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Research Article

Construction of Nursing Intervention Model and Clinical Empirical Study on Dopamine Beta Hydroxylase Gene Polymorphism in Children with ADHD

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ADHD is a common disease in children, and the pathogenesis is still unclear. Attention deficit is the main manifestation of ADHD, which has a serious impact on children's learning and growth. The treatment of ADHD is mainly western medicine, supplemented by psychotherapy. More and more studies have shown that ADHD has similar characteristics to psychological diseases, and dopamine beta hydroxylase gene abnormality is the common feature of most mental diseases. In view of the potential relationship between ADHD and dopamine β hydroxylase gene, this paper will study the polymorphism of dopamine β hydroxylase gene in children with ADHD under the nursing intervention mode. This paper is divided into three parts. The first part is theoretical research. In this part, we deeply analyze ADHD. We think that the pathogenesis of ADHD mainly comes from four factors: heredity, environment, nutrition, and behavior. In order to further test the relationship between ADHD and dopamine beta hydroxylase gene, the corresponding experimental model was established in the second part of this paper. All the samples in the experiment are from real cases. The experimental principle and specific operation steps are given in detail. In order to facilitate comparison, the same number of control groups was established in addition to the real disease. The third part is the experimental results and analysis. After a number of comparative experiments, through the analysis of experimental data, we believe that ADHD is closely related to the gene of dopamine beta hydroxylase. Among them, the A2 gene in the patient group was significantly more than that in the normal group, which further verified that ADHD has the characteristics of common psychological diseases.

1. Introduction

Attention deficit hyperactivity disorder (ADHD), also known as ADHD, belongs to the category of heart and liver diseases in traditional Chinese medicine. Its main symptoms are inattention, frequent inattention, excessive activity, emotional instability, impulsive willfulness, poor self-control, and accompanied by learning difficulties which are not affected by different degrees of basic intelligence. The etiology and pathogenesis of modern medicine are not clear. Most scholars tend to think that it is the result of the interaction of biological, psychological, and social factors, most likely genetic and environmental factors. "Infantile hyperactivity" has not been recorded in ancient Chinese medical books, but according to its symptoms, it can be divided into "amnesia, deafness, visceral mania, restlessness, liver wind, induced mania," and so on. Diseases are mostly due to congenital deficiency, the loss of acquired nutrition, and the damage caused by dysfunction of viscera. The diseases caused by the imbalance of yin and yang are closely related to the brain, heart, liver, spleen, and kidney, as well as lung cancer.

ADHD is one of the common diseases in children. It is characterized by attention deficit, hyperactivity, and impulsivity. It is a group of syndromes with emotional disorder, maladjustment, and learning difficulties. Usually before going to school, in the primary school stage, it is found that the symptoms are valued by family members and

teachers, and the relevant performance is obvious. In the development process year after year, the symptoms can be reduced or even disappear. Foreign general survey shows that the prevalence of ADHD in children is about 4%–8%. A recent clinical study of ADHD found that the overall prevalence of ADHD in Chinese children is 5.8%, and the prevalence rate of boys is higher than that of girls. If not treated in time, these symptoms may last for a lifetime, which will not only have a serious impact on their personality remodeling but also have a serious impact on their families and society. Therefore, to improve the level of diagnosis and treatment of ADHD and maximize the rehabilitation of children is one of the problems to be solved in our clinical work.

As early as the 19th century, German doctors described ADHD as a disease. In 1905, a study clearly reported the first case of ADHD. However, the pathogenesis of this disease has not been clear for more than 100 years. Due to the lack of specific experimental indicators, the diagnosis mainly depends on the subjective description provided by parents and teachers, which makes the diagnosis of the disease difficult. Western medicine treatment of the disease has a certain effect, but it cannot be maintained after stopping the drug, and there are many adverse reactions. In the mid-1970s, Chinese medical circles began to conduct comprehensive research on ADHD, and TCM also actively participated in it. After more than 30 years of exploration, the traditional Chinese medicine treatment with fewer side effects has been formed. However, due to the inconsistency of etiology and complexity of syndrome differentiation, there is no unified standard of syndrome differentiation. Most scholars believe that the key pathogenesis of this disease is the imbalance of yin and yang and the dysfunction of Zang Fu organs, which is characterized by yang deficiency and yin deficiency. Although the pathogenesis is still unclear, more and more studies have found that there is a certain relationship between ADHD patients and dopamine beta hydroxylase gene. The cause of ADHD cannot be ruled out based on the problem, but the current research on this issue is almost blank. Therefore, this paper will focus on this problem and take the construction of nursing intervention model of ADHD children and the clinical demonstration of dopamine beta hydroxylase gene polymorphism as the main purpose of this study.

