

# Application of Smoking Control Behavior and Psychological Intervention in Medical Imaging Examination of Children's Health Information

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**Objectives:** Tobacco use is not only harmful to the health of smokers, but also poses a threat to the health of people who are exposed to passive smoking, especially to children in their growth and development. This paper presents the application of smoking control behavior and psychological intervention in children's health information medical (imaging) examination. This paper is divided into three parts: The first part is the basic research of smoking control behavior and psychological intervention. The second part is the experimental model of medical image examination based on tobacco control, which introduces the experimental method and specific operation steps in detail. The core of the model is the improvement and optimization of smoking control behavior and psychological intervention and CT detection methods. By customizing services, the improved approach is more suitable for pediatric patients. The third part of this paper is comparative analysis. Through a large number of comparative experiments, the analysis of experimental data shows that psychological intervention in time during the smoking control behavior of children can effectively reduce the occurrence of psychological problems, and reduce the detection rate of mental health problems.

**Key words:** psychological intervention; children smoking; tobacco control; mental state assessment

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## INTRODUCTION

In 1946, the World Health Organization defined health as "a state of physical, mental and social well-being, not merely the absence of disease and weakness." The knowledge structure of clinicians and medical students should not be limited to biological mechanisms, disease process, biological standard diagnosis, drug and surgical treatment of diseases. But also understand the psychological and social factors and environmental influences that lead to disease, and have health concepts such as rehabilitation and prevention for life. "Psychology" is the reflection of objective reality, and it is a variety of psychological phenomena caused by all stimuli or information in the external environment entering the brain through the senses of eyes, ears, nose, tongue and skin. Mental health mainly refers to a kind of good psychology or mental state, which is an important part of the concept of health science. It is a subjective experience, including not only positive emotions, but also all aspects of personal life. During the period of illness, children's mental health is easy to be affected, and the stimulation to the outside world and the interaction with people will become withdrawn and avoided. The reduction of social adaptability and excessive self-protection will increase children's aggressive and immature performance, which will seriously affect the development of mental health. At the same time, thinking is also the function of the brain, and the brain controls the various systems and organs of the body through the nervous system. Therefore, psychological activities (perception, memory, thinking, emotion, belief, attitude, etc.)

The theoretical models of foreign children's psychological crisis intervention include: cognitive model, psychosocial transformation model, balance model and so on. The cognitive model thinks that psychological crisis is the deviation of thinking and belief caused by psychological immaturity or frustration. The main intervention strategy is to correct this kind of thinking deviation. According to the balance model, patients with psychological crisis are usually in a state of mental or emotional imbalance, and seeking balance mechanism is the main intervention strategy. The model of psycho-social transition believes that psychological crisis

will affect the physical function of the body. It will not only change the body from normal to pathological direction, but also change the body from pathology to normal direction. In other words, psychological activities can not only cause diseases, but also cure diseases. In recent years, the impact of disease on patients' psychology has been widely concerned at home and abroad, and has become a hot issue of interdisciplinary. Scholars also began to pay attention to the impact of disease on children's mental health.

Smoking and tobacco control has always been a hot issue in today's world. In China, tobacco industry, as an important part of the national economy, is a state monopoly. With the progress of The Times, science, technology and material civilization have been fully developed, and people pay more and more attention to their own health. Based on the fact that smoking is harmful to health proven by the scientific practice of progress, the value judgment of smoking is not civilized has been internalized into one of the civilized ideas of modern people. But people in the tobacco control only from the perspective of personal health, calling for comprehensive tobacco control is flawed, smoking as a special commodity, with the historical development, already and the social culture, smoking is not only based on tobacco addiction and contribute to a pure behavior, or a blend of the comprehensive behavior of social culture, pure - either/or lots, It is easy to overlook the complexity of the problem, so we need to take a comprehensive approach to tobacco control.

is caused by the changes and changes of psychology, society or environment. Therefore, intervention strategies should seek the best combination of psychology, society and environment. Some scholars have summed up the foreign psychological intervention into three characteristics: one is the stage division technology; the second is the integration trend; the third is the specific development, the three stages have different tasks and different intervention methods. There are mature theoretical perspectives on intervention of children's mental health crisis in foreign countries, and according to the theoretical perspective of their own cultural development. At present, there

are few researches on psychological intervention in children's illness stage in our country, and more researches are focused on catastrophic events and family education. This leads to the lack of psychological intervention in the clinical treatment of children with adjuvant treatment. In order to make up for the deficiency of this research, this paper puts forward the application research of health information of children patients in medical (imaging) examination based on psychological intervention.

By analyzing the previous studies on smoking and tobacco control, although the studies on smoking behavior and tobacco control have become a research hotspot, most of them are still presented in the form of dispersion, scattered in the medical field, the economics field, the sociology field and other research fields. These basic research fields are mainly reflected in the harm of tobacco, changes of smokers, factors affecting smoking and smoking cessation, China's tobacco system, tobacco tax, tobacco culture and other fields, radiating to medicine, psychology, economics, management, sociology, ideological education and other disciplines. However, attention in the field of ethics is not enough. And from the current domestic research status, there is no research directly related to the topic of this paper.

