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Role of *Riyazat* in the prevention and management of a variety of illnesses, with a particular focus on urinary incontinence (*Salasal baul*): A review

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Abstract

Riyazat (Exercise) is planned and well-structured body movements done to achieve various health benefits like strengthening of the cardiovascular system and body muscles, reduction or maintenance of weight, improvement of metabolic functions, and sometimes merely for enjoyment. *Riyazat* is one of the regimenal therapies which inhibits the accumulation of morbid materials in the body and channelizes it for evacuation (*tanqiya e mawad*) via natural routes, hence it purifies the body and reduces the risk of developing many diseases. Many ancient Unani scholars like Buqrat (Hippocrates), Jalinoos (Galen), Razi (Rhazes) and Avicenna extensively explained about benefits of *Riyazat* in their treatise.

Lifestyle diseases like Type 2 diabetes, hypertension, obesity, cardiovascular diseases, etc. are much prevalent nowadays and the burden of such diseases is increasing day by day. Morbidity and mortality are also increasing along with their prevalence. Frequent and regular physical workout helps in prevention of such ailments and improves overall health and also prevents conditions like insomnia and depression and boosts mental health and self-esteem. Regular exercises must be done for the betterment of life and to reduce the burden of lifestyle disorders on the healthcare system.

Keywords: *Riyazat*, lifestyle diseases, regimenal therapies

Introduction

The Unani medicine is an ancient system of medicine that originated in Greece around 2500 years ago and teachings of this system are based on experiences and traditions of great scholars like Avicenna (Ibn-e-Sina), Hippocrates (Buqrat), Galen (Jalinoos), Rhazes (al-Razi), Al-Zahrawi and Ibn Nafees. This system not only deals with various diseases but also provides a way to maintain an optimum level of health. Unani medicine offers a comprehensive health care structure via promotive, preventive, curative, and rehabilitative health care (NHP, 2016) [30]. Regimenal therapies are one of the most practiced and preferred ways of treatment for various ailments in the Unani system of medicine, here various techniques are applied to improve the body's constitution via improving the body's defense mechanism and through the removal of the waste material out of the body. These therapies are environment friendly and exhibit very low or no side effects (NHP, 2015) [29]. *Riyazat* (Exercise) is one of the regimes of *ilaj-bil-tadbeer* (regimenal therapies) which augments and maintains physical fitness, prevents certain diseases, and preserves the overall health of the person. *Riyazat* is performed for various other reasons like weight loss, muscle strengthening, to prevent lifestyle disorders like diabetes mellitus, hypertension, cardiovascular diseases, and obesity, etc. *Riyazat* also prevents insomnia, anxiety, depression and improves self-esteem. Various rules, timings and conditions to perform *Riyazat* are extensively mentioned in Unani classical texts (Portal, 2015) [35].

The main purposes of performing *Riyazat* (exercise) are: (Exercise, 2004) (Portal, 2015) [35] (Fatma, *et al.*, 2020) [12].

- To reduce cholesterol and blood pressure.
- To enhance self-confidence and self-esteem.
- To reduce the risk of lifestyle disorders like cardiovascular disease, diabetes, obesity, certain types of cancers and hypertension.
- To increase life expectancy.

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- To remove waste products from the body.
- It boosts the metabolism of the body.
- It relieves certain conditions like insomnia, anxiety and depression.
- It strengthens the body as a whole and improves its flexibility.

Exercise's biological mechanisms in the context of health

Regular exercise and extemporaneous physical movements lead to physical fitness, confers suppleness through positive physiological and psychological benefits. It prevents possibly metabolic and behavioral impacts of stressful dealings and prevents potential chronic diseases. Regular physical activity confers resilience via slowing down the excessive inflammatory process. Stress-related diseases are proved to get reduced due to the buffer action of physical activity on hormonal stress-responsive systems and the hypothalamic-pituitary-adrenal axis. In the past few years, the burden of chronic diseases is increasing in the health care system and few factors are responsible for this change for example, physical inactivity, psychological stress and abdominal adiposity along with persistent, low-grade inflammation exhibit adverse effects on physical and mental health. In recent researches it has been found that lack of physical activity leads to the high concentration of unused oxygen and raised state of energy in a mitochondrion, this causes damage to the cell with more free radicals. Such free radicals increase inflammation in the cell which results in faster aging and most long-term conditions. Physical activity increases anti-oxidants which increases the resilience of cells. Thus physical activity has long-term benefits to health (Silverman & Deuster, 2014) ^[1] (Faroqui, *et al.*, 2020) ^[11].

