

Traditional Chinese Medicine Treatment Plan for Diabetic Nephropathy

Yanfang Kong¹, Yun Tian^{2,*}

¹The First Clinical Medical College, Shaanxi University of Chinese Medicine, Xiayang 712046, Shaanxi, China

²Department of Nephrology, Shaanxi Provincial Hospital of Chinese Medicine, Xi'an 710003, Shaanxi, China

*Correspondence Author

Abstract: *Diabetic nephropathy (DN) is a secondary chronic kidney disease caused by primary diabetes mellitus, and also one of the main complications of diabetes, which mainly invades microvessels. According to statistics, the number of diabetic nephropathy patients worldwide will reach 552 million by 2030, among which China and India account for as high as 48%. At present, there are a large number of diabetic patients in China, and the prevalence rate of diabetic nephropathy is extremely high. Modern western clinical treatment of diabetic nephropathy mainly includes correcting unhealthy lifestyle, controlling appropriate protein intake, actively regulating blood glucose, controlling blood pressure and improving blood lipids. Due to the complex course and high difficulty of clinical cure, single western medicine treatment has many shortcomings. However, the therapeutic effect of traditional Chinese medicine (TCM) on diabetic nephropathy has become increasingly prominent in modern times, which can improve physical and chemical indicators and alleviate clinical symptoms. Although the future research prospect may be tortuous, the overall outlook is bright.*

Keywords: Diabetic Nephropathy, Etiology and Pathogenesis, Syndrome Differentiation and Treatment, Clinical Application, Research Progress.

1. Introduction

In the treatment of diabetic nephropathy, TCM emphasizes the combination of syndrome classification and stage-based syndrome differentiation to balance yin and yang and smooth qi and blood in the body. Moreover, TCM has unique therapeutic methods that other medical systems do not have, which achieve remarkable curative effects in comprehensive treatment of diabetic nephropathy, indicating broad prospects for the development of TCM in treating this disease.

2. Etiology and Pathogenesis

2.1 Understanding of Ancient Physicians on Etiology and Pathogenesis of Diabetic Nephropathy

Ancient famous physicians had a certain understanding of the etiology, pathogenesis and symptom characteristics of diabetic nephropathy a long time ago. However, there was no separate discussion on diabetic nephropathy in ancient TCM classics, and it was mostly classified into diseases such as "edema", "renal diabetes", "turbid urine", "dysuria with uremia" and "urinary retention" according to different symptoms. Miraculous Pivot-Five Changes states: "Those with delicate zang-fu organs are prone to suffer from consumptive thirst" [1]. Synopsis of Golden Chamber records: "For men with consumptive thirst who have excessive urination, drinking one dou of water leads to one dou of urine, and Shenqi Pill is the main treatment" [2]. Physicians of all dynasties realized early that poor control and treatment of diabetes could lead to consumptive thirst nephropathy, and believed that six major causes could easily induce it: congenital insufficiency, improper diet, exogenous pathogenic factors, emotional disorders, excessive fatigue and sexual activity, as well as improper or delayed treatment [3]. Liu Wansu in Jin Dynasty pointed out in Treatise on Three Types of Diabetes: "Those who are thirsty with continuous drinking, emaciated legs and lipid in urine are called renal diabetes" [1]. The main cause of diabetic nephropathy is

long-term diabetes, which damages both qi and yin and impairs the five zang organs. In addition, patients' constitutional deficiency combined with phlegm, heat, stagnation and other pathogenic factors leads to the disease. Although each physician has unique views on the etiology, pathogenesis and pathological process of diabetic nephropathy, it is generally recognized that diabetic nephropathy is a dynamically progressive disease, with its location mainly in the spleen and kidney. Prolonged consumptive thirst consumes qi and injures yin, and yin deficiency further leads to yang deficiency, eventually resulting in deficiency of both yin and yang. A common feature is that blood stasis, a pathological product, runs through the entire course of the disease. Meanwhile, the disease involves multiple zang-fu organs including the spleen, kidney, liver, lung and stomach, with multi-organ involvement being common. The disease is characterized by root deficiency and superficial excess, namely yin deficiency and dryness-heat, with a slow onset. Most physicians hold that the disease location of early diabetic nephropathy is mainly in the kidney, involving all zang-fu organs; some also treat it from the triple energizer and pleurodiaphragmatic interspace, with relatively poor prognosis [4].