First of all, this paper makes an in-depth study on the core concepts of psychological intervention and medical imaging examination. Through the study, this paper believes that in the face of diseases, children patients usually have psychological disorders, without effective psychological intervention, it will affect the treatment effect, and even some patients will adopt extreme ways to fight. In the process of clinical diagnosis, early psychological intervention can effectively prevent this. Then according to the previous study, this paper established a medical imaging examination program based on psychological intervention. In the experimental model of this paper, real cases were used, and 120 children patients were finally confirmed to participate through the relevant selection and exclusion indicators. The 120 patients were randomly divided into two groups, two groups used the same examination, treatment methods,

and added psychological intervention in the intervention group. In order to be more suitable for the scheme of this paper, the traditional CT detection method is improved, and the improved CT detection will be more suitable for children patients. Finally, in order to further verify the effectiveness of this method, a number of comparative experimental analysis including comparison of depression status between the intervention group and the control group before and after the intervention, and the comparison of the two groups of patients with imaging examination after the end of the intervention period. Through the analysis of experimental data, two groups of patients in the disease were improved, and the treatment effect of the intervention group was better than that of the control group, and there was significant difference. Analysis shows that this is mainly due to the psychological intervention of children patients with timely psychological counseling, so that their mood is more stable, in an optimistic situation are easier to recover<sup>1-3</sup>.

## **PSYCHOLOGICAL INTERVENTION AND CORE CONCEPTS OF MEDICAL IMAGING EXAMINATION**

### **Definition of Mental Health Intervention**

Psychological intervention in the modern sense originated in Europe and the United States, has developed for more than 100 years, and has a history of more than 30 years in China. However, few people directly define the concept of psychological intervention, so there is no consensus on the concept and structure of psychological intervention. At present, the understanding of psychological intervention can be roughly divided into two categories: one focuses on the correction and treatment of psychological problems; the other focuses on psychological changes.

The definition of treatment is to limit psychological intervention to the solution and correction of problems. Some experts believe that psychological intervention means that mental health workers take some methods to correct and treat the maladaptive behavior of the intervention object, so as to avoid its further deterioration. The so-called psychological intervention refers to the correction and treatment of patients'

psychological problems and behaviors on the basis of a series of appropriate psychological treatment methods. The diagnosis of psychological problems also includes a series of intervention activities to maintain normal people's mental health and use psychological methods. The focus is on a broader definition of mental state change, including prevention and development. Generally speaking, psychological intervention refers to the use of psychological means and skills to control and adjust the direction, nature, intensity and manifestation of psychological activities, so as to restore the individual's psychological state and behavior mode to normal. The definition of psychological intervention is: according to the psychological characteristics of patients, in order to promote their healthy development, the hospital regularly carries out monitoring, intervention and evaluation in an organized, planned and purposeful way. The forms of psychological intervention include explicit intervention and implicit intervention. Among them, explicit intervention refers to the intervention in the form of individual consultation or group consultation on the specific psychological problems of the intervention objects. Invisible intervention refers to the intervention that imparts psychological knowledge and skills in the form of education without obvious psychological problems.

Based on the conclusion of the scholars, this study defines it as: mental health intervention refers to a certain form of intervention object of psychological activities, personality characteristics or psychological problems exerted by the process of applying psychological principles and methods. It is a planned and step-by-step way to make them change their predetermined goals. Therefore, the core of mental health intervention system should include the goal, form, method, content and procedure of intervention<sup>4-6</sup>.

### **Main Means of Psychological Intervention**

Psychological intervention for patients is multifaceted, including problem-based, emotion oriented, treatment oriented and response oriented. Since anxiety and depression usually occur after patients are informed of their diagnosis, interventions for anxiety and depression are in the

majority. At the same time, there are many different methods to treat the common psychological problems of patients, such as mental health education, behavior therapy, cognitive therapy, music therapy, Morita therapy, etc.<sup>7-9</sup>.

#### **(1) Mental health education**

Patients will have a series of psychological changes after knowing that they have been diagnosed. It is not a smooth process from denial, resistance to acceptance of the disease, which is not conducive to the treatment and rehabilitation of the disease. Therefore, through various forms of relevant knowledge training and explanation, such as distributing brochures, holding lectures or lectures, and face-to-face direct communication, they can learn more about the disease and know how to adjust their daily life and diet, so as to better deal with the disease.

#### **(2) Behavioral therapy**

The intervention techniques include progressive muscle relaxation, hypnosis, deep breathing, active relaxation and directional visualization. In behavior therapy, there are many relaxation methods, such as sitting relaxation, breathing relaxation, imagination relaxation, self-discipline training, and progressive muscle relaxation and so on.

#### **(3) Music therapy**

Music therapy is based on the theory and knowledge of psychotherapy, using music with special physiological and psychological effects, so this person seeks treatment. The joint participation of music therapists can experience the music through a variety of specially designed music behavior to achieve the purpose, eliminate psychological barriers, restore or improve mental health.