Role of exercises in different physical ailments

Exercise (*Riyazat*) and mental health

Exercise improves anxiety, depression and up to some extent panic disorders. Physical activity enhances the positive thinking, self-confidence and energy level of an individual (Gauvin & Spence, 1996) ^[15]. Paffenbarger *et al.*, found in their study in 1988 that depression was inversely proportional to exercise. It was found that men who exercised for 3 hours per week had a relative risk of depression twenty-seven percent lower than those who never engaged in voluntary exercises (Paffenbarger, *et al.*, 1986) ^[32]. Many studies have proved that people who do more physical workouts are less likely to suffer from depressive disorders and exercise improves health, physique, and flexibility, therefore people feel more energetic and anxiety vanishes (Artal, *et al.*, 1998) ^[4] (Peluso & Sil, 1984) ^[33]. There are findings in few studies that show an increase in mono-amine and beta-endorphin concentrations with exercise and as a result body temperature increases and muscle tone falls which is interpreted by a person to be psychological relief (Fontaine, 2000) ^[14] (Peluso & Sil, 1984) ^[33].

Cancer and Exercise (*Sartan aur Riyazat*)

In many recent studies, it has been found that physical workout/exercise raises the resistance against tumorigenesis, and increases in energy demands retards the growth of tumor (Lee, *et al.*, 2003) ^[23] (Ozcan, *et al.*, 2002) ^[31]. (Lee, *et al.*, 2003) ^[23] (Ozcan, *et al.*, 2002) ^[31]. Exercise reduces the risk of colorectal cancer and some urogenital and breast cancers (Lane, *et al.*, 2005) ^[22] (Lee, *et al.*, 2003) ^[23]. Studies done at the University of California on colon and breast cancer shows remarkable results of low risk of these cancers with an

increase in a physical workout. According to one of these studies, women who performed exercise of one to three hours per week had a relatively thirty percent lower risk of getting breast cancer and those who performed for more than 4 hours per week had a fifty-five percent reduction in the risk of breast cancer (Gaziantep, 2005) ^[16]. There is a need for more data that could establish the relationship between exercise and the development of cancer in other parts of the body but data showing a reduction in the gastrointestinal system, thyroid, hematopoietic system, and lungs are available (Ozcan, *et al.*, 2002) ^[31] (Schmitz, *et al.*, 2005) ^[39].

Hypertension and Exercise (*Zagtuddam qawi aur Riyazat*)

Individuals with having sedentary lifestyle are more likely to develop hypertension as compared to sporting individuals. Many scientific studies report that a physical workout protects the elasticity of arteries thereby regulating blood flow and pressure (Anderssen, *et al.*, 1995) ^[3] (Pescatello, 2005) ^[34]. Hypertensives shouldn't exercise without consulting a doctor as one might end up doing vigorous exercise rather than moderate one, and this could again be harmful to that person. In hypertensives, an isotonic exercise that includes more muscle movement is recommended. It has been demonstrated in those individuals who perform regular isotonic exercise that plasma viscosity and plasma renin activity reduces and vasodilator prostaglandins increase, which ultimately reduces blood pressure (Chintanadilok, *et al.*, 2002) ^[10] (Ozcan, *et al.*, 2002) ^[31]. The frequency of exercise is more important than duration and people should be encouraged to work out regularly to reduce the chances of possible heart diseases in the future.