First of all, this paper carried out theoretical research on ADHD disease, dopamine β hydroxylase gene, and nursing intervention. Through theoretical research, this paper believes that ADHD has a variety of pathogenesis, but mainly from genetic, environmental, nutritional, and behavioral psychological factors. This study is mainly based on genetic factors and assisted with psychotherapy, nursing intervention for patients with ADHD. Through the study, this paper believes that nursing intervention has a positive effect on the treatment of ADHD, but the existing clinical treatment combined with nursing intervention is not much, which needs to be paid more attention. In order to verify the possible relationship between ADHD and dopamine β hydroxylase gene, the corresponding experimental study was established. All the experimental samples were real cases, 80 volunteer patients were selected through layer-by-layer screening, and 80 normal children were selected as the control group for experimental comparison. In this experiment, all patients used nursing intervention mode, and on this basis, comparative experiments were carried out. In this study, Taq I polymorphism and attention deficit symptom score were studied in ADHD group and control group. According to the analysis of experimental data, compared with normal children, the expression of dopamine beta hydroxylase gene in ADHD children is abnormal, especially the prominent expression of A2 allele. This study has achieved ideal results and further verified the close relationship between ADHD disease and dopamine beta hydroxylase gene, which has made a contribution to the research in this field [1–3].

2. Basic Theory and Core Concepts of This Paper

2.1. Introduction to ADHD. ADHD, also known as attention deficit hyperactivity disorder, is one of the most common neuropsychiatric disorders in children. The main clinical manifestations are hyperactivity, impulsivity, inattention, poor self-control, learning difficulties and behavioral abnormalities, and normal or close-to-normal intelligence. The understanding of diseases has been explored for 100 years, from the initial "hyperactivity disorder" to mild brain injury syndrome, mild brain disease and hyperactivity disorder, attention deficit disorder, and so on. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) in 1995, the diseases of ADHD can be divided into three subtypes: attention deficit, mobile impulse, and mixed type [4, 5].

2.2. Etiology and Pathogenesis. The pathogenic factors of ADHD are still unclear. It is generally considered to be closely related to genetic, psychological, environmental, and nutritional factors.

2.2.1. Genetic Factors. The incidence rate of ADHD in children is closely related to genetic factors. Studies have found that mothers of ADHD children develop unhealthy habits such as smoking and drinking during pregnancy. These behaviors have many adverse effects on the development of fetus, which may lead to ADHD in children. The rate of ADHD children with ADHD was higher than that of ADHD children in other families. The study shows that 15.3% of the 565 ADHD children have a family history of ADHD, including 15 twins with ADHD. Therefore, the occurrence of ADHD is related to genetic factors. It can be said that inheritance is the internal cause of the disease, and other causes, such as brain injury and environmental factors, are exogenous ADHD.

2.2.2. Environmental Factors. ADHD is considered to be a disease closely related to environmental factors. Environmental factors mainly include family and social psychological factors. Bad family environment is the basis of the

formation of ADHD. Parents, family members' words and deeds, and the surrounding environment have a great influence on the formation of a child's character. Environmental factors, such as family, divorce, doting on children, speaking very seriously, even economic poverty, housing, and alcohol, may lead to psychological disorders, inattention, being easy to move, and being impulsive.

2.2.3. Nutritional Factors. Studies have shown that artificial colors, additives, and preservatives are contained in foods such as sugars and beverages, cakes, and biscuits, which may cause and aggravate the symptoms of ADHD, such as inattention and behavioral impulse. Children eat too much food containing preservatives, artificial colors, and additives, which has a negative impact on children's growth and development, in addition to affecting children's brain thinking, resulting in ADHD.