2.2 Understanding of Modern Physicians on Diabetic Nephropathy

Ancient people mostly adopted syndrome differentiation and treatment based on upper, middle and lower consumptive thirst, while modern physicians have different opinions on the pathogenesis of diabetic nephropathy [5]. Tong Xiaolin et al. [6] proposed that DKD should be divided into "Xiaodan Nephropathy" and "Pidan Nephropathy". Lyu Renhe et al believed that the TCM name of diabetic nephropathy should be "consumptive thirst nephropathy", because its lesion is in the kidney and related manifestations during progression such as turbid urine, dysuria with uremia and edema are all associated with kidney diseases [7]. Li Xiaohui, who has focused on the research of consumptive thirst nephropathy for

many years, held based on clinical experience that “the disease is mainly located in the spleen and kidney, and the main symptoms of proteinuria and edema in consumptive thirst nephropathy determine its close relationship with these two organs” [8]. Many scholars think that the occurrence of diabetic nephropathy is due to spleen qi deficiency, and the fundamental cause of its progression is congenital kidney deficiency. It is a consensus that TCM syndromes of diabetic nephropathy are complex and diverse, but essentially characterized by root deficiency and superficial excess [9]. Root deficiency includes deficiency of qi, blood, yin and yang, while superficial excess involves blood stasis, qi stagnation and phlegm-dampness. Different from traditional TCM syndrome classification, modern physicians mostly carry out syndrome research combined with modern medical staging and related physiological and biochemical indicators based on their own clinical experience [9].

3. TCM Syndrome Differentiation and Treatment of Diabetic Nephropathy

3.1 Syndrome Classification Treatment

There is no unified standard for the syndrome classification of diabetic nephropathy at present, with some classified by qi, blood, yin and yang, and others by deficiency and excess [10]. TCM syndrome differentiation and treatment can divide diabetic nephropathy into three main types: yang deficiency of spleen and kidney, yin deficiency of liver and kidney, and kidney yang deficiency.

Patients with yang deficiency of spleen and kidney mainly present with pale complexion, aversion to cold and cold limbs, soreness and weakness of waist and legs, cold pain in abdomen, oliguria, white and slippery tongue coating, deep, thready and weak pulse, etc. The modified Five Peels Decoction combined with Fangji Huangqi Decoction is applied.

Case I: Patient A, 65 years old, farmer, visited the hospital in March 2012 with a 10-year history of diabetes. Ten years ago, he had polydipsia and thirst without obvious cause, with fasting blood glucose 8.7mmol/L and urine glucose (++) detected at that time, diagnosed as type 2 diabetes. He took Metformin, Acarbose, Enalapril and other drugs successively, with good blood glucose control at ordinary times. He had obvious soreness and weakness of waist two years ago, and bilateral lower extremity edema in recent one month. Clinical manifestations included pale complexion, lassitude, aversion to cold, soreness of waist, frequent micturition, bilateral lower extremity edema, poor appetite, abdominal distension, poor sleep, loose and sticky stool, dark tongue with tooth marks, thin white coating, deep and thready pulse. Examination showed serum creatinine 595umol/L, blood urea nitrogen 24.22mmol/L, 24-hour urine protein quantification below 3.5g/day, fasting blood glucose 5.7mmol/L, glycosylated hemoglobin (HbA1c) 6.9%. The syndrome was identified as yang deficiency of spleen and kidney complicated with internal blockage of dampness and stasis. The treatment principle was invigorating spleen and tonifying kidney, warming yang and inducing diuresis, with modified Five Peels Decoction combined with Fangji Huangqi Decoction. The prescription included Radix Stephaniae Tetrandrae 10g,

