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FORMULATION & EVALUATION OF ANTIINFLAMATORY &ANALGESIC HERBAL OINTMENT OF PUNICAGRANATUM PEEL

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ABSTRACT: The Punicagranatum (Pomegranate) Is A Fruit Bearing Deciduous Shrub In The Family Lythraceae. The Ointment is a smooth substance that you put on skin or on an injury to help it get better. The Present Study Was Aimed To Developed Formulation On The Antiinflammtory And Analgesic Activity Of Punicagrantum Peels Waste. The Non Steroidal Antiflammatory Drugs (NSAIDs) Are Associated With To Much Side Effects And Adverse Drug Reactions. Constant Use of NSAIDs Produce Gastroinstestinal Irritations and Other Side Effects on Body Organs like Liver And Kidney. Antiinflammtory And Analgesic Activity Of Punicagrantum Peel Extract Was Preciously Reported On Different Experimental Models. Generally Pomegranate Peels Are Waste Material Obtained From Many Pomegranate Processing Industries. These Peels Consists Important Polyphenols, Flavonoids And Beta-Sitosterol As A Active Chemical Constituents Which Is Useful In The Inflammation. Inflammation Are Associate With Pain, Redness And Swelling. Flavonoids Shows Antioxidant Activity With Indirect Inhibition Of Inflammatory Markers Such As A Tumor Necrosis Factor Alpha. Analgesic Activity Of Punicagranatum Peels Are Useful In The Management Of Pain. Ointment Formulation Of Punicagranatum Peel Shows A Good Result In All The Evaluation Test Parameters Such As General Appearance , Consistency, pH , Spreadability, Extraudability, Diffusion Study, Non Irritancy Test And Stability Study Etc. The Prepared Formulation (Ointment) Shows All Good Acceptable Parameters Which Is Easily Spread, Maintain Consistency And Not Causes Any Side Effects On Skin.

KEY WORDS: Punicagranatum, Herbal ointment, Anti-inflammatory, Analgesic, etc.

INTRODUCTION:

In The Last Few Years There Has Been Rapid Growth In The The Field Of Herbal Medicines And These Drugs Gaining Popularity Both In Developing And Developed Countries Due To Their Natural Origin And Less Side Effects. There For The Use Of Herbal Medicines Is Essential To Overcomes The Problems Of Adverse Drug Reactions.Punicagranatum Commonly Known As Pomegranate, Is A Member Of Monogeneric Family Punicaceae. Punica Granatum Is A Small Tree Which Measures Between Five And Eight Meters Tall And Mainly Found In

Iran,The Himalayas , In Northern India, China.USA And Throughout The Mediterraneans Regions. The Juicy Arils Of Fruit Are Eaten Fresh, And The Juice Is The Source Of Grenadine Syrup, Used In Flavourings And Liquerus. Pomegranate Is High In Dietary Fibre, Folic Acid, Vitamin C, And Vitamin K. In Western Diets, Meat And Meat Products Are One Of The Main Source Are One Of Main Sources Of High-Biological Value Proteins,In Addition To Containing Micronutrients Such As A Minerals(Iron, Magnesium,Potassium,Selenium And Sodium) And Vitamins (A,$B_{12,}$ Folic Acid, Amongs Others) That Are Highly Bio-Available. Despite These Excellent Nutritional Properties, The Intake Of Meat And Meat Products Is Related With A Higher Incidence Of Cardiovascular Diseases And Obesity, Increasing The Negative Perception Attach To Consumer Of These Food Product In Recent Years . Pomegranate Is A Latin Word Derived From Ponus And Granatus A Seeded Or Granular Apple Is Delicious Fruit Consumed World Wide. It Was Introduced Into Spaanish America In Late 16th Century And Into California In 1769. The Fruit Is Typically In Season In Northern Hemisphere From October To February And In Southern Hemisphere From March To May. The Genus Punica Consist At The Present Time Of Two Species, The One Under Consideration And Punicaprotopunica. The Pomegranate Is One Of The Oldest Known Edible Fruits.Punicagranatum Has Been Used Long Time As A Therapeutics Agent For The Treatment Of Inflammatory Diseases. The Aqueous Ethanolic Extract Of Fruit Rind, Flower, And Leaves Of Punicagranatum Have Shows Anti-Inflammatory,Analgesic,Antimicrobial, Antioxidant Properties And Activity. The Pomegranate Peel Consider As A Waste Material, This Peel Contain Active Chemical Constituent Such As Tannins, Flavonoid Beta Sitosterol Responsible For Anti-Inflammatory . Generally Pomegranate Peel Are Waste Material Obtain From Many Pomegranate Processing Indrustries.These Peels Consist Important Polyphenols ,Flavonoid, Beta Sitosterol, Tannins As Active Chemical Constituent Which Is Usefully In Inflammation And Painkillers. Inflammation Associate With Pain Redness And Swellings. Analgesic Activity Of Punicagranatum Peels Are Useful In Management of Pain.It Consist Of So Many Therapeutic Properties And Activities. People Are Moat Familiar's With Acute Inflammation.This is a rednesss,warmth,swelling, and Pain around tissue and joints that occurs in response to an injured. The inflammation is prevented by regular exercise, eating salad everyday, avoid hungry, spice things of ,take a break from alcohol, etc. The analgesic drug used to prevent or reduce the Pain. An Ointment is a Smooth Substance That You Put On Sore Of Skin Injury To Help It to get better.They Are easier applied as compared to the liquid Dosage Forms & gives rapid results.