2.2.4. Behavioral Psychological Factors. Children's behavioral and psychological problems are one of the factors causing ADHD, such as attention problems caused by playing video games for a long time. Some studies have investigated the impact of video games on ADHD. The results show that, regardless of the type of video games, children's inattention is directly proportional to the length of playing games. Children's over-watching of TV programs is also an important factor leading to ADHD. The US government conducts scientific research on the impact of television, mainly to observe the impact of television on ADHD. Researchers put experimental mice in front of the color TV that broadcast the program and conduct experiments for five hours a day. The researchers found that the behavior of this group of mice was active and normal reaction. After a period of abnormal behavior, the mice suddenly became stale and completely stopped. Thus, behavioral factors can also lead to ADHD [6, 7].

2.3. Treatment of ADHD by Western Medicine

2.3.1. Drug Therapy

(1) Central Nervous Stimulant. Methylphenidate, a respiratory stimulant, can be used in the treatment of ADHD, many of which can directly stimulate the respiratory central system of the medulla oblongata. The most common adverse reactions were insomnia, dizziness, headache, nausea, fasting, palpitations, elevated blood pressure, increased heart rate, aggressive behavior of children and adolescents, growth inhibition, seizures, visual abnormalities, etc. In addition, respiratory central stimulants include dextran methyl ester, dextran amphetamine, and mixed amphetamines.

(2) Non-Central Nervous Stimulants. Paroxetine, a specific norepinephrine reuptake inhibitor, has been used more frequently at home and abroad than paroxetine hydrochloride, which has been used for 12 years. Its adverse reactions include loss of appetite, nausea, vomiting, fatigue, insomnia, emotional instability, dizziness, and increased diastolic blood pressure and heart rate. Among the tricyclic antidepressants, imipramine, dicimab, and nortirine are effective in the treatment of ADHD, but their adverse reactions include sudden death of unknown cause.

Butylphenylacetone indirectly promotes the neurotransmission of dopamine and norepinephrine and has adverse reactions such as loss of appetite, insomnia, irritability, rash, nocturia, and increased convulsion, which slightly increases the risk of drug-induced convulsion. Monoamine oxidase inhibitors are effective in the treatment of ADHD, but they have limitations, which may lead to hypertensive crisis and serotonin syndrome.

SSRI and SNRI : Fluoxetine of SSRI and venlafaxine of SNRI are mainly used in combination with anti-ADHD drugs.

Modafinil is originally a drug for the treatment of narcolepsy, which can improve the awakening state of ADHD children and cause many adverse reactions, including insomnia, headache, and anorexia.

2.3.2. Psychobehavioral Therapy. In clinical treatment, it is found that parents' anxiety and other negative emotions will aggravate the condition of children. Therefore, psychological counseling is very necessary. A study through clinical observation of 50 children with ADHD found that psychological nursing combined with drug therapy is more effective than drug treatment alone. The comprehensive psychotherapy mode of sandbox therapy, sensory integration training, and parent training can effectively improve the symptoms of children with ADHD and relieve the parental rearing pressure.

2.4. Nursing Intervention. Nursing intervention: it is the result of diagnosis and treatment and nursing. It is the single behavior of nurses in the process of diagnosis and treatment. Nursing intervention is the formulation and implementation of nursing measures. The purpose of nursing intervention is to improve the health status and comfort of patients. Nursing intervention can change or control the various effects on the system adaptive stimulation, that is, to eliminate stimulation, enhance stimulation, reduce stimulus, or change stimulus, so that all the effects on individual adaptation are within the scope. Intervention can also focus on improving people's coping ability, expanding the scope of adaptation, so that all stimuli can act on the scope of adaptation, thereby promoting adaptation responses. Intervention scope: nurses may encounter diseases and can take nursing intervention. Intervention methods are as follows: clinical nursing technology, various inspection measures, drug intervention, health education, social psychological behavior intervention, and family intervention. The intervention measures include the establishment of rehabilitation environment, implementation of patients, family education, family rehabilitation nursing technical consultant, psychological support and consultation of patients, resuscitation of other members of patients, application and management of prescriptions, rehabilitation activities of other rehabilitation hospitals to strengthen teaching, maintenance of continuity

of rehabilitation activities, follow-up, etc. Omaha system divides nursing intervention into health education, guidance and consultation, treatment and procedure, and case management and monitoring. Nursing intervention is the change of nursing mode from single function nursing to holistic nursing, and it is a process of continuous and scientific development of nursing work. In the implementation, not only is the comprehensive quality constantly improved, but also the psychological, social, and professional skills and knowledge are constantly expanded, so as to better adapt to the changes of nursing concept and behavior [8–10].