Exercise (*Riyazat*) and coronary heart disease

Various epidemiological studies proved that exercise has an inverse relationship with coronary heart disease. Oxygen supply to the myocardium improves through exercise by the formation of collateral coronary arteries or by an expansion of the diameter of the lumen of the coronary arteries (CA) close to the center and by limiting the progression of atherosclerosis (Gaziantep, 2005) ^[16]. Regular exercise persuades potential positive changes in plasma lipoprotein profiles and blood coagulation-fibrinolysis activity which ultimately enhances coronary blood flow. Exercise also reduces some risk factors for CHD like type 2 diabetes, hypertension, and obesity (Birrer & Sedaghat, 2003) ^[7] (Gaziantep, 2005) ^[16]. Individuals who perform regular exercises and maintains an active lifestyle have a 45% less risk to develop coronary diseases than those practicing sedentary lifestyles (Ivey, *et al.*, 2005) ^[18]. Approximately 250 kilocalories should be burnt daily (around 45 minutes of a brisk walk) to have significant protection against coronary arterial diseases (Ozcan, *et al.*, 2002) ^[31]. Weight lifting exercises reduce the level of 'bad' cholesterol even triglycerides which increase after meals can be decreased by a ninety minutes aerobic exercise (Laaksonen, *et al.*, 2000) ^[21] (Lee, *et al.*, 2003) ^[23].

Exercise (*Riyazat*) and Hyperlipidaemia

Hyperlipidemia is an important risk factor for CHD and recent studies showed a reduction in the high plasma levels of low-density lipoprotein cholesterol (LDL-C) and increasing the low levels of high-density lipoprotein cholesterol (HDL-C) with help of physical activity may reduce mortality and morbidity of coronary heart disease. Aerobic exercises done regularly may reduce several factors that are significant risk factors to produce CHD like blood pressure, body weight,

LDL, triglyceride, total serum cholesterol and antiatherogenic HDL cholesterol levels. Long-distance runners and athletes usually have high levels of high-density lipoproteins (Laaksonen, *et al.*, 2000) [21]. As per epidemiological studies, more risk of coronary heart disease is prevalent because low-density lipoprotein and the total cholesterol level are high among populations (Carr, *et al.*, 1981) [9].

Obesity and Exercise (*Siman-e-mufrit aur Riyazat*)

Obesity (*Siman-e-mufrit*) is a chronic disease that results from several environmental factors and a person's genes and is a complex mal relationship between energy intake and expenditure that results in homeostasis which is resistant to change. Correction of body weight reduces the incidence and severity of comorbid diseases (McQueen, 2009) [26]. Obesity occurs as a result of a sedentary lifestyle bad dietary habits along with technological advancements and remains a significant health concern globally. A person is said to be obese if the BMI is thirty and above (Hammer, *et al.*, 1989) [17] (Ozcan, *et al.*, 2002) [31]. To reduce obesity people are recommended to follow therapies that combine dietary restriction and exercises to yield more successful and meaningful results. (Gaziantep, 2005) [16]. The suggested weekly volume of 150 minutes of aerobic exercise for fitness development aids as a minimum for the management of obesity. Long-term weight reduction and obese people need 200-300 minutes of exercise each week (McQueen, 2009) [26].

Exercise and diabetes mellitus (*Riyazat aur Ziabatees*)

Diabetes mellitus is a chronic endocrine illness marked by insulin deficiency. It requires timely and proper management otherwise life-threatening conditions could arise out of its complications. Many kinds of research showed that exercise exhibits good effects in the control of Diabetes mellitus as it not only improves insulin sensitivity but also improves glycemic control (Thent, *et al.*, 2013) [44]. Autoimmune-mediated destruction of the beta cells of the pancreas causes type 1 diabetes. In type 1 diabetes improved blood sugar control along with exercise controls impedes the process of basal membrane thickening of blood capillaries (Birr & Sedaghat, 2003) [7] (Ozcan, *et al.*, 2002) [31].

The role of primary prevention is important in the case of diabetes as it protects those who are at high risk of developing diabetes. Exercise should always be considered complementary to diet and intensive insulin therapy for the prevention of microvascular complications and the long-term metabolic control of blood sugar (Birr & Sedaghat, 2003) [7] (Ozcan, *et al.*, 2002) [31].

