

Vaginal and Rectal Dosage Forms in Iranian Traditional Pharmacy

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Received: May 2, 2014; Revised: June 23, 2014; Accepted: July 8, 2014

Background: Various dosage forms have been introduced in Iranian Traditional Pharmaceutical Pharmacopoeias. One important category of these dosage forms because of local and systemic efficacy was intra vaginal and intra rectal dosage forms.

Objectives: The aim of this study is the investigation about Iranian Traditional Pharmaceutical dosage forms of vaginal and rectal medications.

Materials and Methods: A wide-ranging search in main Iranian Traditional Pharmacy text books and web engines performed to introduce vaginal and rectal dosage forms in Iranian Traditional Pharmacy.

Results: Most common vaginal and rectal dosage forms mentioned in Iranian Traditional Pharmacy documents include vaginal or rectal fumigation (Bakhoor), vaginal or rectal cotton-load (Hamool), vaginal or rectal wick (Fateelah), vaginal pessary (Forzajah), vaginal or rectal suppository (Shiaf), vaginal or rectal enema (Hoghnah), penis fossa drop (Ghatoor) and vaginal or rectal oil (Dohn). All of them are applied for treatment of vaginal or rectal illnesses or systemic disorders.

Conclusions: Evaluation of Iranian Traditional Dosage Forms like vaginal and rectal types could be an attractive topic of research and the current study can briefly represent the Iranian Traditional Pharmaceutical knowledge on vaginal and rectal drug delivery.

Keywords: Iranian Traditional Pharmacy; Qarabadins; Vaginal Dosage Forms; Rectal Dosage Forms

1. Background

Iranian Traditional Pharmacy (ITP) is a science concentrating on nature and quality of drugs with herbal, animal and mineral sources, simple and compound dosage forms, adverse effects, delivery and targeting of natural drugs (1). Many different dosage forms have been introduced in Iranian Traditional Pharmaceutical Pharmacopoeias (Qarabadins). Among the various Iranian Traditional Pharmaceutical dosage forms, intra vaginal and intra rectal dosage forms are appropriate forms for local and systemic drug delivery (2). The human vagina and rectum represent the potential spaces that offer valuable routes for drug administration due to their rich vascularization, large permeation areas, no first-pass metabolism and no gastric degradation (3-10).

2. Objectives

The purpose of the present study is to discuss about all types of intra vaginal and intra rectal dosage forms and their indications in ITP.

3. Materials and Methods

There are valuable and scientific ITP-related documents discussing about dosage forms, nature and potency of drugs, methods of enhancing the effects of drugs and optimization of drug delivery to sites of action and improving the pharmacological and therapeutic properties of drugs' administration. In this study all different types of vaginal and rectal dosage forms were derived from Iranian Qarabadins e.g. "Canon of Medicine" (Book. 5), "Qarabadin-e Kabir", "Qarabadin-e Azam", "Qarabadin-e Ghaderi", "Qarabadin-e Salehi",

“Qarabadin-e Masoumi” and “Qarabadin-e Zokaei”. In addition, the ingredients and indications of compound drugs with the nature and scientific name of each ingredient of selective vaginal and rectal dosage forms were extracted from “Makhzan-Al-Adviya”, “Tohfeh Al-Moemenin”, “Pharmacographica Indica” and “A Dictionary of Iranian Plant Names”.

4. Results

There were eight types of vaginal and rectal dosage forms introduced by Iranian Healers. These dosage forms included; vaginal or rectal fumigation (Bakhoor), vaginal or rectal cotton-load (Hamool), vaginal or rectal wick (Fateelah), vaginal pessary (Forzajah), vaginal or rectal suppository (Shiaf), vaginal or rectal enema (Hoghnah), penis fossa drop (Ghatoor) and vaginal or rectal oil (Dohn). All of them were applied for treatment of vaginal or rectal illnesses or systemic disorders (2).

