



RECENT TREND OF UNANI AND AYURVEDIC MEDICINE TRADITIONAL DOSAGE TYPE AND PRESENT STATUS

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ABSTRACT

Today, traditional medicine finds more sense and application particularly when we are facing difficulties in managing various medical conditions. In modern times more effective and palatable types of drug delivery are required. The recent trend in conventional dosage types of medication is to increase solubility, bioavailability, pharmacological activity, safety, decrease toxicity, and compliance, etc. Oral dosage form, which can address these factors are granules (effervescent and rapid release granules), tablets (fast dissolving and rapid disintegrating tablet), capsules, suspension, syrups, etc. And topical dosage types include toothpaste, natural hair dye; face packing, hand wash, etc. Contemporary, mainstream pharmacies, including many Ayurvedic pharmacies, have already adopted these modern trends and introduced a variety of new dosage types, apart from conventional ones, protected by conventional knowledge; such recent developments in the dosage type in Unani and another conventional Indian medicine pharmacy to adjust to the global scenario are desperately needed.

Keywords: Recent trend in traditional, Dosage form.

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INTRODUCTION:

There are almost as many types of traditional medicine as cultures are so do the dosage form. Today, the use of conventional medicine is becoming more and more important, especially with the awareness that we face challenges in the treatment of many medical conditions. More effective and palatable drug dosage forms are needed in the contemporary era. It is a known fact that no medicinal product will progress without resolving the dosage type and drug creation issues [1].

There is a need to readdress the dosage form in Unani medicine. Our genetic legacy for the dosage type used in Unani medicine is enormous. Time has come to revisit a few of our dosage form with modification and addition of new in it. These changes are essential due to evolution in human being and lifestyle adopted by the masses in the present era. This work explores the current trend in the traditional medicine dosage form and present status of Unani medicine.

Need and Advantage of Advancement in Traditional Medicine Dosage Form:

The use of herbal medicine is becoming increasingly important today, especially given the recognition that we face more challenges in the treatment of certain medical conditions, such as So in modern times, more convenient and palatable types of drug delivery are required [2].

Similarly, many popular Unani formulations in various ailments and diseases need to be updated in this respect too. Advantages of implementing recent developments in conventional dosage forms of medication include enhancing solubility and bioavailability, toxicity safety, enhancing pharmacological activity, enhancing stability and improving tissue macrophages distribution, System of drug distribution, improved compliance, decreased overall drug administration, and increased patient outcome [3].

Recent Trends in Traditional Medicine Dosage Forms, Which is to be utilized in Unani Medicine:

ORAL DOSAGE FORMS:

GRANULES: The term granule is derived from the Latin word *granulatum*, meaning grain [8]. Advantages of granules formulation are to increase the uniformity of drug distribution in the product, to the material, to enhance the flow rates and rate of uniformity, to facilitate metering or volumetric dispensing, to reduce dust and to improve the appearance of the product [8].

Types of Granules:

Effervescent Granules: Effervescent granulate formulations have many benefits over conventional pharmaceutical formulations. These substitute liquid forms because active ingredients that are not available in liquid form are also more available.

Their administration is simple and helpful particularly for children who cannot swallow capsules or tablets. Because of the combination they have good taste which helps mask the bad taste of other drugs. This could help to avoid the gastric side effects of certain drugs. In certain cases, they can shorten the drug absorption rate in the body with quicker therapeutic effect. They are easy to use and appeal to consumers more than the classical preparations. [8].

Rapid Release Granules: Rapid release granules are expected to benefit the class of compound where absorption is highly dependent on the dissolution of the drugs in the gastrointestinal tract. Rapid release granules enhance the dissolution of bioactive compounds to increase the bioavailability of poorly water-soluble compounds [8].

NOVEL DRUG DELIVERY SYSTEM: Innovative drug delivery method is a novel drug delivery solution that tackles the drawbacks of conventional drug delivery. Eliminate all the disadvantages associated with conventional drug delivery systems. Its advantage is that the efficacy of the drug is enhanced, patient compliance is increased, and avoidance of repeated administration of drug and therapeutic value of the drug is increased by reducing toxicity and increasing the bioavailability, etc [7].

TABLETS: Tablet was the most widely used oral dosage form from the beginning when it came into existence. But some of the people find difficulty in swallowing tablet, so to avoid all these problems associated with a tablet, fast dissolving tablet came in existence.