2.5. Dopamine Beta Hydroxylase Gene. Dopamine beta hydroxylase gene (D β H) is encoded by DBH and located on chromosome 9q34, adjacent to ABO blood group gene. $D\,\beta$ H is one of the key enzymes in dopamine metabolism. It oxidizes dopamine to norepinephrine, which is the rate limiting enzyme in the synthesis of norepinephrine. In human body, $D\,\beta$ H exists in dissolved state and membrane state, and the amount is almost equal. Circulating $D\,\beta$ H exists in a dissolved state, derived from the membrane bound $D\,\beta$ H stored in the vesicles, and released into the synaptic space when the vesicles leave the cell. Plasma $D\,\beta$ H activity was relatively stable after 4–7 years and was not affected by diet, activity, external stimulation, circadian rhythm, and season. However, the level of individuals varies greatly. $D\,\beta$ H exists as dimer and/or tetramer in chromaffin granule synaptic vesicles of adrenal medulla and dense nucleus of peripheral and central noradrenaline neurons. It is the only catecholamine synthase existing in synapses and vesicles. Generally speaking, the changes of norepinephrine level and $D\,\beta$ H activity can be used as indicators of sympathetic nervous system function. $D\,\beta$ H activity is used to indicate the long-term and continuous changes of sympathetic nervous system function. $D\,\beta$ H activity is considered as a reliable indicator of sympathetic nervous system activity, which has been recognized by many scholars at home and abroad [11–13].

3. Experimental Methods and Steps

3.1. Research Group. All the students (5–15 years old) in a primary school were investigated. In this experiment, the children's behavior questionnaire (simplified version of teacher's questionnaire) and modern psychiatric diagnosis manual were used. A total of 80 children with ADHD were selected, including 60 males and 20 females. A total of 80 normal children (60 males and 20 females) were selected as control group.

3.2. Diagnostic Methods of ADHD. The Conners children's behavior questionnaire (simplified teacher questionnaire) was used, with 12 items, including 0-no, 1-yes, 2-some, 3-more, 4-severe, and total score ≥10.

Using Conners children's behavior questionnaire, a total of 45 items were summarized as behavior problems, learning problems, psychosomatic disorders, anxiety, and hyperactivity index.

The diagnosis of ADHD is based on the diagnostic criteria of DSM-IV, which has 13 items and lasts for more than 7 months.

The diagnosis is made by a psychiatrist above the chief physician. The final diagnosis excludes schizophrenia, affective disorder, mental retardation, generalized developmental disorder, epilepsy, and other organic diseases.

3.3. Experimental Reagent. In this experiment, 11 kinds of main reagents including pyramine standard solution were used. The specific names and manufacturers are shown in Table 1.

3.4. Experimental Apparatus. This experiment mainly uses 9 kinds of main experimental instruments including low-pressure electrophoresis instrument. The name and manufacturer of the instruments are shown in Table 2.

3.5. DNA Extraction from Blood

(1) 250 μl fresh venous blood (insufficient blood and buffered GA).

(2) Add 25 μl protease K solution and mix well.

(3) After 250 μl buffer GB is added, the mixture is inverted and placed at 68°C for 12 minutes. Then, the bacteria in the solution are clarified and centrifuged to remove the beads on the inner wall of the tube cover.

(4) After adding 250 μl absolute ethanol and stirring for 12 seconds, flocculation and sedimentation will occur, and the water droplets on the inner wall of the pipe cover will be removed by simple centrifugation.

(5) Add the solution obtained in Step (4) and flocculation precipitation into the adsorbent column CB3 (put the adsorbent column into the collection tube), centrifuge at 11800 rpm for 25 seconds, and then put the adsorbent column CB3 into the collection pipe after pouring out the waste liquid.

(6) 550 μl buffer GD is added to the adsorbent column CB3 and centrifuged at 11,800 rpm for 25 seconds. After the waste liquid is poured, put the adsorbent column CB3 into the collection pipe.

(7) 650 μl bleach PW is added to the adsorbent column CB3 and centrifuged at 11,800 rpm for 25 seconds. After the waste liquid is poured, the adsorbent column CB3 is put into the collection tube.

(8) Repeat Step (7).

(9) The adsorbent column CB3 is put into the collecting tube and centrifuged at 11,800 rpm for 3 minutes. After the waste liquor is poured out, the adsorbent column CB3 is placed at room temperature for several minutes to completely dry the remaining bleaching solution in the adsorbent.

