve 2g fine powder of crude drug in 50ml of water in conical flask,add 10ml of dil.hydrochloric acid and boil gently for 15 min.
2. Filter the suction while hot through a sintered glass ,wash residue with hot water ,dry the residue at 105<sup>0</sup>c and weigh the final residue .[28]

**4. Result:**

**Table 4: Result of evaluation.**

Sr.no	TEST	F1 OBSERVATION	F1 RESULT	F2 OBSERVATION	F2 RESULT
1	Colour	Buff	Buff	Buff	Buff
2	Odour	Aromatic	Aromatic	Aromatic	Aromatic
3	Appearance	Crystalline	Crystalline	Crystalline	Crystalline
4	Taste	Pungent	Pungent	Pungent	Pungent
5	Bulk density	0.43	0.43	0.43	0.43
6	Tap density	0.5	0.5	0.5	0.5
7	Hausner's ratio	1.16	Pass	1.16	Pass
8	Angle of repose	29.76	Good	29.69	Good
9	Carr's	14	Excellent	15	Excellent

	index				
10	Loss on drying	1.2gm	1.2gm	1.2gm	1.2gm
11	Total ash value	0.18gm	0.18gm	0.15gm	0.15gm
12	Acid insoluble value	0.04gm	0.04gm	0.03gm	0.03gm
13	Water insoluble value	0.69gm	0.69gm	0.59gm	0.59gm

### 5. Discussion:

Ghutti, also known as herbal concoction, is a traditional formulation used in many cultures for the management of various health issues, especially in infants and children. Polyherbal powdered ghutti is a combination of multiple herbs, each selected for its specific therapeutic properties. This combination enhances the efficacy of the formulation. The use of multiple herbs in ghutti allows for a holistic approach to health management, addressing multiple aspects of a health issue simultaneously. Polyherbal powdered ghutti offers the advantage of being readily available and easy to prepare, saving time for caregivers, especially in emergency situations. Once prepared, ghutti can be administered quickly, making it an ideal option for managing sudden or acute health issues in infants and children. By providing an effective and quick solution to common health issues, polyherbal powdered ghutti can help caregivers avoid frequent visits to healthcare facilities, saving both time and money.

### 6. Conclusion:

The article emphasized on management of various disease during childhood period using various ancient approaches of ayurveda science such as herbal remedies. Polyherbal powdered ghutti is specially formulated form 20 different medicinal herb and very east to use and administer for the baby. It gives freedom from the stress of choosing the various antibiotics and nutritional supplement for little aliment. This ghutti helps in the childs growth, immunity boosting and overall health.

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### 8. Conflict of interest:

The authors declare no conflicts of interest.

### 9. References:

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