Exercise in pregnancy (*Riyazat dauran-e-hamal*)

Abu-Bakr Zakariya Razi recommends walking (*Chahal Qadmi*) during pregnancy in his book "Kitab-ul-Hawi" as in this period waste products in the body increases and women suffer from various issues like nausea, vomiting, loss of appetite and palpitations. To combat such issues he recommends walking. Hakim Mohd. Saharanpuri recommended moderate exercises (*Khafif Riyazat*) and walking (*Chahal qadmi*) in his book "*Hayat-e-Hubli*" for various ailments related to pregnancy. The American College of Obstetricians and Gynecologists (ACOG) recommended various exercises like Low-impact aerobics, Swimming, Fitness walking, Jogging (mild), Low-impact aerobics, Pilates, stretching and yoga for the overall health of pregnant women (American College of Obstetricians and Gynecologists, 1994) [2]. The American Diabetes Association

and Canadian Diabetes Association recommended moderate exercise programs as part of gestational diabetes treatment (Association, 2004) [5].

Exercise provides various benefits to the pregnant women viz.-(Association, 2004) [5] (American College of Obstetricians and Gynecologists, 1994) [2] (Mazhar, 1998) [25] (Mubin, 2003) [27] (Bulletin, 1985) [8] (Kabiruddin, 1934) [20] (Wolfe, *et al.*, 1994) [46].

- It improves stamina and energy.
- Reduces insulin resistance related to pregnancy.
- Reduces leg cramps, constipation, hemorrhoids, varicose veins.
- Reduces lethargy, back pain, and generalized body ache.
- Improves the body's strength and flexibility.
- It helps in inducing good sleep.
- Improves mood.
- Stimulates innate heat thereby producing lightness in the body.
- It strengthens pelvic floor muscles and has a constructive impact on the course and outcome of labor.
- Helps in postnatal recovery.

Exercise and urinary incontinence (*Riyazat aur Salasal Baul*)

Urinary continence refers to the capacity of the bladder to retain urine at all times except during micturition. The continence mechanism is a highly structured network of nerves, muscles, and connective tissue that influences bladder control dynamically. This configuration enables prompt and complete bladder emptying while also preserving continence despite significant increases in abdominal pressure. On the contrary, urinary incontinence (*Salasal Baul*) is described as the complaint of any unintentional urine loss. Continence and micturition are both dependent on a physically and functionally normal lower urinary tract, which consists of the bladder and urethra. Urinary incontinence (UI) is a widely under-reported, misdiagnosed, and often untreated medical disease that has a significant negative effect on the quality of life of women of all ages. Various therapeutic methods for urine incontinence are available in conventional medicine, including medical management, Kegel's exercises, biofeedback, electrical stimulation, pharmacology and surgical intervention (Sultana, *et al.*, 2015) [43].

Adults often have urinary incontinence and conservative management is advised as the first line of therapy. Physical treatments, particularly pelvic floor muscle training, are the bedrock of this kind of conservative care. Pelvic floor muscle training is especially helpful for females suffering from urinary stress incontinence. Studies have shown that when pelvic floor training is done properly, symptoms of stress incontinence may improve by up to 70%. This progression is seen throughout all age groups. There is evidence that women do better when exercising under the supervision of professional physiotherapists or continence nurses, rather than when exercising unsupervised or using leaflets. There is evidence to support the widely held belief that pelvic floor muscle training benefits women suffering from all forms of urine incontinence. However, the therapy is most effective for women who have stress urinary incontinence alone and who engage for at least three months in a supervised pelvic floor muscle training program (Price, *et al.*, 2010) [36].

Conclusion

Physical exercises are recommended to be done regularly as

they are effective and safe for many diseases. Research shows regular exercise can reduce the burden of lifestyle disorders like cardiovascular diseases, obesity, type 2 diabetes, hypertension and it also improves mental health, prevents stress, dementia, depression and induces good quality sleep. Exercises enhance mood, boosts immunity, energy, and self-esteem. Despite knowing so many benefits of regular exercises including prevention and control of lifestyle disorders vast majority of our society is still not influenced by this and doesn't perform the regular physical workout. Most people are practicing a sedentary lifestyle nowadays and increasing health issues due to such a lifestyle are an area of concern for the healthcare system. So healthcare professionals should utilize every opportunity to prescribe regular exercises to those who are suffering from such ailments and to those who are carrying risk factors to develop such diseases.

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