Astragali Radix 30g, Pericarpium Arecae 10g, Herba Cistanches 10g, Rhizoma Pinelliae Preparatum 10g, Rhizoma Alismatis 20g, Radix Platycodonis 5g, Cortex Poriae 15g, Radix Glycyrrhizae Preparata 5g, Semen Phaseoli 30g, Exocarpium Benincasae 30g, etc. After half a month of treatment, clinical symptoms improved significantly and blood glucose returned to normal. The modified prescription was continued for more than one year, and the patient's edema was completely controlled with gradual disappearance of clinical symptoms.

Patients with yin deficiency of liver and kidney mainly present with dizziness, dry eyes, fatigue, numbness of limbs, dry throat and mouth, soreness and weakness of waist and knees, tinnitus, red tongue with little coating, thready and rapid pulse, etc. The modified Zuogui Pill is applied.

Case II: Patient B, female, 58 years old, retired cadre, had a 12-year history of diabetes and proteinuria for 2 years, taking Xiaoke Pill to control blood glucose. Clinical manifestations included dry throat and mouth, lassitude, tidal fever in palms and soles, dizziness and tinnitus, blurred vision, good sleep, dry stool, red tongue with thin coating, wiry, thready and weak pulse [6]. Examination showed blood glucose 11.3mmol/L, urine protein (+), blood pressure 130/90mmHg. The syndrome was identified as yin deficiency of liver and kidney. The treatment principle was nourishing yin and clearing heat, with modified Zuogui Pill. The prescription included Radix Rehmanniae Preparata 24g, Rhizoma Dioscoreae (stir-fried) 12g, Fructus Lycii 12g, Fructus Corni 12g, Radix Cyathulae 9g, Semen Cuscutae (processed) 12g, Colla Cornus Cervi 12g, Colla Carapacis Et Plastris Testudinis 12g, Fructus Ligustri Lucidi 12g, Poria Cocos 12g, etc. After one month of modified medication, blood glucose decreased to 6.2mmol/L, urine protein turned negative, blood pressure was 130/85mmHg, and other symptoms improved significantly.

Patients with kidney yang deficiency mainly present with soreness and pain of waist and knees, aversion to cold and cold limbs, severe numbness of lower limbs, pale or dark complexion, impotence and infertility in men, uterine cold and infertility in women, or chronic diarrhea with undigested food in stool, pale and swollen tongue, deep and weak pulse, etc. The modified Jisheng Shenqi Pill is applied.

Case III: Patient C, female, 61 years old, farmer, had dry mouth, polydipsia, polyuria, emaciation and fatigue without obvious cause ten years ago, without palpitation or hyperhidrosis. Elevated blood glucose was detected and type 2 diabetes was diagnosed. She took Metformin Tablets, Glibenclamide Tablets, Acarbose and other hypoglycemic drugs successively, with gradual relief of symptoms after medication and irregular blood glucose monitoring. Examination showed 24-hour urinary microalbumin 1600.6mg/24h, 24-hour urine protein quantification 1.65g/24h. She had bilateral lower extremity edema without obvious cause two years ago. Clinical manifestations included dry mouth, frequent nocturia, emaciation, fatigue, bilateral lower extremity edema, facial edema, pale and dull complexion, pale dark tongue with thin white coating, deep and wiry pulse. She was conscious with good mental state, dry stool, normal micturition and appetite, and obvious edema.