#### **(4) Cognitive behavioral therapy**

Cognitive therapy is mainly used to correct some bad cognition of individuals. Compared with behavior therapy, it mainly aims at relatively hidden behaviors. By changing the individual's way of thinking, leading to low self-evaluation of abnormal reactions, we can improve the individual's psychological state and improve their ability to deal with diseases.

#### **(5) Comprehensive treatment**

Comprehensive therapy is a combination of these therapies. For example, cognitive behavioral therapy is actually a combination of cognitive therapy and behavioral therapy. In fact, this combination may be multifaceted and multi angle, which can overcome the shortcomings of single therapy and make them complementary.

### **Main Forms of Psychological Intervention**

What we introduce is the common means of children's psychological intervention, when we apply it to patients, it can also be divided into individual treatment, group therapy, family therapy and other forms.

#### **(1) Individual therapy**

Treatment is mainly based on the individual as the object of treatment, each patient has some thoughts or emotional fluctuations in the illness, at this time, if a therapist according to their own characteristics, targeted intervention. So that patients learn the appropriate emotional regulation and expression, the use of appropriate behavior patterns, laid a good foundation for disease treatment and rehabilitation.

#### **(2) Group treatment**

Group therapy can provide mutual support for each member, and patients can share their feelings in the group, mainly using the motivation of the group to achieve treatment effect. Regular discussion can be organized for patients of different ages to communicate with each other and introduce their own treatment experience. The discussion can be conducted in a relaxed and pleasant way.

#### **(3) Family therapy**

Family is the smallest unit in society. Family members maintain the most intimate relationship. Family members are most aware of the psychological state, personality characteristics and living habits of patients, and their care and support for patients cannot be replaced by other people. Therefore, in the treatment of patients, we must mobilize family members and promote the establishment of a warm and happy family environment, so as to improve the quality of life of patients and provide good conditions for patients to recover as soon as possible.

#### **(4) Psychotherapy**

In addition to following the doctor's psychotherapy, psychological self-treatment is also necessary. The common ones are: self-confidence therapy, exercise therapy, humor therapy and vent therapy. Among these therapies, self-confidence therapy is the most important. Everyone has an extraordinary potential, which can be stimulated by self-confidence. Therefore, as long as the patients get rid of the bad mood as soon as possible, make up their minds to overcome the disease, and believe that miracles will happen<sup>10-11</sup>.

### **Development of CT**

Computed tomography (CT) has become a famous diagnostic method of medical images, which plays an indispensable role in the diagnosis of diseases. Due to the discovery of X-ray and the development of computer science, the invention of CT is a major breakthrough in the medical field, bringing the traditional X-ray diagnosis technology into a new era of computer processing and television image display<sup>12-13</sup>.

The first CT machine, the original X-CT machine invented by Haus Feld, used rotation/translation to scan and collect information. First, the X-ray tube and the corresponding detector were synchronously transmitted for the first time, and then the patient was rotated 1 degree to prepare for the second scan, again and again, until all the data were collected within 180 degrees.

The second-generation CT machine is developed on the basis of the first-generation CT. However, the number of detectors increased to 30 when X-ray beam was replaced by fan beam, which expanded the scanning range and increased the collected data. As a result, the rotation angle increases from 1 degree to 35 degree, which shortens the scanning time, and takes about 35 seconds to 110 seconds to complete a scan. The image quality has also been improved, but still cannot completely avoid the artifacts caused by physiological movement of patients, which has been eliminated.

The main feature of the third generation CT is that the detectors surge to 350-900, arranged one by one, without gap, so as to widen the

fan-shaped wire harness surface and avoid the motion weakness of the previous two generations of linear motion. The detector only rotates with the relative X-ray tube, so more data can be collected. The scanning time can be shortened to 2-8s, which greatly reduces the artifacts and significantly improves the image quality.

The fourth generation CT machine is a further increase of detectors, 1200 - 2500 detectors arranged in a ring fixed. Only the X-ray tube rotates around the patient, i.e. rotated / fixed. The detector is fixed around the frame at an angle of 355 degrees.

The fifth generation CT machine, also known as electron beam CT or ultra-high-speed CT machine was introduced by matron in the 1990s. Its structure and principle are different from the previous generation of X-ray CT machines. The former generations of X-ray CT machines emit electron beams through an electron gun, and then focus them by a deflection coil. The rotating x-ray is obtained by deflecting the electron beam to a group of semicircular tungsten target rings. Instead of rotating x-ray tubes, CT scans circular anode targets with an electron beam. Because it does not require mechanical moving parts, it can only scan one layer in 40 milliseconds. It is mainly used for heart examinations that require rapid scanning.

Therefore, CT imaging technology is developing rapidly. With the further deepening of theoretical research and continuous exploration of practice, more new technologies, new processes and new materials will be found and used. In addition, with the rapid development of computer technology in recent years, the functions of computer hardware and software system are constantly upgrading, so the image technology will be more perfect and make greater contribution to the protection of human health.