Fast Dissolving Tablet [FDT]: Fast dissolving tablet is gaining popularity in pharmaceutical companies as this is the new drug delivery technique to provide medicine to the patient without obstacle in swallowing. Fast dissolving tablets are designed in such a way that they first disintegrate and then swallowed without the need of water as compared to another traditional dosage form. Its benefit is ease of administration; water consumption is not needed, the drug is easily dissolved and absorbed and the bioavailability increased [9].

Rapid Disintegrating Tablets [RDT]: Among the different dosage forms produced to boost ease of administration, the most commonly preferred commercial product is speedy disintegrating tablet. It is advantageous in the administration to the patients who cannot swallow, such as the elderly bed-ridden patients, patients affected by renal failure and patients who refuse to take such as pediatrics, geriatric and psychiatric patients. It is a rapid intervention in drug therapy to achieve greater bio-availability, convenient for travelers and busy people who do not always have access to water, a healthy mouth feeling and the possibility of choking and suffocation is prevented, thereby improving health [10].

CAPSULE: Capsules are one of the solid dosage forms. Drug substances are enclosed in it either in a hard or soft shell or container which are soluble. This container or shell is made up of gelatin and other non-gelatin materials. The advantage of the capsule is that capsules are stable because powders show greater stability than liquid dosage forms as the rate of reaction between drugs in the powder

dosage form in atmospheric conditions is slower than the rate of reaction in a liquid medium. Accurate dosage is possible. They are easy to administer, capsules are easy to swallow (suitable shape and slippery when moistened). Unpleasant tastes can be easily masked. The release characteristics of the drugs can be controlled. They can be made light resistant using opaque capsules. The smaller particle size of powdered drugs leads to more rapid absorption from the gastrointestinal tract compared to tablets. This, in turn, leads to reduced local irritation of the gastrointestinal tract which may be caused by the local concentration of a drug as encountered when taking an equivalent tablet. They are well accepted by patients, attractive to patients and convenient to carry [11].

SUSPENSION: Suspensions are defined as a class of materials in which one phase; a solid is dispersed in a second phase, generally a liquid. Suspension represents the most common system that is of importance to the pharmaceutical or formulation scientist [11]. Suspensions find applications in many everyday consumer products such as drugs, cosmetics, foods, etc. The drug is poorly soluble in acceptable drug vehicles or a soluble form of the drug formulated as syrup may not mask the taste of a drug as well as the suspension dosage form. For poorly soluble drugs the oral suspension is considered the preferred dosage form because of safety. Quite often pediatric or geriatric patients cannot swallow a solid dosage form without undue difficulty. As a result, the solid dosage form is crushed, or for a capsule, the contents emptied in to a suitable vehicle (now the drug is in the suspended state) for easy administration by the patients. This shows a very cautious need for suspension dosage form [12].

Injectable Suspension: Injectable suspensions are heterogeneous systems consisting of a solid phase dispersed in a liquid phase that may be either aqueous or non-aqueous. Its advantage is therapeutic use of a drug that is insoluble in conventional solvents. There is increased resistance to hydrolysis and oxidation as the drug is present in the solid form. Other advantages are possible controlled- release or depot action, elimination of hepatic first-pass effect, etc [13].

CONTEMPORARY SYRUP: Syrups are concentrated, the viscous, aqueous solution of sugar or a sugar substitute with or without flavors and medical substances; Syrups possess exceptional taste masking properties for bitter or saline drugs. Flavored syrups have great opportunities as vehicles in extemporaneous compounding and are accepted readily by both children and adults. Flavored syrups are vehicles of choice for many of the drugs that are prescribed by pediatricians. The usual syrup contains certain polyols (glycerin or sorbitol) with sucrose. They may be supplemented to retard sucrose crystallization or to increase the solubility of added ingredients in comparison to simple sucrose solution [12]. The conventional method of syrup can be adopted due to various benefits. Mentat DS (sugar-free syrup), Diakof (sugar-free syrup) are the example of some of the syrup [14].

EMULSIONS: Emulsions are colloidal dispersions comprising two immiscible liquids (e.g., oil and water), one of which is dispersed as droplets within the other. Stable

emulsions represent an effective formulation approach for the resolution of problems in drug and cosmetic agent delivery. Ease of administration may also play a role in the acceptability of emulsions. For oral or topical use emulsion systems may be easier to administer or apply than other disperse systems such as suspensions. The water washability of topically applied emulsions may be advantageous to the user. Gastrointestinal absorption of poorly absorbed species can often be enhanced by presentation in the form of an emulsion. Emulsification has made intravenous administration of lipid nutrients practical for malnourished or stressed patients [13].