Examination showed blood glucose 11.7mmol/L, urine protein (+), urine glucose (+), blood pressure 140/90mmHg. The syndrome was identified as yang deficiency of spleen and kidney with internal retention of fluid. The treatment principle was warming yang, inducing diuresis and relieving edema, with modified Jisheng Shenqi Decoction combined with Wuling Powder. The prescription included Radix Rehmanniae 15g, Rhizoma Dioscoreae 15g, Poria Cocos 30g, Fructus Corni 12g, Rhizoma Alismatis 15g, Cortex Moutan Radicis 12g, Radix Achyranthis Bidentatae 15g, Semen Plantaginis 30g, Cortex Cinnamomi 10g, Radix Aconiti Lateralis Preparata 15g, Polyporus Umbellatus 30g, Rhizoma Atractylodis Macrocephalae 15g, Herba Leonuri 30g, Rhizoma Zingiberis Recens 15g, Herba Lycopi 15g, etc. After half a month of treatment, edema improved significantly and blood glucose was well controlled, with dark red tongue, thin white coating, wiry and thready pulse. After one month of modified medication, the above symptoms improved obviously.

3.2 Stage-based Treatment

Stage I

Etiology: Yin deficiency and dryness-heat; Therapeutic method: Clearing heat and nourishing yin. Modified prescriptions such as Lily Bulb and Rehmannia Decoction, Yunu Decoction, Xiaoke Decoction and Danggui Liu Huang Pill are applicable. Prolonged consumptive thirst inevitably involves the liver and kidney, so drugs should protect liver and kidney yin, such as Radix Adenophorae, Radix Glehniae, Bulbus Lilii, Herba Dendrobii, Radix Ophiopogonis, to achieve the effect of nourishing yin and clearing heat.

Stage II

Etiology: Deficiency of both qi and yin; Therapeutic method: Invigorating qi and nourishing yin. Modified Yiqi Yangyin Decoction combined with Shengmai Drink is applicable. Patients in this stage have microalbuminuria after exercise. Long-term yin deficiency consumes both qi and body fluid, leading to qi deficiency and failure to consolidate. Therefore, treatment should focus on invigorating qi and strengthening spleen with drugs such as Astragali Radix, Rhizoma Atractylodis Macrocephalae, Rhizoma Dioscoreae, Polygonatum Sibiricum, Radix Pseudostellariae, to restore the spleen's function of lifting and consolidating.

Stage III

Etiology: Deficiency of spleen and kidney, kidney deficiency with failure to consolidate lower origin, leading to loss of essential substances. Therapeutic method: Invigorating qi and strengthening spleen, tonifying kidney and astringing. Modified Renshen Jianpi Pill or Buzhong Yiqi Decoction combined with Shenqi Pill is applicable. Treatment in this stage should focus on warming and tonifying spleen and kidney, replenishing essence and marrow, astringing and consolidating, with commonly used drugs including Radix Rehmanniae Preparata, Semen Astragali Complanati, Fructus Rosae Laevigatae, Fructus Corni, Fructus Ligustri Lucidi, Fructus Schisandrae Chinensis, Herba Pyrolae, Fructus Rubi, Semen Euryales, etc.

Stage IV

This stage is characterized by root deficiency and superficial excess: root deficiency is spleen and kidney deficiency, while superficial excess is accumulation of blood stasis and fluid retention. Therapeutic method: Tonifying kidney and strengthening spleen, promoting blood circulation and inducing diuresis, relieving edema and removing stasis. For patients with dominant proteinuria, modified Juyuan Decoction combined with Jinsuo Gujing Pill is applicable; for those with dominant edema, modified Zhenwu Decoction, Shipi Decoction, Wenyang Lishui Decoction, etc. are applicable. Long-term blood stasis in this stage leads to stasis entering collaterals and formation of micro scars in renal collaterals. Plant-based blood-activating drugs such as Semen Persicae, Flos Carthami, Rhizoma Chuanxiong, Radix Paeoniae Rubra have limited effects, so insect-based drugs for activating blood circulation and unblocking collaterals are recommended, such as Scolopendra, Scorpio, Hirudo, Eupolyphaga Steleophaga, Pheretima, etc.