### **The Legitimacy of Tobacco Control**

Tobacco is a very contradictory cash crop. On the one hand, tobacco is of high economic value in any country in the world, which can bring a huge amount of tax revenue to the government. On the other hand, tobacco is a plant that is extremely harmful to human health. It can cause irreparable damage to human body and even

endanger life. It also puts great pressure on medical facilities. Medical studies have found that tobacco contains a lot of harmful substances such as carbon monoxide, carbon monoxide, dimethyl nitrite, hydrocyanic acid, ammonia and other gases as well as nicotine, polycyclic aromatic hydrocarbons, benzo flowers, arsenic and other harmful substances. Smoking not only harms the smokers themselves, but also causes the people around the smokers to smoke passively, which even exceeds the harm to the smokers themselves<sup>21-22</sup>.

China is a major tobacco producer and the world's largest tobacco consumer, with more than 300 million smokers and 740 million people exposed to passive smoking. Every year, as many as one million people die from smoking-related illnesses. For the sake of national health, tobacco control is necessary. Moreover, it is reasonable for smoking behavior to exist as a presumptive legal right of individuals before it exceeds the boundary of legitimacy. Therefore, the implementation of national tobacco control in the current state mainly focuses on the intervention of public power in the public domain. In this context, there is no doubt that tobacco control, as the starting point of action implementation and the ultimate goal of protecting the health of citizens, is justified in terms of ethics and morality. On the one hand, the implementation of tobacco control focuses on the areas involving public interests. For harmless smoking behavior, education, persuasion and other flexible auxiliary means are mainly used to promote it. On the other hand, with the historical development of tobacco products, in addition to its physical addiction, tobacco has been integrated into our lives as a special culture. If the promotion of tobacco control is not actively promoted, the related negative effects caused by smoking behavior will increase day by day and may eventually cause serious social problems. Therefore, tobacco control not only has its legitimacy, but also has the necessity of The Times.

## **EXPERIMENTAL MODEL OF IMAGING EXAMINATION BASED ON PSYCHOLOGICAL INTERVENTION**

### **Research Object**

From March to October 2018, 124 children with limb bone and joint tuberculosis were treated in the Department of osteoarthritis of a city people's hospital. There were 93 males and 31 females, aged 3-14 years, with an average age of 8.5 years. All cases underwent MRI and X-ray examination. Finally, combined with clinical, X-ray diagnosis and follow-up, MRI and X-ray examination were performed in 35 patients within 2 months after clinical symptoms, and reviewed every 2-4 months.

### **Exclusion Criteria**

Among the 124 patients, 2 patients were excluded who were unable to conduct interview and questionnaire survey due to their illness condition, and 2 patients who were unable to take care of themselves or were unable to read, and 2 patients whose questionnaires were incomplete or invalid were excluded. Finally, 120 patients were included for final statistical analysis, and the effective rate was 96.8%.

### **Inclusion Criteria of Research Objects**

According to the results of the questionnaire at the time of enrollment, 60 patients with SDS or SAS score greater than 40 and willing to accept psychotherapy were selected as the clinical + psychotic treatment group (before treatment). Methods: 60 patients were randomly divided into the experimental group and the control group, 30 cases in each group. After CT medical imaging examination and psychological intervention treatment, they're accepted SAS, SDS and SCL-90 questionnaire, and scored again.

### **Assessment of Psychological Status of Children**

The internationally recognized anxiety screening scale and self-rating Depression Scale for children were used. There are 41 items in fear, which are divided into five factors: somatization / panic, generalized anxiety, separation anxiety, social fear and school fear. There are 18 items in dress. Under the guidance of professionals, children should complete the questionnaire

according to their own situation.

### **Behavior Test of Children with Illness**

The children in the experimental group and the control group were evaluated with the disease behavior questionnaire. There were 62 items in the questionnaire, including general hypochondria, disease belief, psychological orientation, emotional depression, emotional disorder, denial of psychological reasons, irritability, emotional state, disease belief, and Whitley's index of hypochondriasis.

### **CT Detection Method**

In this study, we used Murphy anatomical method and clinical method to measure femoral bone FNA on CT, MRI also used Murphy anatomical method and clinical method to measure bone FNA, and then used Murphy anatomical method to measure cartilage FNA<sup>14-15</sup>.

