



CODEN [USA]: IAJPBB

ISSN: 2349-7750

INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

Available online at: <http://www.iajps.com>

Research Article

CLINICAL CHARACTERISTICS OF ERECTILE DYSFUNCTION IN PERSIAN MEDICINE

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Abstract:

Introduction: erectile dysfunction (ED) is a growing problem worldwide. It is age related and the use of complementary and alternative medicine (CAM) by older patients to improve their sexual function has become common. Since Persian Medicine (PM) is one of three popular medical schools with its special view point of etiology, classification of disease, diagnostic methods and therapeutic approaches; current study is designed to clarify clinical characteristics of ED in PM.

Methods: information on erectile dysfunction, sexual dysfunction and their related signs, symptoms and clinical tests was obtained from original documents and manuscripts; Moreover, we investigated the utilization of these findings in conventional medicine through searching PubMed, and Google Scholar databases.

Results: there is a rich human heritage still unstudied in PM dating back to ancient times. In PM documents, 35 clinical finding of ED were identified, about half of them is objective, and while we still use most of Subjective ones in current patient report outcomes.

Conclusions: diagnosis of ED in PM is logically like conventional medicine; however, its classification of ED is different because PM believes in etiology, therefore due to lack of research on clinical assessment methods, more investigations are required to evaluate PM diagnostic procedures and treatment tactics.

Keywords: *Persian Medicine; Arabic Medicine; Unani Medicine; Erectile Dysfunction; Impotence; Signs and Symptoms*

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Please cite this article in press as Mohammad Attarfar *et al.*, *Clinical Characteristics of Erectile Dysfunction in Persian Medicine*, *Indo Am. J. P. Sci.*, 2017; 4(12).

INTRODUCTION:

Erectile dysfunction (ED) is one of the most common Complaints in men, the incidence of ED increases by age, about 52% of men after age of 40 show some findings of ED, and this raises to 80% by the age of 80 [1,2]. ED leads to decrease in quality of life, affects mood, and causes interpersonal and social problems [3].

ED or Impotence is defined as «inability to develop or maintain an erection of the penis during sexual activity», this condition appears in many clinical situations including psychotic disorders, organic diseases like neurological, vascular, hormonal or drug side effects[4].

Available treatments have their limitations, the first line or Phosphodiesterase 5 inhibitors like Sildenafil are associated with many side effects such as headache (20%), flushing (18%), dyspepsia (8%), further treatment failure is about fifty percent in some patients [5]. Drug interactions, contraindications, cultural backgrounds, easiness of reaching complementary and alternative medicine (CAM) treatment in addition to claims of its effectiveness lead patents to use other recommendations [6].

Persian Medicine (PM) medicine beside traditional Chinese medicine and traditional Indian medicine (Ayurveda) are one of the most common alternative medical schools worldwide [7]. Historically this school is inheritor of ancient medical knowledge in Middle East region (Egypt, Iraq, Persia, etc) collected and compiled structurally during Roman Empire age by famous Greek physicians like Hippocrates of Kos (c.460-c.370 BC), Pedanius Dioscorides (c.40-c.90 AD), Galen (c.129-c.200 AD), translated mainly to Arabic during medieval period by Islamic physicians and spread throughout the old world from al-Andalus (Muslim Spain) to India. Communications between nations of this wide area in more than ten centuries led to rich written heritage containing lots of clinical observations and experiences. Deep cultural beliefs, recommending individual care as a life style, accessible drug treatments, and may be effective interventions in some cases have resulted in wide use of PM until today.

Unfortunately, expansion of Reductionist science methodology after 17th century, along with statistical science restrictions and modern tools led to decline of holistic and system thinking of PM in academic researches.

Considering the specific methods of diagnosis, categorizations of clinical status and disease, and

interventions in complementary and alternative medicine schools, the world health organization recommends using the benefits of CAM based on knowledge strategy including documentation and integration between categorization of clinical status and disease in PM with the conventional one, which is International Classification of Diseases (ICD)[7]. Current study is designed in order to gain clinical assessment of ED in PM since it is the cornerstone of diagnosis by any classification.

MATERIALS AND METHODS:**Information sources, search and selection:**

Information about clinical assessment of ED in PM is available in two sources: electronic literature database and PM original written compilations as printed or manuscripts.