AIM AND OBJECTIVES

AIM : Formulation And Evaluation Of Anti Inflammatory And Analgesic Herbal Ointment Of Punicagranatum Peel.

OBJECTIVES : The Present Article Is Based On The Formulation And Evaluation Of Anti Inflammatory & Analgesic Activity Of Herbal Ointment Containing Punicagranatum Peel.

1.To Study The Anti Inflammatory And Analgesic Activities Of Punicagranatum Peels.

2.To Study Various Methods Of Extractions.

3.To Study Drug Profile Of Given Plant.

4.To Study Various Properties Of Punicagranatum Plant.

5.To Study Various Varities Of Punicagranatum Plants

MONOGRAPH :

DRUG PROFILE =

Origin: The Pomegranate Is One Of The Worlds Most Ancients Fruit Has Had A Long And Fascinating History.Although Is Probabaly Originated In Persia,Cultivation Spread Quickly Throughout The Mediterranean And Extended To Arabia,Afghanistan,India And China, Where It Is Called As "Chinnese Apple", The Alternate Appellation.

Synonym: Punica Nana L, Punica Florida Salisb.

Table No 1 : Synonyms

Sr.No	Language	Name
1	Hindi	Anar
2	Marathi	Dalimba
3	Sanskrit	Dadimah
4	English	Pomegranate

Biological Source: Dried Peels Of Punicagrantum.

Geographical Source: Pomegranate Are Widely Cultivated Throughout The Middle East And Caucasus Region, North And Tropical Africa, Iran, Indian Subcontinent Central Asia, The Dried Part Of South East Asia, And The Mediterranean Basin.

Family: Lythraceae / Punicaceae.

Sub Family: Punicoideae.

Kingdom: Plantae.

Genus: Punica.

Order: Myrtales.

Part Used: Fruit,seed,peel.[8]

Fig No 1 : Punicagranatum Fruit

HISTORY: Pomegranate Has A Long And Exceptionally Colourful History, Having Been Embraced By A Number Of Different Cultures,While At The Same Time It Had Been A Major Horticulture Fruits In Diffrents Countries.The Pomegranate Is One Of The Worlds Most Ancient Fruit Has Has A Very Long And Fascinating History. "Eat A Pomegranate And Visit A Bath Your Youth Will Hast Back"- Said By An Ancient Egyptian Proverb.The Word Pomegranate Is Derived From The Medieval Latin "Pomumgranatum" It Means Apple Of Many Grains Or Seeds. Because Of Its Exotic Apparance Prolific Seed Cluster, The Pomegranate Has Long Been Imbued Which Rich With Symbolic Meaning Inded The Asssocation That Envolpe This Crimson Fruit Are Almost As Abundant As The Seeds Themselves.The Pomegranate Was Highly Esteemed By The Wondering Israelits, Who Express There Longing To Return To The Promise Land "Wherein Fig Trees And Pomegranates, And Olive Yrads Grow".The Ancients Greeks Belives That The Pomegranates Tree Sprang From The Blood Of Dionysus, The God Of Wine.The Fruit Was Also Associated With Persephone Who, As Result Of Eating It, Was Forced By Pluto To Return Under World For A 3rd Of Each Year.[8]

PHARMACOLOGICAL PROPERTIES:

Anti inflammatory property

Analgesic Property

Anticancer Property

Antioxidant Property

Antimicrobial Property

Antidiabetic property [8]

Fig No 2 : Punicagranatum Tree

USES:

High Blood Pressure

Athletic Performance

Heart Disease

Diabetes

Digestion

Alzheimers[8]

Where Inflammation Occurs:

There Are Mainly Two Types Of Inflammation Such As

1. Acute Inflammation.
2. Chronic Inflammation.

A) Acute Inflammation :

1.Tonsilitis

2.Joint Pain

3. Bowel Inflammation

4,Headaches

5.Body Pain

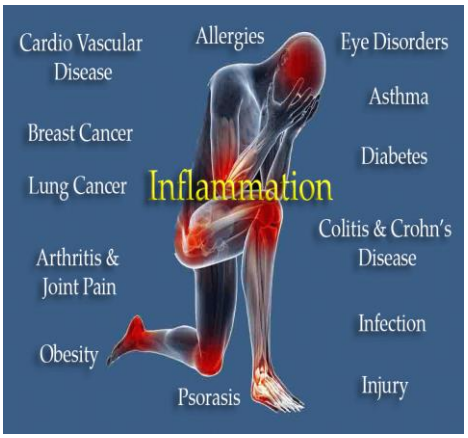

Fig No 3 : Inflammation Image

B) Chronic Inflammation:

1.Athritis

2.Atherosclerosis

3. Bowel Disease

4.Joint Disease

5.Skin Disease

6.Cardiovascular Disease

7.Neurological Disease

8.Cancer.

Symptoms :1.Pain

2.Heat

3. Swelling

4.Redness

5. Loss of Functions

6. Fever

7.Muscle Stiffness.

Collection & Cultivation :The freshly fruit was collected from Alephata marketyard. P.granatum is grown for its fruit crop and as ornamental tree and shrubs in parks and gardens.

Soil : Well Driend ordinary soil.

Climate: Temperature below 12F

Irriagation: Saline water and soil conditions

Fertilization: Generally Nitrogen and ammonium sulphate and others compost.

Proporgation

Peste and disease.[12]

Chemical Constituents : Pomegranate Consist Of Rich Of Variety Of Flavonoids(0.2% To 1.0%) Of The Fruit. Approximately Anthocyanidns Is(30%) Found In Pomegranate Are Contained Within The Peels. The Isoflavones Genistein, Diadzein,Genistin, And Diadzin As Well As Estron,The Metabolic Derived Of Estradiol,Have Been Isolated From The Seeds.The Stem And Root Of Pomegranate Contain An Alkaloid Including Isopelletierine,Pseudopelletierine And N-Methlyiso Pelleteirine, Anthocynidns,Pelagronidine,Ellagotannin,Gallic Acid And Ellagic Acid.[12]

Various Varities Of Punicagranatum:

Mrudula

Arakata

Ganesh

Jyoti

Muskat

Purple Heart

Eversweet

Red Silk

Sendri[8]

Materials And Methods : Fresh Fruit Of Punicagrantum Was Collected From Local Marketyard Alephata , Maharashtra And Transfer To Laboratory.

1) The Fruits Where Wash With Tap Water, Rinse Well And Dried At Room Temperature For About 10 Min In Open Air.
2) The Peel From The Fruit Was Removed Carefully By Knife And Sundried.
3) The Dried Material Was Properly Ground Into Powder.
4) This Powder Material Was Separated According To The Particle Size With The Help Of Sieves No #44,#60,#80,#85.
5) To Obtained Different Batches For Further Preformulation Study.[(1)]

Table No 2 : Materials

Sr.No	Biological Name	Synonym	Family
1	Punicagranatum	Punica Nana L Dalimba	Lythraceae
2	Clove Oil	Caryophyllum Clove bud Flower	Myrtaceae

Excipients:Cholesterol, Petroleum Jelly, Cetyl Alcohol, White Soft Parafiin, Etc.

Preparation Of Ointment Base : By Using Fusion Method

1) Weigh An Accurate Gm Of All Excipients Such As Cholesterol (1 gm) , Petroleum Jelly (1 gm), Cetyl Alcohol (1 gm) , White Soft Paraffin (17 gm).

2) For Small Scale : Porcelain Dish Is Place On Water Bath.

For Large Scale : Carried Out In Large Steam Jack.

3) Procedure :

A) The Ingredient An Base Are Melted & Properly Mixed To Obtain A Uniform Products.

B) Initially The Ingredients Of Highest Melting Point Is Melted Then Remaining Are Added In Decreasing Orders Of Melting Points.

C) Mixture Is Removed From Water Bath And Stir To Cool It.