The femoral neck anteversion was measured by Murphy anatomical method and clinical method. Children should keep quiet before examination. During the examination, all children should maintain double knee handstand, and older children should assume that their feet rotate 10-15 degrees to ensure bone handstand. Because of the abundant cartilage in children, CT has limited ability to identify cartilage, so only CT can be used to measure bony FNA. Determine the midpoint of femoral head and the midpoint of femoral neck base on the axial plane of femoral neck, connect the two as femoral neck axis and determine the center of femoral head: select the largest cross section of femoral head, and cover the center of femoral head with circular image in PACS system tool<sup>16-17</sup>. The maximum transverse diameter is the diameter of the circle, and the center of the circle is the center of the femoral head. Determination of the base center of the femoral neck: select the femoral neck on the basis of the largest elliptical cross section, and the center of the ellipse is the graph tool of the PACS system, and the contour adjustment of the elliptical arc adheres to the base of the femoral neck, so its diameter is perpendicular to the bottom. The center of the ellipse is the center of the femoral neck bottom. After the maximum section of the femoral head and the maximum

section of the femoral neck bottom are superimposed on the PACS system, the two centers are connected to form the femoral neck axis. The determination of femoral shaft: the femoral shaft is selected as the lowest connecting line inside and outside the femur, and FNA is the angle between femoral neck axis and femoral shaft.

Clinical methods: determine the femoral neck axis, the lower edge of the femoral head and the base surface of the femoral neck of the greater trochanter, and the base of the narrow bone and femoral neck in the center of the femoral head.

Femoral axis measurement: the femoral axis measurement method is the same as the anatomical method.

### **Imaging Analysis Methods**

This study mainly through the retrospective observation of different imaging examination methods in children with limb joint tuberculosis (TB) changes, cartilage and bone destruction, synovial lesions, medullary cavity participation. The imaging features of the dead joint were analyzed, including the number of dead cases, the number of joint lesions, and the pathological changes of the joint. Two experienced radiologists conducted blind analysis on DR, MRI and CT imaging data. If the results were inconsistent, the two radiologists reached an agreement after consultation and evaluation.

### **Psychological Intervention Methods**

Psychological intervention, once a week, a course of treatment in January, psychological intervention once a week, mainly including:

#### **(1) Group therapy<sup>18-19</sup>:**

Give supportive psychotherapy, talk to experts in the Department, and give patients basic knowledge and precautions of the disease regularly, and answer questions and difficulties. Increase the patient's understanding of the disease, establish a good attitude, actively cooperate with the treatment, patients understand the disease, do not worry too much. To maintain a positive attitude towards life, healthy diet, smoking and more exercise can significantly improve the curative effect, shorten the course of disease and

delay the recurrence. In addition, we should establish patient clubs, exchange experiences, encourage each other and fight against diseases together.

#### **(2) Targeted intervention**

According to different types of negative adjuvant therapy, targeted psychological intervention can be carried out, and psychological experts can be consulted or invited to help.

1) Depression and pessimism: according to their pessimistic attitude towards depression, they are treated with the methods of joy and worry, relaxation and empathy. Take the initiative to communicate with them, understand their pressure and entanglement points, and conduct targeted psychological counseling. Relaxation training under the guidance of experts encourages patients to communicate with other patients, actively participate in group activities, make more friends and cultivate hobbies, such as listening to music, watching comedies, listening to crosstalk sketches, swimming, tourism or mountain climbing.

2) Anxiety and anger: Enlightenment and catharsis therapy for anxiety and anger. Doctor patient communication, explain disease related knowledge, enlighten them, change their wrong understanding of the disease. Guide patients to establish the right way of emotional catharsis, such as listening to music, talking with family or friends, outdoor outing, more contact with nature.

3) Panic: shock therapy<sup>20</sup>, belief therapy and spiritual support are given according to different types. Through media or brochures, we should publicize the knowledge of the disease to the public, appeal to the public to accept and care for the patients with the disease, and encourage them to contact and make friends with normal people. At the same time, explain the long-term impact of the disease to the subjects, so as to eliminate the panic of patients and enhance the confidence of patients to overcome the disease. Communicate with friends and family members of patients, encourage them to create a warm and positive living atmosphere for patients, and reduce the psychological burden of patients.

In addition to the above types, the

psychological status is complex and changeable, which is inconvenient to classify. Therefore, psychological intervention should be given under the guidance of psychological experts.

(3) Life conditioning

Encourage patients to live a healthy life, green diet, appropriate physical exercise, regular work and rest. Encourage patients to develop interests and hobbies, such as singing, dancing, listening to music, planting flowers, and participating in voluntary activities. Establish a good attitude, enhance confidence, and actively cooperate with the treatment.

**Statistics**

Spss20.0 was used for statistical analysis. Inter group correlation coefficient (ICC) was used to evaluate the consistency among groups (A1, A2; A1, b). ICC > 0.75 means good consistency. The measurement data (femoral neck inclination) was expressed by mean ± standard deviation (SD). The reliability between the two groups was compared by t-test, and the comparison between the two groups was performed with the test level

value of bilateral = 0.05, and the t test was used.

**EXPERIMENTAL RESULTS AND ANALYSIS**

**Comparison of Two Groups of Patients with Imaging Secondary Examination**

According to the statistical analysis in Figure 1, in the imaging examination one month after the experiment, all indexes of the experimental group were effectively improved through psychological intervention, and the number of cases and the total number of cases were significantly reduced compared with the control group. A few patients in the experimental group had osteoporosis, joint effusion, bone destruction, and space stenosis. In the control group, all the indicators appeared in the patients. The results show that psychological intervention can help patients recover better and reduce the incidence of complications. The control group did not correct the psychological problems in time, which affected the final treatment effect. There was significant difference between the two groups.

