

A Study on Pediatric Medical Care in the Song Dynasty

Yu Zhou¹²

¹*Department of Economics, Peking University, Beijing, China*

²*School of Social Development, Yangzhou University, Yangzhou, China*

779560809@qq.com

Abstract. Compared with previous dynasties, pediatric care techniques in the Song Dynasty were improved in various aspects, forming a relatively systematic body of inherited knowledge. In the Song Dynasty, medical books stipulated rules for newborn care, umbilical cord cutting, breastfeeding, careful nursing and dietary taboos for children. For newborn care, Song medical books advocated wiping the newborn clean and wrapping it with cotton wool right after birth; for umbilical cord cutting, they promoted proper cord amputation; for breastfeeding, they suggested adjusting the wet nurse's diet according to children's different symptoms. For careful nursing, Song physicians held that children should be exposed to wind and sunlight in mild weather, and their clothing should avoid sudden cold or heat to strengthen their physique. For dietary taboos, Song physicians had summarized a mature set of dietary taboo theories and insisted that feeding should take good care of children's spleen and stomach. In short, pediatric care in the Song Dynasty was characterized by meticulous feeding, moderate clothing warmth and mild medication, forming the medical feature of taking gentle nurturing as the foundation and conditioning care as the priority.

Keywords: Song Dynasty Medicine, Pediatric Care, History of Medicine

1. Introduction

Pediatric medical care techniques in the Song Dynasty were more mature than those in previous dynasties, forming a relatively systematic knowledge system. Before the Song Dynasty, influenced by the idea of continuing the family line, people attached great importance to newborn care and pediatric medical treatment. The Song Dynasty ended the wars of the Five Dynasties, leading to a rising birth rate and social stability, which further boosted the development of pediatrics and shaped a concrete knowledge system of pediatric care.

The term "children" referred to those under the age of 14. According to *General Treatise on Pediatric Health and Total Micro-Differentiation*: "It is recorded in classics that those above six years old are children... treatment shall be applied to those under 14 as children. Those above 15 have reached puberty and are ready for marriage, so they are treated as adults [1]." In ancient times, people could marry and have children after the age of 15. Therefore, in the eyes of people in the Song Dynasty, only those under 14 were regarded as children. This paper also takes children under 14 as the research object.

For a long time, pediatric medical care in the Song Dynasty has drawn extensive academic attention for its important role in the history of Chinese medicine. In recent years, pediatric medical knowledge of the Song Dynasty has become a research hotspot, with a large number of relevant achievements emerging. Studies on pediatric care in the Song Dynasty can be roughly divided into three categories: thematic studies on pediatric literature and medical books in the Song Dynasty, studies on ancient pediatric care, daily life and social assistance, and studies on treatment, medication and experience for pediatric diseases.

Firstly, thematic studies on pediatric literature and medical books in the Song Dynasty mostly take classic traditional Chinese medicine pediatric works of the Song Dynasty as research objects, focusing on representative works such as *Key to Therapeutics of Children's Diseases*, *Youyou Xinshu*, *General Treatise on Pediatric Health and Total Micro-Differentiation* and *ShengjiZonglu*, and systematically sorting out the theoretical classics of Song Dynasty pediatrics. For example, Guo Junshuang and other scholars conducted early research on Song Dynasty medical works in 1983. In their study *The Great Pediatric Work of the Song Dynasty: Youyou Xinshu*, they made a detailed analysis of *Youyou Xinshu* and pointed out its high clinical value for pediatric medical care [2]. Wan Fang and Liu Yuwei studied the treatment of pediatric cough in *Key to Therapeutics of Children's Diseases* and *Youyou Xinshu* of the Song Dynasty in *An Overview of Pediatric Cough Literature from the Sui, Tang to Song Dynasties*. Wan Fang elaborated on the achievements of various pediatric academic works, noting that *Key to Therapeutics of Children's Diseases* is a programmatic document for the establishment of traditional Chinese medicine pediatrics, *Youyou Xinshu* is a comprehensive collection of traditional Chinese medicine pediatrics in the Southern Song Dynasty, and *General Treatise on Pediatric Health and Total Micro-Differentiation*, *Renzhai Pediatric Prescriptions* and *Chen's Treatise on the Causes and Symptoms of Pediatric Diseases* mainly focus on pediatric prescriptions and herbs, many of which are still widely used in clinical practice [3]. Li Jushuang pointed out that there are many errors and invalid dosages in the prescriptions of the current version of *Key to Therapeutics of Children's Diseases*, and analyzed the causes: later physicians mistakenly believed that physicians in the Song and Yuan Dynasties also used the measurement units of jin, liang, qian and fen, and later generations failed to correctly understand the medicinal measurement units of the Song and Yuan Dynasties, thus correcting the errors in pediatric medication [4]. Zhang Ling studied *General Treatise on Pediatric Health and Total Micro-Differentiation* of the Southern Song Dynasty, exploring its complete system of pediatric care knowledge, pediatric diagnostic methods and unique research on the theory of infantile developmental fever, with special discussions on umbilical wind and herpes in children [5].

Secondly, an ancient dynasty pursuing long-term rule would definitely provide social care for children, which still has reference value for today's social security. Many scholars have conducted research on this. Guo Wenjia stated in *A Review of Infant Rearing and Assistance in the Song Dynasty* that the feudal government attached great importance to infant rearing and protection, and adopted various measures to assist and protect infants. This paper made an in-depth study of infant assistance in the Song Dynasty, covering the pregnancy of poor pregnant women, newborn birth, assistance and protection for abandoned infants during famines, as well as official infant assistance institutions in the Song Dynasty [6]. Wang Yichen also mentioned pediatric care in the Song Dynasty in his research on ancient pediatric daily care [7]. Zhao Shiqi and Chen Fang combined medical literature and image materials of the Song Dynasty in *Pediatric Care, Diseases and Clothing in the Song Dynasty*, expounding the theory of newborn clothing in the Song Dynasty including swaddling clothes, temperature regulation and old clothes, exploring the important role of

children's clothing in children's life and health from a medical perspective, and pointing out that pediatrics in the Song Dynasty developed towards specialization [8].