Stage V

Etiology: Severe failure of spleen and kidney, deficiency of yin and yang, internal retention of toxic pathogenic factors. Therapeutic method: Strengthening healthy qi, inducing diuresis and expelling turbidity. Modified prescriptions such as Fangji Huangqi Decoction, Guifu Dihuang Pill, Yougui Pill, Butian Dazao Pill combined with Zhenwu Decoction are applicable. Internal retention of turbid toxin is the prominent superficial symptom in this stage. According to the principle of treating acute symptoms first, expelling turbid toxin externally is the priority. For patients with restlessness and nausea caused by retention of damp-turbidity in middle energizer, modified Huanglian Wendan Decoction is applicable; for those with retention of dampness and turbid toxin, fluid attacking heart, turbid toxin invading lung, palpitations and chest stuffiness and asthma, modified Xiefei Pingchuan Decoction combined with Tingli Dazao Xiefei Decoction is applicable to expel turbid toxin and relieve asthma.

In summary, the pathogenesis progression of diabetic nephropathy is as follows: initial yin deficiency and dryness-heat, followed by deficiency of both qi and yin, then yin deficiency leading to yang deficiency due to interdependence of yin and yang, further deficiency of both yin and yang, and finally internal retention of turbid toxin. Sun Chao et al found through statistics of 159 papers on disease nature and location syndrome factors of diabetic nephropathy that blood stasis runs through the entire course of diabetic nephropathy and is an important part of its etiology and pathogenesis [11]. Blood stasis is not only a pathological product but also a key factor promoting the progression and deterioration of diabetic nephropathy. Therefore, in clinical diagnosis and treatment, it is necessary to grasp both the common pathogenesis and stage-specific characteristics for flexible treatment.

4. Clinical Application and Characteristic Therapies of TCM for Diabetic Nephropathy

4.1 Clinical Application

Shenqi Dihuang Decoction and Liuwei Dihuang Pill are commonly used in clinical treatment of diabetic nephropathy. Adding Radix Aconiti Lateralis Preparata and Cortex Cinnamomi to Liuwei Dihuang Pill forms Bawei Dihuang Decoction, which has the effects of warming and tonifying kidney yang and promoting qi transformation. In addition, Buyang Huanwu Decoction with blood-regulating effect is also commonly used for qi deficiency and blood stasis syndrome, with the effects of invigorating qi, promoting blood circulation and unblocking collaterals.

4.2 Acupuncture and Moxibustion Therapy

Acupuncture and moxibustion have significant curative effects on diabetic nephropathy, which should follow the principles of zang-fu syndrome differentiation, meridian syndrome differentiation, and combination of local acupoint selection and symptomatic acupoint selection [12]. Han Xiangli et al treated diabetic nephropathy with spleen-kidney deficiency, internal accumulation of turbid stasis and liver stagnation by combining acupuncture and medicine. Acupuncture mainly selected acupoints of liver, spleen and kidney meridians (Taixi KI3, Diji SP8, Zhongwan CV12, Zhangmen LR13, Qimen LR14, Jiaji EX-B2, etc.) to soothe the liver, tonify spleen and kidney, promote blood circulation and reduce turbidity, achieving good curative effect [6]. Wang Man et al found through clinical research that “compared with patients receiving conventional acupuncture, those treated with spleen-stomach regulating acupuncture at Hegu LI4, Xuehai SP10, Quchi LI11, Zhongwan CV12, Yinlingquan SP9, Zusanli ST36 had significantly decreased biochemical indicators” [13]. Acupuncture has definite efficacy in DKD, which can relieve clinical symptoms, improve renal function, inhibit fibrosis progression, and achieve good effects when combined with western medicine or TCM decoction [14].

4.3 TCM Enema

Enema is a conventional external TCM therapy. According to TCM theory, metabolic products belong to “turbid toxin” [15]. Xu Haiyan et al concluded by retrieving large domestic and foreign databases that TCM enema can better reduce indicators such as 24-hour urine protein, creatinine and urea nitrogen than other traditional therapies without obvious adverse reactions. Commonly used enema drugs include Radix Et Rhizoma Rhei, Radix Aconiti Lateralis Preparata, Radix Et Rhizoma Salviae Miltiorrhizae, Astragali Radix, Os Draconis, Concha Ostreae, Herba Taraxaci [16].