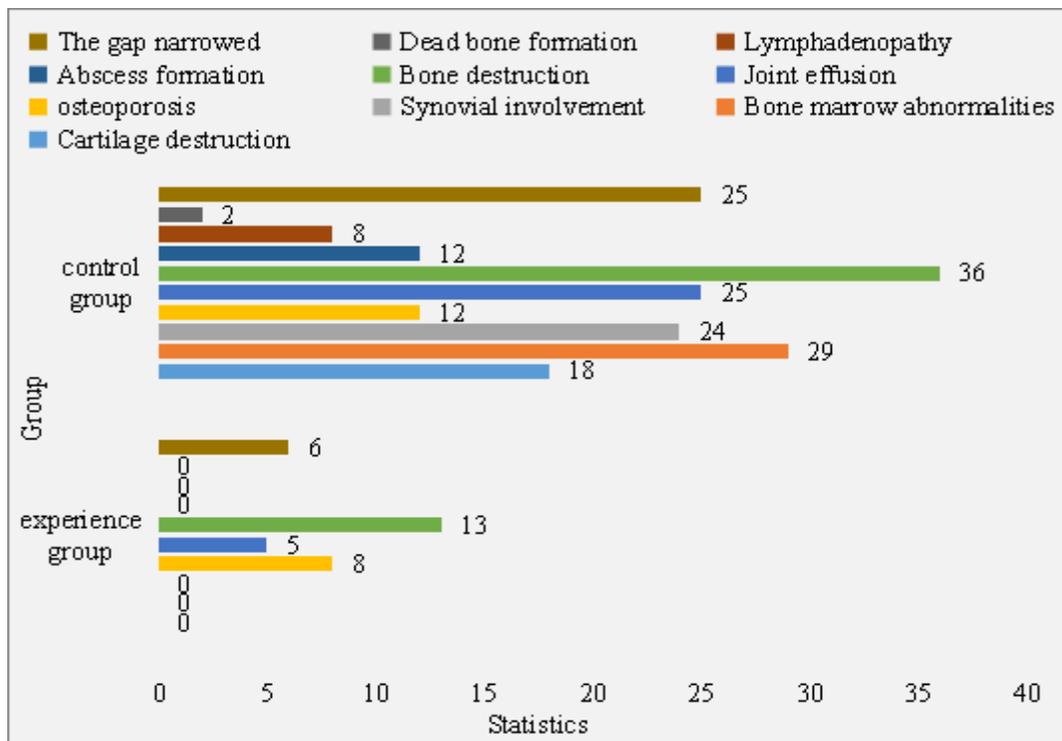


Figure 1 Comparative analysis of imaging secondary examination between the two groups before and after the intervention

**Comparison of Depression State between Intervention Group and Control Group Before and after Intervention**

According to the statistical analysis in Figure 2, the results showed that: compared with the control group before intervention, the intervention group and the control group after two independent sample comparisons, there was no significant difference in SDS score between the intervention group and the control group ( $P > 0.05$ ). After the intervention, the SDS score of the intervention group was lower than that of the control group, and the two groups also experienced two independent sample t tests,

which showed that the difference of SDS score was statistically significant ( $P < 0.01$ ), and the improvement of depression state in the intervention group was better than that in the control group. The depression of the intervention group decreased, which shows the importance of psychological intervention in the treatment of children with diseases. Reducing depression is an important prerequisite for maintaining a good mentality, which not only plays a positive role in improving the psychological environment, but also plays a good guiding effect on the physical and mental health development of children patients.