Preparation Of Ointment :

1) All Ingredients Was Mixed And Heated Gently With Stirring Then Cooled.

2) The Extract Of Punicagaranatum Peel Was Added In Respectively In 40 gm Of Base.

3) Then Clove Oil Is added As A Penetration Enchancer In 40 gm Of Base.

4) Mixed It Properly By Using Ointment Slab.

5) Transfer It Into A Suitable Container.[2,3]

EXTRACTION METHOD :

A) Maceration Method :

1. In This Process Solid Ingredients Are Placed In A Stoppered Container With The Whole Of The Solvent And Allowed To Stand For A Periods Of At Least 3 Days With Frequent Agitation,Until Soluble Matter Is Dissolved.

2.The Mixture Is Then Strained The Mare Pressed And Combined Liquid Clarified Or By Decantation After Standing.

3.Weigh About 20 gm Of Crude Powder Then Add 100 Ml Ethanol Kept For 4 Hours With Continuous Shaking On Magnetic Stirrer Then Filter It.

4.For Preparation Of Filtrate 1 Add Residue Then Add 25 Ml Ethanol Kept For Four Hours With Continuous Shaking.

5.For Prepartion Of Fitrate 2 Add Residue Add 25 Ml Ethanol Kept For Over Night.

6.For Preparation Of Filtrate 3 Add Residue 25 Ml Ethanol Kept For A Night.

7.For Preparation Of Filtrate 4 Add Residue 25 ml ethanol And Pool All Filtrates And Kept For Evapouration Then The Extract Was Obtained.[8]

B) Soxhlet Apparatus Method :

1) This Is Continuous Process Of Extraction With A Hot Organic Solvent.

2) Take A Powder (Crude Drug) Is Taken In The Thimble Which Is Place In Soxhlet Extractor.

3) The Extractor,Which Has Siphoning System Is Fitted On Top On Round Bottem Flask.

4) A Condenser,Is Fitted At The Of Extractor.

5) Enough Quantity Of The Extracting Solvent Is Poured Into The Flask Place On A Heating Metal. 6) On Heating The Solvent Evapourate,Rise To The Condenser,Where It Condenses And Drains Back To The Extractor Holding The Thimble With The Crude Drug Material.

7) When The Extractor Become Full With Hot Solvent.The Solvent Siphons Down To The Flask Along With Extracted Constituents.

8) The Recycling Of The Evaporated Solvent Is Allow To Continue Until The Extraction Is Complete[8].

FIGURES :

Fig No 1:Punicagranatum Fruit

Fig No 2 : Punicagranatum Peel

Fig No 3 : Punicagranatum Powder

Fig No 4: Punicagranatum ointment.

FORMULATION DESIGNING:

Table No 3 : Formulation Of Herbal Ointment.

Sr.No	**Ingredients**	**Batches**			
	In (gm)	**F1**	**F2**	**F3**	**F4**
	Conc	**25 %**	**30 %**	**35 %**	**40 %**
1	Punicagranatum Peel Extract	2	3	4	5
2	Clove Oil	2	2	2	2
3	Base Material	q.s	q.s	q.s	q.s
	Total	10 gm	10 gm	10 gm	10 gm

Table No 4 : Formulation Of Ointment Base.

Sr.No	**Ingredients (gm)**	**Quantity Taken**
1	Cholesterol	2 gm
2	Petroleum Jelly (Vaseline)	2 gm
3	Cetyl alcohol	2 gm
4	White Soft Paraffin	34 gm
5	Total	40 gm

PHYSICAL PARAMETERS:

A) Preformulation Study:

1] General Appearance: Colour,Odour,Taste

2] Bulk Density:

Bulk Density = Bulk Of Powder / Bulk Volume Of Powder

3] Tapped Density: Weigh Accurate Quantity Of Powder Sample Was Transfer Into A Graduated Measuring Cylinder.Volume Ocqupied By The Powder Was Noted Down. Then Cylinder Was Subjected To 100-300 Taps In Tap Density Apparatus.

Tapped Density = Mass Of Powder / Tapped Volume.

4] Carr's Index: The Compressibility Index And Hausners Ratio Was Measured The Property Of Powder To Compress.The Packing Ability Of Powder Material Was Evaluated From Change In Value Which Is Due To Rearrangement Of Packing Occurring During Tapping.It Was Indicated As Cars Compresibilty Index Was Calculated By Formula

Carr's Index = Tapped Density-Density / Tapped Density ×100

5] Hausners Ratio: Measurment Of Frictional Resistance Of Powder.Ideal Range 1.2 To 1.5

Hausners Ratio = Tapped Density/Bulk Density

6] Angle Of Repose(Ɵ): It Is Ratio Of Height Of Pile To The Radius Of Circle.