Bakhoor (vaginal or rectal fumigation): This Pharmaceutical dosage form was defined as the smoke of burning natural drugs or the vapour form of a normally liquid or solid medication when boiling in water and then the vaginal or rectal spaces were exposed to the resultant smoke or vapour (11, 12). The mentioned indications of Bakhoor were in syphilis wounds, uterine hysteria, testis edema, hemorrhoid, gonorrhoea pain and syphilis. There were also oxytocic, abortive and pregnancy inducer Bakhoor (11, 13-15).

Hamool (vaginal or rectal cotton-load): In this Pharmaceutical drug delivery, a tissue of cotton or wool loading with natural drugs was inserted in the vagina or rectum (11, 15). Some indications of Hamool were in pregnancy induction, hemorrhoid, uterine hysteria, abortion induction, emmenagogue, labor induction, uterine hard edema, uterine weakness, uterine wounds induced by hot and pungent medications, high uterine secretions, intestinal edema, uterine edema, amenorrhoea induction, genital pain, uterine tremor, uterine pruritis, ascites, dysentery, hemorrhoid, hemorrhoid pain, uterine hardness and uterine flatulence (11, 13-17).

Fateelah (vaginal or rectal wick): Fateelah was applied as a strip or thread of fibrous or spongy material feeding with special medications inserted into the penis fossa, rectum or vagina (11, 15). Some mentioned indications of Fateelah were in syphilis and gonorrhoea wounds, hem-

orrhoid, bladder stones, dysuria and contraception (11, 13, 14).

Forzajah (vaginal pessary): This drug delivery was mentioned as a wet cotton or wool tissue feeding with dry or wet compound natural medications placed inside vagina (11, 15). This dosage form was used for pregnancy induction, contraception, uterine weakness, hypermenorrhoea, uterine hysteria, labor induction, lactagogue, abortion and menses induction, uterine bloating, uterine hard edema, uterine deodorant, uterine infection and wound healing (11-17).

Shiaf (vaginal or rectal suppository): Shiaf was a piece of solid compound natural medicine placed in the rectum or vagina and left to dissolve gradually (11, 15). Shiaf was useful for tympanitis, colic, constipation, diarrhea, biliary dysentery, hemorrhoid, dysmenorrhoea, infertility, emmenagogue, dysuria, uterine hard edema, gout, joint pain and penis fossa wound. There were also aphrodisiac, pregnancy adjuvant, abortive and gonorrhoea wound healer shiafs (11, 13, 15).

Hoghnah (vaginal or rectal enema): This Pharmaceutical drug delivery was defined as a forcible throwing a compound drug decoction into the vagina or rectum by means of a Mehghanah (enema syringe, enema pump, etc.) (11, 15). Hoghnah is useful for kidney inflammation, uterine edema, kidney stone, biliary dysentery, joint pain, gout, backache, hemorrhoid, uterine coldness, dysmenorrhoea, kidney and bladder coldness, rectal inflammation, diarrhea and biliary warm fever (11, 13-15).

Ghatoor (penis fossa drop): This type of Ghatoor was a simple or compound fluid medicine applied in the form of drops into the penis fossa (11). The indications of this dosage form mentioned in Qarabadin were dysuria, penis fossa wounds, urinary tract wounds and kidney or bladder stones trapped in the penis fossa (11-17).

Dohn (vaginal or rectal oil): This Pharmaceutical dosage form was defined as a smooth dense liquid that was made from simple or compound natural drugs and applied locally on the rectum surface (11-13, 15). Some indications of this dosage form were in hemorrhoid, anal fissure, genital weakness, intestinal wounds, urinary retention, genital coldness, uterus edema, rectum edema and syphilis genital wounds (11-17).