Electronic literature searches were done in following databases: Pubmed, Google scholar from their beginning to November 2017. [Erectile dysfunction OR impotence] and [traditional medicine OR alternative medicine OR Arabic medicine OR Unani medicine OR Persian medicine OR complementary medicine] were used as search terms. Additional literatures were searched from Persian Scientific Information databases: SID and MedLib.

Since there is no comprehensive database for PM works, main and popular textbooks of medicine in Arabic and Persian were selected; in addition, hand searching was done in bibliographic sources of Islamic civilization, history of medicine, and manuscript indexes to identify sexuality related compilations and then provision them.

Research methodology:

Qualitative Content analysis method was used to extract data from this source until obtaining data saturation; the goal was data reduction and data structuring. Except language barriers for Arabic and Persian, there was no limitation for geographic region or time duration.

RESULT:**Information sources:**

There was no article related to clinical assessment of ED in PM in Electronic literature databases so far.

PM physicians wrote thousands of compilations during Twenty centuries, some of them destroyed over the years, and most of the remaining manuscripts are still unpublished and unstudied as well. In general medicine textbooks the most famous and printed compilation in each region was selected (

Table 1); and more than one hundred sexuality specialized compilations were identified, but few of

them are still available, so a small number of them are attained (**Table 2**).

Table 1: famous general medicine textbooks in PM

#	Author	compilation	language	region	century
(8)	Nazim Jahan	great elixir	Persian	Indian sub.	20
(9)	Jorjani	Aims of medicine	Persian	Persia	12
(10)	Avenzoar	Facilitation of treatment	Arabic	Spain	12
(11)	Avicenna	The Canon of Medicine	Arabic	Persia	11
(12)	Haly Abbas	Complete Book of the Medical Art	Arabic	Persia	10
(13)	Baghdadi	Enrichment of medicine	Arabic	Iraq	11
(14)	David of Antioch	wish of needy in Experimental treatments	Arabic	Egypt	16
(15)	Baha' al-Dawlah Razi	Summary of trials	Persian	Persia	15
(16)	Arzani	Balance of medicine	Persian	Indian sub.	18
(17)	Balkhi	Sustenance for Body and Soul	Arabic	Persia	10
(18)	Ibn al-Nafis	Abstract of medicine	Arabic	Egypt	13
(19)	Averroes	Colliget	Arabic	Spain	12
(20)	Buhahlyha Bingezla	Correction of bodies in humans managements	Arabic	Iraq	11

Table 2: sexuality specialized compilations

#	Author	compilation	language	region	century
(21)	Rhazes	Al-Bah	Arabic	Persia	10
(22)	Avicenna	Al-Bah	Arabic	Persia	11
(23)	bakr šāhī	Lovers masterpiece	Persian	Indian sub.	
	Ibn kamal basha	Sheikh Back to his youth	Arabic	Turkey	16
(24)	Shaker afandy	Tohfat al-Raghib	Arabic	Egypt	19
(25)	Mozaffar šafā'ī	Al-Bah	Persian	Persia	16

disease has a detectable and specific cause (etiology), therefore physician must Eliminate the cause.[27, 28]

Clinical assessment of ED in PM:

Clinical findings of ED were extracted from sources, and categorized based on reliability (subjective and objective), measurability (nominal and numerical). **Error! Reference source not found.**

Principles of clinical assessment:

PM physicians described three type of clinical finding «a'raz»: sign, symptom and witness. Sign defined as disease presentation that lead physician to diagnosis (objective finding); symptom is patient expressions (subjective finding), While Witness is active detection of sign, like Urinalysis, pulse palpation, and clinical tests.

A collection of clinical findings is called a disease, defined by specific, countable types of damage in organs. Each damage type has its definition and identified causes. Since PM physicians believe each Table 3 shows Subjective findings and Table 4 show Objective findings. In addition each table shows Differential diagnosis of ED in PM.