7] Flow Rate: Weighed Accurate Quantity Of Powder Sample.Place A Cotton Plug At The Neck Of A Clean And Dry Funnel Stem Diameter 1-2.5cm . Place powder Sample In The Funnel.Remove Plug From Neck And Record The Total Time Required For All The Powder To Flow.

Flow Rate = Weight Of Powder / Time Required To Flow

8] Water Soluble Extractive : Useful For The Evaluation Of Crude Drug.Give Idea About The Nature Of The Chemical Constituents Present In A Crude Drug. Weigh About 5 Gm Of The Coarsely Powdered Drug And Transfer It To A Dry 250 Ml Conical Flask.Fill A 100ml Graduated Flask With A Water And Transfer It Into A Conical Flask.Cork The Flask A Side For 24 Hours,Shaking Frequently.Filter Into 50 Ml Cylinder.When Sufficient Filtrate Has Collected,Transfer 25 Ml Of Filtrate To A Weigh Thin Porcelain Dish. Evaporate To Dryness On A Water Bath Complete The Drying In An Oven At 105℃ For 6 Hours.Cool And Weigh Immediately.Calculate The Percentage W/W Of Extractive With The Reference To The Air Dried Drug.

Calculation:

A) Weight Of Empty Porcelain Dish (X) = 200 gm

B) Weight Of Porcelain Dish With Residue(Y) = 15 gm

C) Weigh Of Residue(X-Y) = 200 - 15 gm = 185 gm.

$$\text{W.S.E}=Weight\ of\ residue \times 100 \times 100 \div Wt\ of\ drug\ taken \times vol\ of\ filtrate(25m$$

9) Alcohol Soluble Extractive: It Is Same As Water Soluble Extractives Only water is replace by alcohol.

10) Moisture Content : Weigh 1.5 Gm Of Sample In A Porcelain Dish Containing 6-8 Cm Diameter And 2-4 Cm Depth In It.Dry The Sample In An Oven At 105℃.Cool And Weigh.Calculate The Moisture Contents By Using Formula

$$\text{Moisture Content}(\%) = \text{Final Weight-Initial Weight} \times 100$$

11) Total Ash Value :Used To Determine Quality And Purity Of Crude Drug And To Established The Identified Of It. Weigh 2 Gm Of Powder Drug Into The Crucible.Ignite Sample On Burner Until All The Carbon Is Burn Off. Cool It And Weighed The Ash. Calculate The Percentage Of Total Ash With Reference To Their Air Dried Sample Of Crude Drug.[3]

Weight Of Empty Dish = X

Weigh Of The Drug Taken = Y

Weight Of The Dish With Ash = Z

Weight Of Ash = (Z-X)

$$\text{Total Ash} = 100(Z-X) / Y$$

Evaluation Of Formulation:Prepared Punicagrantum Ointment Were Evaluated For The Following Evaluatin Parameter.[1,2,3.]

A) Colour & Odour : By Visual Inspection

B) Consistancy : Smooth & No Greetiness Is Observe.

C) pH :pH Of Herbal Ointment Was Determine By Using Digital Ph Meter.The Solution Of Ointment Was Prepared By Using 100ml Distilled Water & Set Aside For 2 Hrs, Ph Was Determined.

D) Spreadability : The Spreadability Was Determined By Placing Sample Between Two Glass Slides Which Was Compressed To Uniform Thickness By Applying Definite Weight For Definite Time Period. The Time Required To Separate The Two Slides Was Measured As Spreadability. Less Time Taken For Separation Of Two Slides Shows Better Spreadability Calculated By Using Formula.

$$S = M \times L / T$$

Where ,

S = Spreadability

M = Weight Applied To Slides

L = Length Of Glass Slide

T = Time Taken To Separate The Slide

E) Extrudability :The Ointment Was Filled In Collapsible Tube The Extrudability Was Determined In Terms Of Weight Of Ointment Required To Extrude 0.5cm Ribbon Of Ointment In 10sec. A Diffusin Study Was Carried By Preaparing A Agar Nutrient Medium By Using Boher Method.The Hole Is Created On Agar Medium By Using Open

Mouth Ampoules And Ointment Place In It. The Time Taken By Ointment To Get Diffused Through Was Noted(After 60 Min).