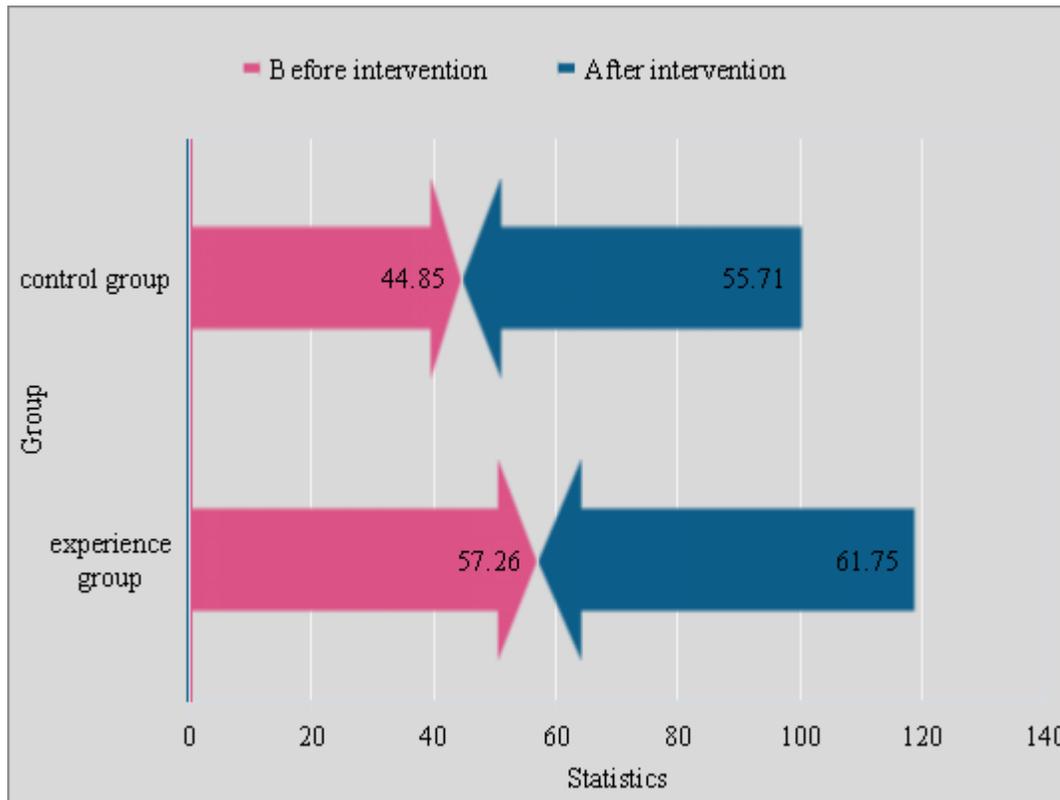


Figure 2 Comparative analysis of depression status between intervention group and control group before and after intervention

**Comparison of the Scores of Social Support Scale in Different Fields between the Two Groups after Intervention**

According to the analysis results in Figure 3, after the intervention, the objective support, subjective support and support utilization of dozens of SSRS in the intervention group were higher

than those in the control group, the difference between objective support and subjective support was not statistically significant ( $P > 0.05$ ), and the difference in the utilization of support was statistically significant ( $P < 0.05$ ). The total score of social support scale in intervention group was higher than that in control group; the difference was statistically significant ( $P < 0.05$ ). The results show that through psychological intervention,

children patients are more likely to accept new things after surgery, and become more positive and optimistic in emotional improvement, and significantly reduce anxiety, fear and other

psychological factors, which benefits from the timely correction of psychological problems caused by psychological intervention, and ultimately affect the treatment effect.