Injectable Emulsions: Injectable emulsions have been successfully utilized as a source of calories and essential fatty acids for patients requiring long term parenteral nutrition. Injectable fat emulsions are used to prevent or treat essential fatty acid deficiency (EFAD) in various illnesses as well as in premature or low-birth-weight infants. Injectable emulsions may be used as a means of site-specific delivery such as delivering drugs to phagocytic cells of the reticuloendothelial system for treatment of a variety of parasitic and infectious diseases [13]. Elemene injections were prepared with one ingredient (β -elemene) of Chinese herb *Curcuma wenyujin*, for malignant tumors widely used in clinical practice in China [18]. Injection of *Brucea javanica* oil emulsion, one of the Chinese patent drugs has been widely used for lung cancer in China and is known to provide some favorable results, particularly when it combined with conventional treatment [19].

TOPICAL DOSAGE FORMS:

Dentifrices: It is a form of bulk powder generally contains cleansing agent, mild abrasive and anticarcinogenic property and is applied by the finger. With the growing field of alternative medicine; dentifrices based on plant extracts are available in the market. Dentifrices labeled as herbal/natural typically don't include ingredients such as synthetic sweeteners, artificial colors, preservatives, additives, synthetic flavors, and fragrances [20].

Tooth Pastes: Herbal toothpaste containing mostly plant products/plant derivatives are meant for protecting the germs and strengthening the teeth without causing any irritant and harmful effect. Herbal toothpaste is considered to be safe for daily use. Moreover, herbal toothpaste may be free from sodium lauryl sulfate, parabens, fluoride source (NaF), chlorine source and sodium saccharine. Herbal toothpaste have emphasized role in maintaining the hygienic nature as well as in preventing dentalgia [21].

Hair Dye: a combination of peroxide and ammonia which alters the structure of hair and damages it and can also cause allergic reactions. It also causes dermatitis around lips, reddening and swelling of scalp and face, etc. People using synthetic dyes are exposed to greater risk of developing urinary bladder cancer and non-Hodgkin's lymphoma. Herbal hair dye can be prepared with conventional processing. Herbal hair dyes are semi-permanent dyes, used traditionally and believed to be safe and non-toxic. Plants have been used traditionally for their hair coloring, growth promoting and anti-aging properties [22].

Face Pack: Smooth powder used for the facial application is known as a face pack. Various herbal ingredients are used to prepare the face pack. They are nontoxic and provide a soothing and relaxing effect on the skin. They reduce allergic reactions related to skin. Face pack removes the dirt from skin pores, stimulates blood circulation, rejuvenates the muscles and can help in maintaining the elasticity of the skin.

Face packs increase the fairness, glow, and smoothness of skin by reducing dead cells of the skin. Face packs are one of the oldest and beautiful methods of cleansing skin. Herbal/poly-herbal face packs can be cheaper and safe with no adverse effects for getting fair and clean skin naturally.

Natural face packs contain some vital vitamins that are required for the health and glow of our skin. Face packs can help to reduce acne/pimple, scars and other marks depending on its ingredient herb/drug. Face packs can help to prevent early aging of skin [23].

Hand Wash: Skin being the most exposed part of our body requires protection from skin pathogens. Many of the chemicals antiseptics is now available in the market as alcohol-based sanitizers, chlorhexidine products, etc. The adverse effect of these soap solutions can be skin irritation, and it can also cause resistance among various pathogens. Plants are a good source of anti-infective agents, and these plant-based antimicrobials also represent an enormous source for medicines not explored yet. Plants containing flavonoids and polypeptides used in traditional medicine have been found to be active against a wide variety of microorganisms [24].

Gel: Pharmaceutical gels are transparent semi-solid systems that are being increasingly used as pharmaceutical topical formulations. They are stable over long periods. They have a good appearance. They are suitable vehicles for applying medicaments to skin and mucous membranes, giving high rates of release of the medicaments and rapid absorption. Gels are usually translucent/transparent and have some uses such as (a) Anaesthetic gels (b) Lubricant gels (c) Coal tar gels for use in the treatment of psoriasis [25]. Some of the examples of herbal gel manufactured by Himalaya Drug Company is Himcolin (herbal aphrodisiac gel for penis), V-Gel (herbal vaginal gel for vaginitis and cervicitis) [14].

Shampoo: Shampoos are liquid, creamy or gel-like preparations, having a primary function to clean the hair necessitated due to accumulated sebum, dust, scalp debris, etc. Herbal shampoos have a natural cleansing agent, such as shikakai and reetha, without harmful effects. Herbal shampoos have been proved better in performance and safer than the synthetic ones [26].