Table 3: Subjective clinical findings

#	Nominal finding	value	Differential diagnosis
1	Ejaculation	with imagination	Brain weakness
2	Ejaculation	Without erectile	Heart weakness
3	Ejaculation	Without desire	Kidney weakness
4	desire	Pseudo	Anal Fissure Semen acrimony Brain weakness Heart weakness Liver weakness Sexual tubules motivation [riah al-bauasir]
	Numerical finding	Differential diagnosis	
		increase	decrease
5	nocturnal emission frequency		Sexual Deprivation
6	Penis sensation		Penis nerve prolapse
7	Ejaculation speed	Hot temp. Penis nerve prolapse	Cold temp.
8	Ejaculation difficulty	Dry temp. Cold temp. Narcotic abuse	Penis nerve prolapse
9	General potency	Sexual Deprivation	Body weakness Mal nutrition
10	Intercourse enjoyment		Brain weakness
11	Vigor after Intercourse		Heart weakness
12	Desire frequency		Sexual Deprivation
13	Desire intensity	Hot temp. Sexual Deprivation	Brain weakness Heart weakness
14	Semen Motility		Narcotic abuse Brain weakness [sense]
15	Semen temperature		Cold temp.
16	Penis stimulation		Narcotic abuse
17	Erection frequency		Decrease [Riah] Production Heart weakness
18	Erection quality (hardness)		Wet Temp. Decrease [Riah] Production Sexual Deprivation Liver weakness Sexual tubules cold temperament
19	Nocturnal penile tumescence		Cold temp.

R.: reliability. Sub: subjective. Obj: objective. SO: Sexual organs.

Table 4: Objective clinical findings

#	Nominal finding	value	Differential diagnosis
1	Semen color	yellow	Hot temperament of SO
2	Urine color	white	Wet temperament of SO
3	Face color	pale	General weakness Mal nutrition
	Numerical finding	Differential diagnosis	
		increase	decrease
4	Urine density	Wet temp.	
5	Penis mass	Hot temp.	Cold temp. Penis nerve prolata
6	Body Mass	Wet temp.	Dry temp. Body weakness Mal nutrition
7	Body wet temperament	Wet temp.	Dry temp.
8	Blood humor amount		Dry temp.
9	Body muscle mass		Dry temp.
10	Puberty age	Cold temp.	Hot temp.
11	Testis size	Hot temp.	Cold temp.
12	Penis Vessels size	Hot temp.	Cold temp.
13	Semen acrimony	Hot temp. Dry temp.	Cold temp. Narcotic abuse
14	Semen density	Hot temp. Dry temp. Cold temp. Narcotic abuse	Hot temp. Wet temp. Penis nerve prolata
15	Semen volume	Penis nerve prolata Sexual Deprivation Narcotic abuse Decrease [Riah] Production	Body weakness Mal nutrition
16	Pubes, thigh hair density, diameter	Hot temp.	Cold temp.

Temp. : Temperament of sexual organ

Table 3 and Table 4, 45% (16/35) of findings are objective, 14 of them are well defined and can be quantified by available tools like sonography, laboratory techniques or image processing, however it seems there is a lack of attention to this finding in conventional medicine, Even though some of them were approved in researches of last decade like correlation between Body Mass (and body Table 5, nine are located in sexual function domain but seven of them are related to secondary ED like

According to **Error! Reference source not found.**

composition) with ED [28–31] or it can be a new hypothesis for research based on current medical knowledge of physiology like relation between Pubis and thigh hair and testosterone level.

Subjective findings were 19 in number (54%), eight of them used in international index of erectile function (IIEF) as shown in Brain weakness, Sexual Deprivation, and Narcotic abuse that are diagnosed by their specific assessment.

Table 5: Subjective finding in PM used in IIEF

domain	Sub domain	IIEF questions
Sexual desire	Frequency	11
	intensity	12
erection	Frequency	1
	Quality	2,3,4,5
Intercourse	Frequency	6
	Satisfactory	7
	Enjoyment	8
ejaculation	Frequency	9

Then remains the Penis sensation and Nocturnal penile tumescence (NPT); PM physicians used an interesting clinical test to observe Penis sensation (so that it will be Objective), they believed that Failure of cold water to contract penis is due to nerve damage that leads to lack of penis sensation. This condition has a poor prognosis, and NPT still used widely to differentiate between organic and psychological ED.

CONCLUSION:

Clinical assessment and diagnosis principles in PM are logically like conventional medicine, therefore design consensus unified classification of diseases (like ICD) and unified assessment of clinical findings among PM practitioner is possible and recommended; for general as well as specific conditions like ED.

Most of Objective clinical findings of ED can be quantified by modern tools, meaning they can provide countable new hypothesis and alternative diagnosis techniques; some of these findings are either approved or have evidence. Most subjective findings are also likely to be similar to current conventional medicine history taking or research questionnaire filling practice.

ACKNOWLEDGEMENT:

It is a part of PhD thesis, Number 164, Presented in School of Traditional Medicine, Shahid Beheshti University of Medical Sciences.

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