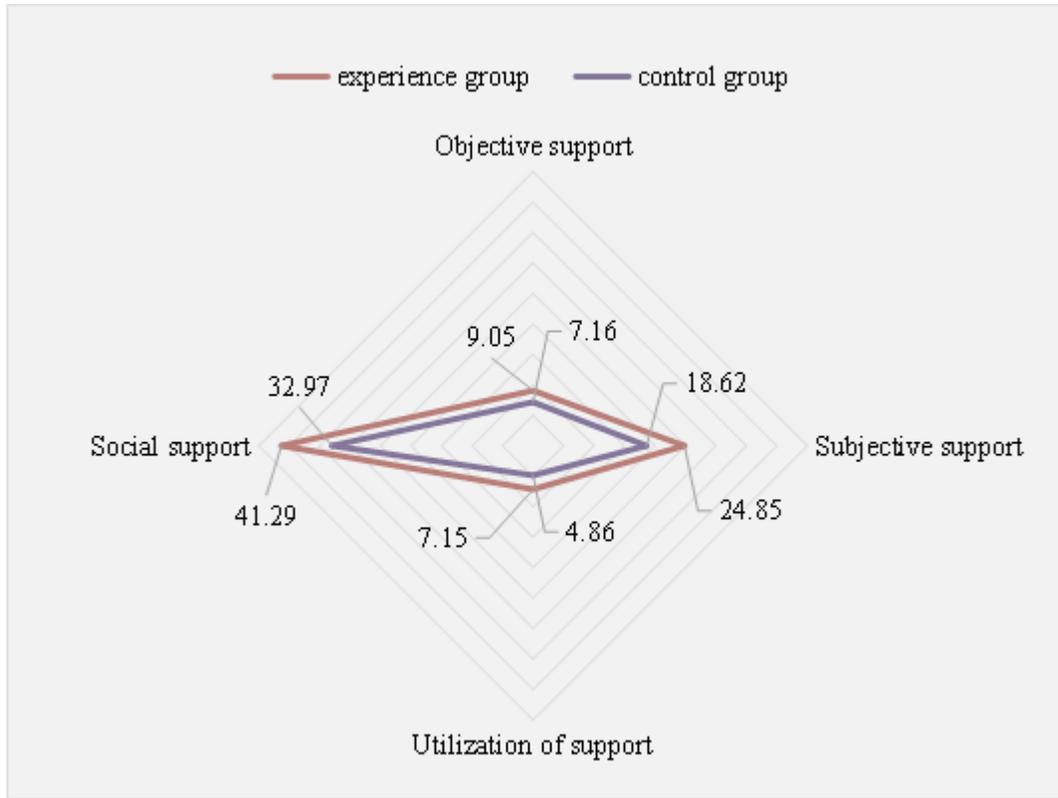
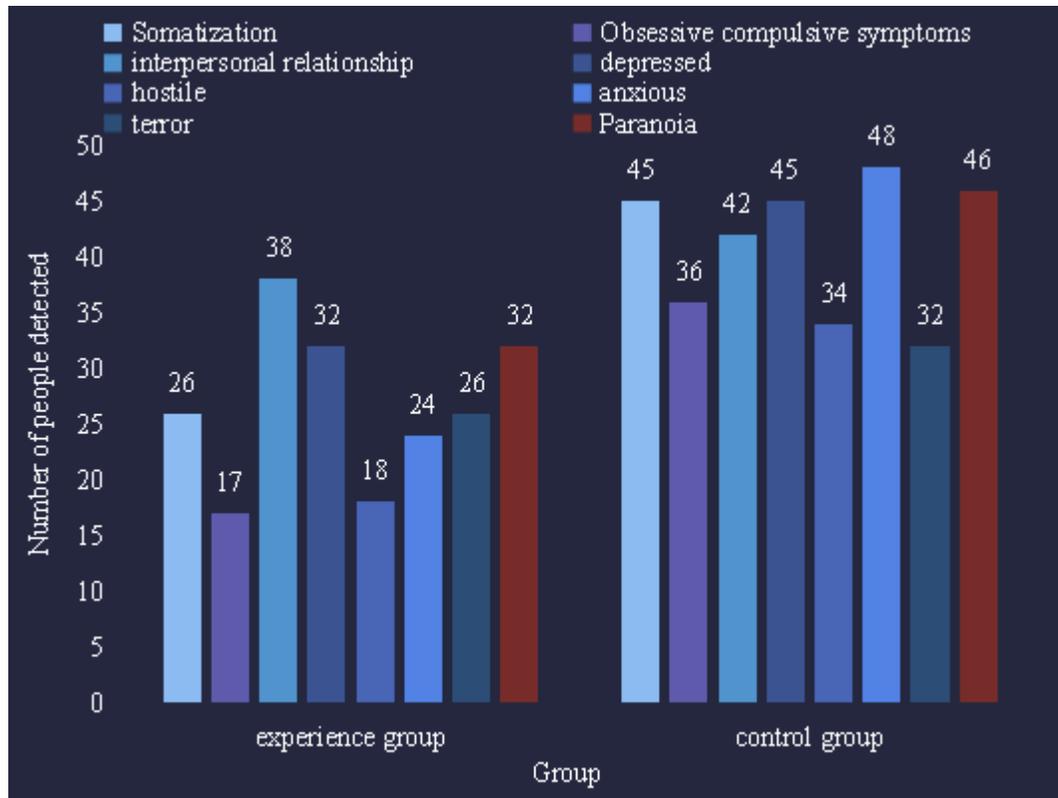


Figure 3 Comparison and analysis of the scores of social support scale of intervention group and control group before and after intervention

### Detection Rate of Mental Health Problems

According to the statistical analysis chart in Figure 4, among the 120 children tested, 84 children have a total score of more than 160, that is, 84 children have psychological disorders, accounting for 70%. The total number of mental health children is 36 years old, or 30%. Among them, the detection rate of all indicators in the experimental group was lower than that in the control group, indicating that psychological

intervention has a positive impact on children's mental health patients and helps patients recover after surgery. In the actual clinical diagnosis and treatment, often ignore the psychological state assessment of children patients, and timely and effective psychological intervention adjuvant treatment can effectively alleviate the obstacles in children's heart. It plays an important role in its treatment and physical and mental health development. Many experiments in this paper have proved the effectiveness of psychological intervention therapy.



**Figure 4 Comparative analysis of the detection rate of mental health problems between the intervention group and the control group before and after the intervention**

**CONCLUSIONS**

Tobacco consumption is a cultural phenomenon with a long history in human society, and its ups and downs reflect the changes of The Times. The topic of tobacco control is The legitimacy and necessity of its existence, and how to make tobacco control possible, need comprehensive consideration and comprehensive response. Through the auxiliary treatment of psychological intervention, early intervention can avoid these adverse effects. But at present, the research on this aspect is insufficient in our country, and the clinical research should not be extensive. And the application research based on psychological intervention in medical (imaging) examination of children patients' health information proposed in this paper can make up for this deficiency. The core of this study is to establish the relevant experimental model, the model experimental samples are real cases, through the development of unified treatment standards and evaluation indicators to ensure the quality of this experiment.

And in the traditional scheme of CT detection and psychological intervention for customized optimization, after targeted improvement, this method is more suitable for children patients. At the end of this paper, the detection rate of mental health problems and the scores of social support scale of the two groups after intervention were compared. Through the analysis of experimental data, we can see that in the secondary imaging examination, the indicators of the two groups of patients have a great difference, and the intervention group shows better treatment effect, and its health information indicators are significantly improved compared with the control group. This experiment further proves the importance of psychological intervention in the treatment of children patients.

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## Author Declaration

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