Table 1 shows few formulations of vaginal and rectal dosage forms used in ITP. As it is obvious, the ingredients

Table 1. Examples of Formulations of Vaginal and Rectal Dosage Forms Used in Iranian Traditional Pharmacy

Pharmaceutical Dosage Form	Bakhoor	Hamool	Fateelah	Forzajah	Shiaf	Hoghnah	Ghatoor	Dohn
Formulation name	Bakhoor-e varam-e onsaian (13)	Hamool-e dard-e bavasir (17)	Fateelah mane haml (14)	Forzajah khoshbooe rahem (16)	Shiaf-e bavasir (15)	Hoghnah es'hal (14)	Ghatoor-e ahliil (15)	Dohn-e badenjan (11)
Indications	Testis edema (13)	Hemorrhoid pain (17)	Contraceptive (14)	Uterine deodorant (16)	Hemorrhoid (15)	Diarrhea, intestinal wounds (14)	Dysuria, penis fossa wounds (15)	Hemorrhoid (11)

Ingredients (Scientific name/Used part/Nature)	<i>Hyoscyamus niger</i> L. (18, 19) Leaves/Cold and Dry (20); <i>Peganum harmala</i> L. (18) Seeds/Warm and Dry (20)	<i>Matricaria rectita</i> L. (18) Aerial parts/Warm and Dry (20); <i>Papaver somniferum</i> L. (19) Exudate/Cold and Dry (20)	<i>Quercus Brantii</i> Lindl. (18) Oak marble gall/Cold and Dry (20)	<i>Phyllanthus emblica</i> L. (18, 19) Exudate/Cold and Dry (20); <i>Crocus sativus</i> L. (18, 19) Stigma/Warm and Dry (20)	<i>Citrullus colocynthis</i> (L.) Schard. (18, 19) Fruit pulp/Warm and Dry (20); <i>Amygdalus communis</i> L. var. <i>amara</i> (18, 19) Fruit/Warm and Dry (20)	<i>Oryza sativa</i> L. (18, 19) Concentrated decoction/Mild (20)	<i>Subcarbonas plumbi</i> (18, 19) Mineral salt/Cold and Dry (20, 21); <i>Boswellia carterii</i> (18, 19) Resin/Warm and Dry (20, 21); <i>Astragalus arbusculinus</i> Bornm. and Gauba (18) Gum/Warm and Dry (20); <i>Acacia Senegal</i> Willd (18) Gum/Warm and Dry (20); <i>Dracaena cinnabari</i> (18) Gum-resin/Cold and Dry (20)	<i>Solanum melongena</i> L. (18) Fruit/Warm and Dry (20); <i>Cucurbita pepo</i> L. (18) Seeds oil/Cold and Wet (20)
Nature of Dosage Form	Warm and Dry ^a	Warm and Dry	Cold ^a and Dry	Warm and Dry	Warm and Dry	Moderate ^a	Warm and Dry	Moderate

^a According to ITP-related documents, the main constituents of creatures are just four elements; air, fire, water and soil. Warmness, coldness, dryness and wetness are the essential qualities, each containing a pair of specifications. Air is warm and wet, fire is warm and dry, water is cold and wet, and soil is cold and dry. After integration of these four elements in different quantities, one or two qualities will be dominant. Sometimes all of different quantities will neutralize each other effects and result moderation.

(active constituents) of the selected formulations are plant drugs. Formulation names, indications, ingredients, scientific names of plant drugs, used parts of the plants, nature of used parts, and final nature of each formulation are indicated in the abovementioned Table 1. This predominant quality is called nature (12).

5. Discussion

The vaginal and rectal routes have been used for the local application of many drugs for many years, but they are potential routes for controlled drug delivery of both local and systemic therapeutically active compounds in Iranian Traditional Pharmacy. Considering the advantages of these new vaginal or rectal dosage forms (e.g. ghatoor, hamool, forzajah and etc.) and new indications of them with less adverse effects, there is a vast area for new researches on intra vaginal and rectal delivery and there is a strong potential in ITP to introduce more medicinal agents in the pharmaceutical market.

Authors' Contributions

Maryam Mosaffa Jahromi has collected data and drafted the manuscript and is corresponding author; Hajar Ghaemi has collected data; Mehdi Ajdary Tafti has collected data; Atefeh Arabzadeh has collected data; Suleiman Afsharypuor has reviewed data and edited the manuscript.

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