Table 1: List of main experimental reagents.

Name	Manufacturer
Diamine standard solution (20 nm)	Sigma, USA
Tyramine hydrochloride	Sigma, USA
Catalase	Shanghai Bioengineering Co., Ltd
Youjiangning	Sigma, USA
N-ethyl maleimide	Shanghai Dongfeng Biotechnology Co., Ltd
Ascorbic acid	Shanghai Bioengineering Co., Ltd
Partial sodium sulfite	Shanghai Bioengineering Co., Ltd
Sodium periodate solution	Produced by Guangdong Shantou Xilong chemical plant
Dowex-50w × 8 (*H*+, 200–400 mesh)	Sigma, USA
Amine hydroxide	Tianjin Kemeo Reagent Development Center
Sodium acetate buffer	Sigma, USA

Table 2: List of main experimental instruments.

Name	Manufacturer
PCR thermal cycler	LifePro Thermal Cycler
Electric constant temperature water bath box	Shanghai Xinmiao Medical Device Manufacturing Co., Ltd
UV projection reflectance analyzer	Yongjia Shangtang Teaching Instrument Factory
Low-pressure electrophoresis apparatus	Beijing Liuyi Instrument Factory
Vertical automatic electrothermal pressure steam sterilizer	Shanghai Shen'an Medical Device Factory
Electric blast drying oven	Beijing Yongguangming Medical Equipment Factory
Desktop centrifuge	Hunan Xiangyi Laboratory Instrument Company
Electronic balance	Guangdong Huruiming Instrument Co., Ltd
Gel imaging system	Shanghai Jiapeng Technology Co., Ltd

(10) The adsorbent column CB3 is placed in a clean centrifuge tube, and 100–250 μl elution buffer TE is added in the middle of the membrane. The buffer solution is placed at room temperature for 3–6 minutes, centrifuged at 11800 rpm for 3 minutes, and collected into a centrifuge tube.

3.6. Determination of Plasma D β H Activity

(i) Principle: $D\ \beta$ H transforms tyramine into pyrazine, which is oxidized to bis by sodium iodate photobenzaldehyde, and then the absorbance change is measured at 420 nm absorption peak with spectrophotometer, and 11 μmol/min of diamine per minute generated per liter of blood (<35°C) represents the active unit of $D\ \beta$ H (IU: μmol/L/min) [14, 15].

(ii) The determination steps are as follows.

(1) 62 μl heparin anticoagulant plasma was diluted to 450 μl with double distilled water.
(2) The enzyme solution was added into a centrifuge tube containing 250 μl 1 m (pH 5.0) sodium acetate buffer.
(3) The plasma inhibitor 0.2 m-ethylmaleimide 130 μl was added.
(4) 250 μl insulation solution (containing 65 μl of 0.5 m tyramine, catalase, 0.52 m sodium chloride, and 0.06 m youjianning) was added.
(5) 65 μl ascorbic acid 0.3 m reducing agent was added (Vit C, fresh preparation).
(6) Another blank tube was taken and inactivated in boiling water bath for 6 minutes, and the remaining solution was the same as that of the detection tube.
(7) It was placed in 35°C water bath for 2 hours.
(8) 550 l of precipitated enzyme protein was added to each tube to terminate the reaction, centrifugation: 2600 rpm.
(9) The supernatant was transferred to the chromatographic column with 0.6–0.8 ml dowex-60w × 8 (H + 300–500). The wall and sediment were cleaned with 1 ml of double distilled water, and the rinsing solution was also sent to the column.
(10) Dilute 3 times with 5 μl of double distilled water, and clean the centrifuge tube with cleaning solution
(11) Use 1 μl 4M ammonium hydroxide (NH4OH) solution to elute amine on the adsorption column
(12) 200 μl of 2% sodium periodate solution was put in the eluent, let the amine change into p-light benzaldehyde, then 250 μl 10% sodium sulfite solution was added to reduce excess periodic acid, and the absorbance was determined at 450 nm with a UV spectrophotometer.
(13) The other was in the tube, and +30 nm diamine 1 m1, 5 m amine hydroxide 1 μl, then 250 μl 3% sodium periodate solution, and 10% sodium bisulfite solution were added as standard.
(14) The preparation process of dowex-50w × 8 resin: take 20–60 g resin, soak for 3 hours,

remove the small particles on the upper part of the resin repeatedly, and keep the precipitation resin. Rinse with water for 2 hours. Then, soak the column in 0.6 N hydrochloric acid for 2.5 h, wash it with water until it is neutral, repeat twice, and finally put the column into neutral water with a loading capacity of 0.7–0.9 m1.

