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FORMULATION AND EVALUATION OF IMMUNE-SUPPLEMENTARY NUTRITIONAL GRANULES

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ABSTRACT

In the day today's life people are not caring for proper nutrition and hence relying on the dietary supplements, and are considered as better choice for healthy lifestyle. Seven herbs namely, Amla, Ashwagandha, Shatavari, Ginger, Flax seeds, Moringa, Turmeric Churna were selected for preparation of immune-supplementary nutritional granules. The selected herbs were found to be of best quality in their preliminary observation. This proves that the formulation can be used as herbal medicines, and the significant nutritive values prove that they can be used as dietary supplements. The combination of herbs will definitely give synergistic action considering their nutrition value and medicinal value.

INTRODUCTION

In present era people are becoming more cautious about their health, at the same time the life style oriented diseases and environmental conditions are affecting the health of people. Nutraceuticals alludes to nourishments medicinally affecting strength of individuals. It comprises of food supplements, home grown items, probiotics and prebiotics, clinical nourishments implied for avoidance and treatment of ailments. Hence, in the present investigation an attempt will be made to select few nutritious, medicinally active herbs and formulate into a suitable dosage form. Particular formulation can be used in various conditions like people suffering from chronic disorder, nutritional supplement, immunity booster or as prophylactic agent for prevention of certain lifestyle-oriented disorder. The formulation will also be evaluated for its quality control parameters, so that it will meet the market expectation.

MATERIAL AND METHOD

Plants were procured from area near to Sangli of Maharashtra in January 2020. The plant material was authenticated by Dr. Tamboli E. T. (Head, Department of Pharmacognosy, Annasaheb Dange College of B Pharmacy, Ashta). Authenticated washed plant material was dried in hot air oven at 40°C for 72 hrs and pulverized in a mechanical grinder. The coarse powder was passed through sieve and taken

for further studies. Granules were prepared by wet granulation method.

Fig no. 1: Granules prepared in Laboratory



In order to prepare an immune-stimulant nutraceutical several research article and literature was studied and following 7 plants were finalised and evaluation study is carried out.

Table no 1: List of herbs selected for formulation.

Sr. No.	Common Name	Part used	Scientific Name	Role
1.	Amla	Fruits	<i>Phyllanthus emblica</i> (Phyllanthaceae)	Antioxidant, vitamin and mineral supplement
2.	Termeric	Rhizomes	<i>Curcuma longa</i> (Zingiberaceae)	Antioxidant, antibacterial, immune-stimulant
3.	Flex-seed	Seeds	<i>Linus usitatissimum</i> (Linaceae)	Omega-3-fattyacid source
4.	Ginger	Rhizomes	<i>Zingiber officinale</i> (Zingiberaceae)	Antioxidant
5.	Drumstick	Leaves	<i>Moringa oliefera</i> (Moringaceae)	General tonic
6.	Ashwagandha	Roots	<i>Withania somnifera</i> (Solanaceae)	Immune-stimulant, nervine tonic
7.	Shatavri	Roots	<i>Asparagus racemosus</i> (Liliaceae)	General tonic

RESULTS AND DISCUSSION:

Following were the results obtained for the formulation:

Table no 2: Evaluation parameters of granules

Material	Granules
Particle Size (μm)	0.77
Bulk Density (mg/dl)	0.44
Tap Density (mg/dl)	0.46
Carr Index (%)	4.34
Hausner Ratio (HR)	1.04
Flow rate (g/sec)	1.36
Angle of repose ($^{\circ}$)	34.6

From the above evaluating parameters of granules they has a particle size within a range. They has excellent Carrs Index, also has excellent Hausner Ratio and a good Angle of repose which was good for flowability and might be consideration in good compatible for compression of tablet. This granules contains seven herbs which have their multiple uses and are nutritious to our health and might this composition of herbs get beneficial to our immunosystem and help to boost our immunity power when taken in appropriate dose.

CONCLUSION

Nutraceuticals are becoming indispensable component of human life, due to changing environment, stress, disease spread it is important to always be on prophylactic therapy. In present investigation after thorough literature review herbs were selected showing both nutritional and immunity booster activity.

Such combination of herbs in their raw form was done for the first time which denotes uniqueness of attempt. Granules were prepared and thus evaluated for their quality control parameter and were found appropriate. The prepared formulation thus can be used for further modification viz. preparation of tablet or capsules. The combination of herbs will definitely give synergistic action considering their nutrition value and medicinal value. Incorporation of these granules in daily diet will be helpful in maintaining health. However, its pharmacological actions must be tested in future.

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