4.4 Pulsed Magnetic Therapy

Zhou Ziyu et al intervened in the progression of diabetic nephropathy with pulsed magnetic therapy at acupoints such as Pishu BL20, Shenshu BL23 and Zusanli ST36, concluding that pulsed magnetic therapy can delay the progression of diabetic nephropathy through anti-inflammatory and antioxidant mechanisms [13].

4.5 Auricular Point Sticking

Wang Xiaojun conducted a randomized controlled trial on diabetic nephropathy patients and found that auricular point sticking at pancreas, gallbladder, endocrine, spleen and

kidney acupoints on the basis of conventional medication had obvious therapeutic effects [13].

4.6 Acupoint Application and Infrared Lamp Irradiation

On the basis of medication for both observation and control groups, Wang Aimin added acupoint application and infrared lamp irradiation to the control group, selecting bilateral Shenshu BL23 acupoints with drugs including Radix Et Rhizoma Rhei, Radix Aconiti Lateralis Preparata, Astragali Radix, Rhizoma Chuanxiong, etc. Post-treatment examinations showed that the control group had higher efficiency in reducing microalbumin excretion [17].

4.7 TCM Hot Compress Therapy

Zheng Xinying et al prepared TCM hot compresses according to symptoms and applied them at corresponding acupoints. After treatment, patients' soreness and weakness of waist improved significantly. Laboratory tests showed that TCM hot compress had remarkable therapeutic effect on early diabetic nephropathy, and some patients even achieved clinical cure.

4.8 TCM Foot Bath Therapy

TCM foot bath therapy is a characteristic TCM treatment that makes TCM ingredients act on patients' feet through ion movement, thermal energy and water pressure of foot bath liquid, stimulating foot acupoints and reflex zones, and further acting on the whole body through meridians to unblock meridians, regulate qi and blood, and accelerate excretion of metabolic products [18]. Huang Ju et al added TCM foot bath as adjuvant therapy to the experimental group on the basis of conventional treatment, achieving significant clinical effects [13].

4.9 Acupoint Catgut Embedding

Derived from acupuncture theory, acupoint catgut embedding achieves better therapeutic effects by embedding medicinal catgut at local acupoints to produce long-term stimulation. Wang Heqiang et al found through rat experiments that acupoint catgut embedding has good therapeutic effect on diabetic rats and can improve renal function.

5. Current Clinical Problems and Future Prospects

Firstly, TCM has multi-angle understandings of the etiology and pathogenesis of diabetic nephropathy. Ancient and modern famous physicians have proposed various dialectical methods based on clinical experience, such as syndrome classification differentiation, stage-based syndrome differentiation, triple energizer syndrome differentiation, qi-blood-body fluid syndrome differentiation, zang-fu syndrome differentiation, yin-yang syndrome differentiation and five-element syndrome differentiation. However, due to the complex and refractory nature of diabetic nephropathy and numerous theoretical and clinical studies since ancient times, there is still no unified standard for its etiology, pathogenesis, syndrome classification and staging in TCM, which slows down in-depth research and affects the clinical application

effect to a certain extent. Secondly, many characteristic TCM therapies have good curative effects on diabetic nephropathy, but lack unified, large-scale and standardized clinical data support. Therefore, it is necessary to explore the mechanism of characteristic TCM therapies, further improve treatment schemes scientifically, and provide better support for the control and treatment of diabetic nephropathy in the future.