3.7. Nursing Intervention Methods. The two groups of children had the same clinical treatment plan. The control group was given routine treatment and nursing plan, namely, basic nursing guidance such as school entrance, health education of parents, drug treatment operation, and psychological intervention, while the experimental group was given comprehensive nursing in treatment.

(1) Social support: parents are encouraged to communicate with the school head teacher regularly, tell the children the basic situation, let the teacher face the disease, and understand the disease, showing the abnormal situation of the school. Eliminate discrimination and misunderstanding, give correct education and key protection of children, refuse bullying other students, and children get more encouragement and help in school.

(2) Behavior correction: compared with competitive sports children, the form of knowledge competition, and the diversion of their attention and play to their character and disease characteristics, gradually alleviate and correct their high mental symptoms. Use mild language to communicate with children and summarize and guide their bad behaviors. Children's hard language is strictly forbidden to be angry; encourage children's positive behavior, let them gradually realize that it is correct to do so, and continue to do so.

(3) Environment shaping: The parents were told to change the children's environment, to give a more warm and harmonious family atmosphere, and the main color of the children's bedroom is warm. And arrange some plants and cultivate their good mood to encourage children to do the right thing. We do not need to ask children to study too much, let them relax, spend more time with children, carry out outdoor activities, and cultivate the feelings between parents and children, so as to gradually correct their psychological state.

3.8. Statistical Method. The genotypes of ADHD children and their parents can be obtained by separating 8% acrylamide gel, and the genotype of the family control group can be obtained by removing parental genotypes.

Sspsv15 and sas7.0 were used for data management and statistical analysis. The data were input twice to check whether there were logical errors. Hardy Weinberg equilibrium analysis was performed using x^2 test, and core family association analysis was performed by HHRR and ETDT methods to detect the association between polymorphism and ADHD. Four table data or X table data x^2 test were used in children and control group.

4. Experimental Results and Analysis

4.1. Gel Electrophoresis Experiments and Analysis of Plasma D Beta H Activity

4.1.1. Results of Gel Electrophoresis Analysis. Results: the results of gel electrophoresis are shown in Figure 1.

Results analysis: the results of gel running test showed that the separation effect of DNA was good, no breakage, the concentration was visible, and the sampling position was at the 16th in the first row. The next step of judgment and analysis can be carried out.

4.1.2. Analysis of Plasma D β H Activity. Results analysis: 80 people in ADHD group were (17.81 ± 1.41) μmol/L/min, and those in control group were (17.83 ± 1.72) μmol/L/min. There was no significant difference in $D\beta$ H activity between the two groups ($t = 2.52$, $P = 0.05$). There was no significant difference in $D\ \beta$ H activity between the two groups ($P > 0.05$). There was no significant difference in $D\ \beta$ H activity between A2/A2, A2/A3, and A3/A3 genotypes in ADHD group ($F = 1.669$, $P > 0.05$).

4.2. Comparative Analysis of the Detection Rate of Anxiety Disorder. 160 children in the two groups were investigated. 80 children in ADHD group were examined. 35 children with ADHD had anxiety disorder. 80 children in the control group were examined, including 6 with anxiety disorder.

According to the statistical analysis chart in Figure 2, the detection rate of anxiety emotional disorder in ADHD children was significantly higher than that in non-ADHD children. The difference of detection rate of anxiety emotional disorder between ADHD children and non-ADHD children was statistically significant ($x^2 = 8.524$, $P < 0.05$). ADHD as a common mental illness in children, where the detection of anxiety-type emotional disorder has positive significance, can reflect the psychological state of children through data and provide help for the treatment effect through the research of psychological state.