G) L.O.D.:

L.O.D Was Determined By Placing The Formulation In The China Dish & Dried For The Temperature 105℃ In Hot Air Oven.

$$DL = C_1 - C_0 / I_1 - I_0 \times 3\sigma$$

C_1 = Concentration of high sample

C_0 = Concentration of Blank

I_1 = Raw intensity Of high sample (cps)

I_0 = Raw intensity of blank (cps)

σ = Standard deviation from a number of measurement of the Blank (cps).

H) Solubility: Soluble In Boiling Water, Miscible With Alcohol And Ether.

I) Washability :Ointment Was Applied To The Skin Then Washability With Water Was Checked.

J) Non Irritancy : Prepared Formulation Was Applied To The Skin Of Human Being And Observe The Effect.

K) Stability Study: Physical Stability Of The Prepared Herbal Ointment Was Carried Out For 3 Month At Various Temperature Condition Like 2℃, 25℃, 37℃.

RESULT & DISCUSSION:

A) Preformulation Study of powder sample:

Table No 5 : Preformulation Study of powder sample.

SR.NO	Parameters	Sieve No #44	Sieve No #60	Sieve No #80	Sieve No #85
1	Colour	Brown	Brown	Brown	Brown
2	Bulk Density(Gm/ml)	0.545	0.465	0.376	0.354
3	Tapped Density(gm/ml)	0.672	0.549	0.538	0.456
4	Carrs Index (%)	15.45	11.5	24.39	17.34
5	Hausners Ratio	1.196	1.14	1.34	1.22
6	Porosity(%)	24	15.66	22.80	18.04
7	Angle Of Repose(Θ)	32℃ 42	28℃ 98	25℃ 56	30℃ 29
8	Moisture Content(%)	9	8	9	19

9	Flow Rate(gm/sec)	0.68	0.56	0.34	0.23
10	Ash value(NMT 4%)	0.22	0.22	0.22	0.22
11	Water Soluble Extractive(NLT 35%)	44.6	44.6	44.6	44.6
12	Alcohol Soluble Extractive(20%)	48.6	48.6	48.6	48.6

From Above Preformulation Data Powder From Sieve No#60 Shows Acceability Angle Of Repose, Tapped Density, Bulk Density, Cars Index & Hausners Ratio, Flow Rate, Moisture Content. The Batch Shows Group Data As Compared With Other Bathches.Therefore It Was Conclude The Powder From Sieve No #60 Consider As A Optimize Batch.

B) Evalution Of Formulation:

Table No 6 : Evaluation of formulation

Sr.No	Parameters	F1	F2	F3	F4
1	Colour	Yellowish brown	Yellowish brown	Yellowish brown	Yellowish brown
2	Odour	Characteristic	Characteristic	Characteristic	Characteristic
3	Consistency	Smooth	Smooth	Smooth	Smooth
4	pH	5.4	4.5	4.4	4.6
5	Spreadiability(sec)	7	6	8	7
6	Extrudability (gm)	0.3	0.4	0.7	0.5
7	Diffusion Study(after 60 min)	0.6	0.8	0.4	0.7
8	L.O.D.	25%	30%	25%	20%
9	Boiling Water	Freely Soluble	Freely Soluble	Freely Soluble	Freely Soluble
	Alcohol	Miscible	Miscible	Miscible	Miscible
	Ether	Miscible	Miscible	Miscible	Miscible
10	Washability	Good	Good	Good	Good
11	Non Irritancy	Non irritant	Non irritant	Non irritant	Non irritant
12	Stability Study(2℃,25℃, 37℃)	Stable	Stable	Stable	Stable

From The Above Evaluation Parameter It Can Be Conclude That Overall Bathches The F3 Batch Shows All Parameter In Accepetable Limits. Therefore This Consider As A Good Formulation.

CONCLUSION : The Punicagranatum Peel Powder Were Used To Formulate Anti-Inflammatory And Analgesic Herbal Ointment & Evaluated For Physical Parameters. Preformulation Study & Physical Parameter Exposed That All The Values Were Acceptable Limit. The Herbal Ointment Useful For An Antiinflamatory And Analgesic Activity.The Punicagaranatum Was Useful In Various Body Part. It Having Various Pharamacological Activities Which Are Useful In Our Life.From The Above Evaluation Parameter It Can Be Conclude That Overall Batches The F3 Batch Shows All Parameter In Acceptable Limit. Therefore It Consider As Good Formulation.

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