References

- [1] Huang Shixiong, Deng Deqiang, Gao Xuan. Research Progress of Traditional Chinese Medicine in Treating Diabetic Nephropathy [J]. *New Chinese Medicine*, 2022, 54(09):16-22.
- [2] Fu Fang, Pu Linli, Zhao Zhengmin, Qi Hongchao, Wu Jiali. Research Progress of TCM Treatment of Diabetic Nephropathy [J]. *Journal of Practical Traditional Chinese Internal Medicine*, 2022, 36(12):40-42.
- [3] Hu Xinyuan, Lv Shuquan. Research progress of treating diabetic kidney disease in TCM [J]. *Clinical Journal Of Chinese Medicine*, 2021, 13(36):79-81.
- [4] Pang Jianli. Research progress of Chinese medicine in treating early diabetic nephropathy [J]. *China's Naturopathy*, 2022, 30(13):106-110.
- [5] Zhao Di, Yi Tongning. Research Progress of Traditional Chinese and Western Medicine in the Treatment of Diabetic Nephropathy [J]. *Journal of Practical Traditional Chinese Internal Medicine*, 2021, 35(04):49-51.
- [6] Jin Yinghua, Nan Hongmei, Nan Zheng. Analysis of Five Syndromes of Diabetes Mellitus Kidney Disease in Medical Cases [J]. *Jilin Journal of Chinese Medicine*, 2007, (01):39-41.
- [7] Kong Fanda, Su Runze. To investigate the Etiology and Pathogenesis of Diabetic Nephropathy [J]. *Clinical Journal of Traditional Chinese Medicine*, 2015, 27(06):769-771.
- [8] Ma Fengfeng, Fan Zenghui. Research Progress on Etiology and Pathogenesis of Diabetic Nephropathy in Chinese Medicine [J]. *JOURNAL OF BASIC CHINESE MEDICINE*, 2022, 28(08):1371-1377.
- [9] Wang Qian, Yan Meihua, Li Ping. Modern Study on Traditional Chinese Medicine Syndromes of Diabetic Nephropathy [J]. *World Chinese Medicine*, 2018, 13(06):1320-1324+1331.
- [10] Yang Huan, Li Yanfen. Research status of TCM in treating diabetes nephropathy [J]. *China's Naturopathy*, 2022, 30(21):106-109.
- [11] Ma Zhongqing, Sun Sifan, Chen Long. Research Progress of Traditional Chinese Medicine in the Treatment of Diabetic Kidney Disease [J]. *CHINESE AND FOREIGN MEDICAL RESEARCH*, 2023, 21(02):181-184.
- [12] Feng Xian. Study on the Treatment of Diabetic Nephropathy by Traditional Chinese and Western Medicine [J]. *Chinese Journal of Ethnomedicine and Ethnopharmacy*, 2022, 31(11):46-49.
- [13] He Xiaoli, Yang Hao, Deng Luyu, Li Chaomin. Clinical Research Progress of Traditional Chinese Medicine in Treating diabetes Nephropathy [J]. *World Latest Medicine Information*, 2019, 19(93):73-74.
- [14] Ying Pengdong. A review on treating diabetic kidney disease in TCM [J]. *Clinical Journal Of Chinese Medicine*, 2021, 13(26):127-130.
- [15] Shan Xiaoqin. Research progress of the treatment of diabetic nephropathy with traditional Chinese medicine [J]. *Chinese Journal of Urban and Rural Enterprise Hygiene*, 2022, 37(06):41-43.
- [16] Sun Jiali, Zhang Jinmei, Luo Xinyu. Traditional Chinese Medicine Differentiation and Treatment of diabetes Nephropathy [J]. *GUANGMING JOURNAL OF CHINESE MEDICINE*, 2021, 36(01):44-46.
- [17] You Hong, Gai Yun. Research progress of early diabetes nephropathy treated by traditional Chinese medicine [J]. *Asia-Pacific Traditional Medicine*, 2017, 13(14):57-58.
- [18] Fan Ting, Yang Xiaohui, Li Yi, Qiao Linlin. Clinical Research Progress of Traditional Chinese Medicine in diabetes Nephropathy [J]. *Beijing Journal of Traditional Chinese Medicine*, 2019, 38(10):1036-1041.