4.3. Comparison of Genotype and Allele Distribution. The distribution of DBH I vs5 Taq I genotypes and alleles in 80 children with ADHD and 80 normal controls was studied by the statistical analysis chart in Figure 3. The experimental data showed that, compared with the two genotypes, the A2/A2 genotype in ADHD group was significantly increased, while the A1/A1 and A1/A2 genotypes were significantly decreased ($P = 0.007$). By comparing the alleles of the two genotypes, A1 was significantly decreased and A2 was significantly increased in ADHD children; the difference was statistically significant ($P = 0.001$). The or value of A1 was 0.53, which was a protective factor for ADHD, and the or value of A2 was 2.65, which was a risk factor of ADHD. This study confirmed that there are many gene risk factors in patients with ADHD, which has a potential relationship with

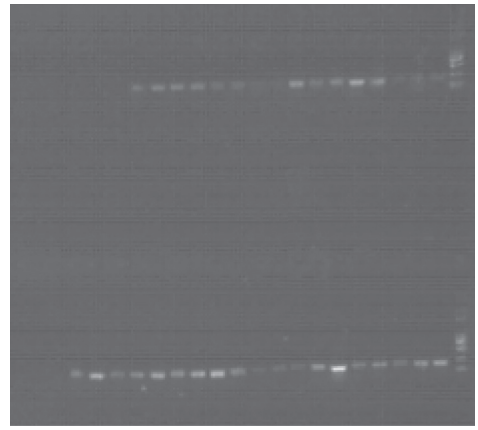

Figure 1: Results of gel electrophoresis.

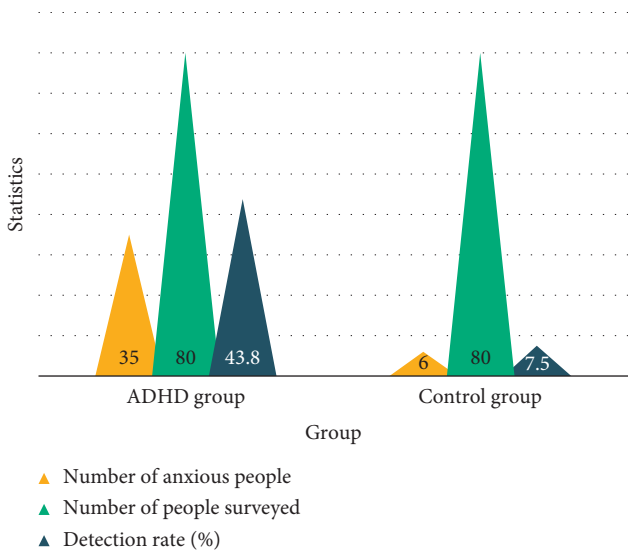

Figure 2: Analysis of the detection rate of anxiety disorder in ADHD children.

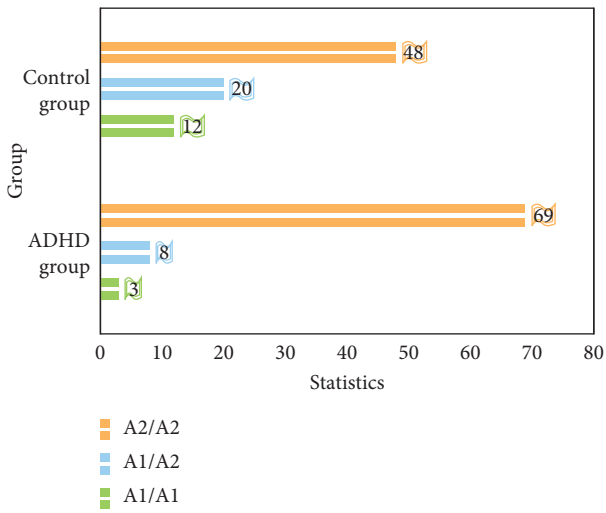

Figure 3: Comparative analysis of genotype and allele distribution between ADHD children and normal controls.

the pathogenesis of ADHD. Generally speaking, the more risk factors in the gene, the higher the probability of mental illness. This study also proved this point again.

4.4. Comparison of Allele Frequency Distribution of D β H Gene Taq I Polymorphism. According to the statistical analysis results in Figure 4, two alleles were found between the ADHD group and the control group. The allele frequency of A1 in ADHD group was slightly lower than that in the control group, and the allele frequency of A2 was slightly higher than that of the control group. There was no significant difference in allele frequency distribution of $D\ \beta$ H gene Taq I polymorphism between the two groups ($P > 0.05$). Although there was no significant difference in Taq I polymorphism between the two groups, the subdivided indexes still had comparative significance. It can be concluded that the A2 allele of ADHD patients also reflects the dynamic relationship between ADHD and $D\ \beta$ H gene. This study further confirmed the $D\ \beta$ H gene characteristics of ADHD as a mental disease and provided a new direction for the follow-up treatment.