Aerosol: Pharmaceutical aerosols are dosage forms containing therapeutically active ingredients intended for topical administration, introduction into body cavities, or by inhalation via the respiratory tract. The dosage form is packed in a metal or glass container and sealed with either a metered - or continuous - spray valve. Aerosol dosage form has widespread acceptance for the administration of therapeutically active agents by oral or nasal inhalation. Packaging in a small, compact container is convenient to use and easy to administer. Rapid therapeutic action is

attained, and his medication is available for immediate use [13]. 'Herbal Pain Relief Spray' (an aerosol spray) have been developed [27].

Sprays: When sprayed under the tongue they are termed sublingual sprays. Sprays have esthetic properties, ease of application, maintainability of sterility, tamper-proof system, prevention of contamination of the remaining contents and increased stability. An accurate amount of medication can be dispensed each time. These are used as first-aid products containing local anesthetics and antiseptics, germicidal and disinfectant products, protectives, *etc.* Oral sprays are designed to be sprayed either into the mouth or under the tongue. A variety of oral sprays are marketed as mouth fresheners [13]. 'Outer cure' an herbal antimicrobial aerosol spray is primarily developed for the treatment of wound infections without any side effects [28].

OPHTHALMIC DOSAGE FORMS: Many of the current ophthalmic preparations are available as sterile, buffered, isotonic solutions because a majority of the ophthalmic drugs are water soluble and drops are easier to administer. When a prolonged therapeutic action is desired, ointments, gelled systems, and suspensions are indicated. Their advantage is that they are non-irritating to the ocular tissues, homogeneous (particles uniformly dispersed), relatively non-greasy, should not cause blurred vision, sterile and adequately preserved, efficacious (provide an adequate amount of drug for the required duration), physically and chemically stable. Ophthalmic gels offer several advantages such as good tolerability, the formation of a protective film over the cornea and protection from conjunctival adhesions, retention time is increased compared to solutions and decreased the frequency of administration. Besides these properties, gels are sterile and non-irritating [13].

Eye Drops: Eye drops are the most common dosage forms of topical drug delivery. Eye drops have little physical interference with vision [16]. Many Qatoor (drop) preparations in Unani medicine can be converted in conventional eye drop by sterile methods/technology). Ophthalmic care [14].

Ointments: According to the United State Pharmacopoeia, ointments are semisolid dosage form proposed for external use to apply the skin or mucous membrane. Besides their medicinal benefits ointments also provide emolliency and other desired benefit [16].

Liniments: Liniments are liquid dosage forms meant for external use. They are used to lessen the discomfort, caused by injuries and muscle strains. Liniments have rubefacient nature due to, of its some ingredients, which is beneficial for sportspersons to warm up, before starting a sporting activity, to avoid any muscle damage [15].

Face Powder: Face powder is a solid dosage form, having the ability to praise skin color by imparting velvet-like finish. Face powders have been and remain one of the fundamentals of cosmetic manufacturing. Face powder enhances the appearance of the skin by masking the glow due to the discharge of sebaceous and sweats glands. Face

powder can be made for each type of skin (dry, normal, moderately oily and very oily) [21].

In modern times more effective and palatable types of drug delivery are required. The recent trend in conventional dosage types of medication is to increase solubility, bioavailability, pharmacological activity, safety, decrease toxicity, and compliance, *etc.*

CONCLUSION:

Change is the universal rule of nature and so for the natural products given by nature to us as various herbal remedies. Herbal and traditional pharmaceutical products have great distinction and sophistication fortifying our daily healthful life. Because of enormous engages of herbal products in our daily life the recent trend towards herbal/traditional products is to be adopted. Various Traditional and herbal products have a vast need to overcome the lacunae present in them. In current situation, many traditional and herbal pharmacies are developing new facts and trends to manufacture the required dosage forms. In this study, we find the recent trends and ways to change the state of various traditional and herbal pharmaceutical products to get the ease of administration, portability transportation, and patient's compliance.

By changing the dosage forms as per the insistent requirement of present era we can serve the ailing humanity in a better way with herbal and traditional (Unani and Ayurvedic) products. It can be done by dosage forms such as, granules, fast dissolving tablets, sugar free variants, *etc.* and also by following better packaging techniques. It can be concluded that there is an urgent need to adopt these trends in Unani and other traditional Indian medicine and its pharmacy for achieving sustain national and global acceptance.

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