4.5. Comparative Analysis of Symptom Scores of Attention Deficit. According to the statistical analysis in Figure 5, $t = 12.262$, $P < 0.01$, the difference was highly statistically significant, indicating that ADHD group can significantly improve the symptoms of attention deficit, and the control group before and after treatment of attention deficit symptom score comparison $t = 10.126$, $P < 0.01$ has high statistical significance, indicating that the control group can significantly improve the symptoms of attention deficit. After treatment, the scores of attention deficit symptoms of the two groups were compared, $t = 2.028$, $P = 0.029 < 0.05$, indicating that the effect of nursing intervention mode in the treatment of attention deficit in ADHD group was better than that in control group. This study is based on the nursing intervention module. Through the experimental analysis, it shows that the nursing intervention mode has a positive effect on the treatment of ADHD. For children who have been suffering from the disease, the treatment at all stages has an improvement effect.

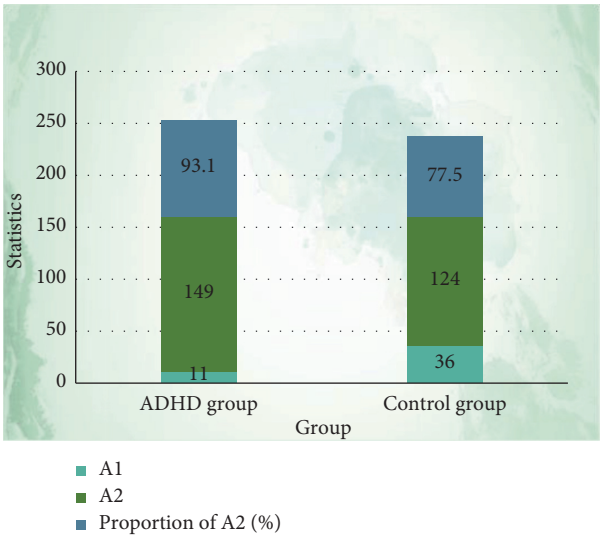

Figure 4: Comparison of allele frequency distribution of D β H gene Taq I polymorphism between ADHD group and control group.

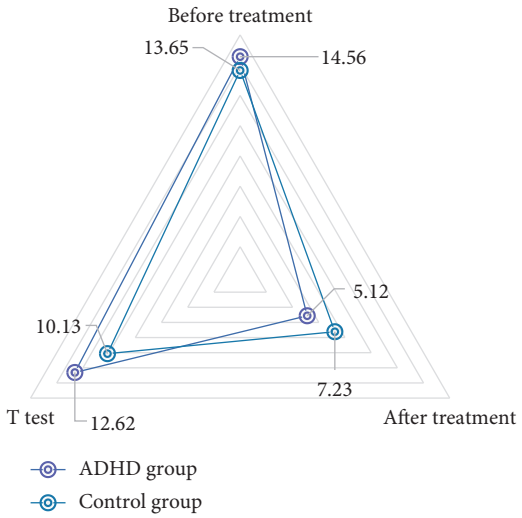

Figure 5: Analysis chart of ADHD group and control group.

5. Conclusions

ADHD is a typical mental disorder, which has the first place in children's mental illness. Due to the high incidence rate of ADHD, there will be a large number of patients every year. Because the pathogenesis is not clear, there is no authoritative diagnosis and treatment program. Therefore, the study of ADHD patients based on change has become particularly important, which has a good reference value for clinical treatment research. In this paper, based on the nursing intervention model of dopamine beta hydroxylase gene polymorphism, it is based on the genetic factors of ADHD as the main direction. This paper summarizes the theoretical basis of the main research on ADHD at present and makes an in-depth analysis of it and puts forward constructive suggestions for the prevention and treatment of ADHD. The corresponding experimental model was established by the method of comparative experiment. Through the experimental model, a number of experiments including Taq I polymorphism and anxiety disorder were carried out. Analysis of experimental data shows that ADHD, as a mental disorder, has the common characteristics of common psychological diseases. In the pathogenesis, genetic factors may play an important role. The research results further verify the genetic theory. This experiment has achieved ideal results, made a contribution to the research in this field, and provided a new idea for the clinical treatment of ADHD.

Data Availability

No data were used to support this study.

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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