Finally, scholars have also carried out research from the perspective of pediatric diagnosis, treatment and medication experience. For example, Wang Jijun et al. studied the medication rules of traditional Chinese medicine in treating pediatric smallpox and measles in *Treatise on Pediatric Smallpox and Measles* of the Song Dynasty based on data mining [9]. Gou Yanpeng explored the medication and treatment characteristics of pediatric malnutrition syndrome in the Song, Yuan, Ming and Qing Dynasties based on *The Great Dictionary of Traditional Chinese Medicine Prescriptions*, providing a theoretical basis for clinical prescription [9]. Chen Yinzhen, Zhang Ying et al. analyzed the medication rules of pediatric epilepsy in *Youyou Xinshu* based on data mining to explore pediatric medication in the Song Dynasty [10].

In summary, in recent years, scholars have conducted in-depth research on pediatric medical care in the Song Dynasty mainly from three aspects: medical book achievements, social actions and specific drugs. However, despite the fruitful academic achievements in the study of pediatric medical care in the Song Dynasty, there are still gaps in the field of pediatric medical care knowledge of the Song Dynasty. Therefore, this paper sorts out the pediatric care knowledge in medical classics of the Song Dynasty and studies its core knowledge and characteristics.

2. Multifaceted knowledge of pediatric medical care

Physicians in the Song Dynasty discussed pediatric medical care from multiple aspects including newborn care, umbilical cord cutting, wet nurses, careful nursing and dietary taboos, and formulated rules for the care of newborns and children during the upbringing process.

Firstly, after a child was born, Song physicians advocated wiping off the filth on the child immediately to prevent the filth from entering the mouth and eyes, and wrapping the child with cotton wool to keep it from cold. *General Treatise on Pediatric Health and Total Micro-Differentiation* stipulated for newborn care: "As soon as a child is born from the mother's womb, it shall be lifted up at once, wrapped with cotton wool, and held in an adult's arms to keep warm. Even in hot summer months, the cotton wool shall not be removed immediately; it must be reduced gradually. For the child has just come out of the mother's womb and must not be exposed to cold. Also, quickly wrap a finger with cotton to wipe off the filth and blood in the child's mouth, eyes and around the body, making it completely clean, and not let it enter the mouth and eyes. If the child is lifted late and not wrapped in time, it will catch cold. If the filth and blood enter the mouth and eyes, the child will fall ill." The first step after a baby is delivered from the mother's womb is to pick it up immediately, wrap it with cotton wool, and hold it in the arms to keep warm. Even in the hot summer, the cotton wool should not be taken off at once; it must be reduced slowly, and the baby must not be exposed to cold, even the fingers should be wrapped with cotton cloth. The second step is to wipe off the filthy blood in the baby's mouth, eyes and around the body thoroughly, leaving nothing in the mouth and eyes to prevent the baby from getting sick due to filth contamination. *Health Treasure: Essential for Obstetrics* also recorded: "For all newborn babies, quickly wrap a finger with cotton to wipe off the evil substances in the baby's mouth; otherwise, they will flow into the abdomen and cause various diseases later [11]." It pointed out that newborn babies should be immediately wiped with cotton-wrapped fingers to remove the filthy substances in their mouths. If not done, the baby will catch cold or the filth will flow into the abdomen, leading to various diseases later. From the two representative pediatric and obstetric works *General Treatise on Pediatric Health and Total Micro-Differentiation* and *Health Treasure: Essential for Obstetrics*, it can be found that Song physicians generally wiped the filth and blood from the mouth, eyes and body of

newborns to prevent the delicate children from getting sick, and also wrapped the children with cotton wool to prevent them from falling ill after catching cold.

Secondly, Song physicians advocated cutting the umbilical cord immediately after a child was born, and adopting a specific method of umbilical cord cutting. *General Treatise on Pediatric Health and Total Micro-Differentiation* stipulated: "After a child is born, the umbilical cord must be cut in a timely manner. If the umbilical cord is not cut in time, it will cause non-drying umbilical discharge and cold, which is the cause of umbilical wind. The method of cutting the umbilical cord: bite it off through a single layer of clothing, and breathe warm air on the umbilicus seven times continuously. If cutting with a tool, scissors must be used; warm the scissors in the arms first before use, and do not use cold scissors directly. It will often cause umbilical injury and disease." After a baby is born, the umbilical cord must be cut in time. If the umbilical cord is not cut in time, the umbilical discharge will not dry, the baby will catch cold, and this is the cause of umbilical diseases. When cutting the umbilical cord, bite it off through a single layer of clothing, then breathe seven times of warm air on the umbilicus continuously. If cutting with scissors, warm the scissors in the arms first before use, and do not use cold scissors directly, otherwise it is easy to damage the umbilicus and make the baby sick. *Health Treasure: Essential for Obstetrics* stipulated the length of the umbilical cord cutting: "The umbilical cord can be cut to about three cun long. If there are worms in the umbilical cord, remove them immediately to prevent them from entering the abdomen." That is, when cutting the umbilical cord, a length of about three cun can be reserved. However, if worms are found in the umbilical cord, they should be removed immediately to prevent the worms from entering the baby's abdomen and making the child ill. In terms of umbilical cord cutting, the records in various medical books are similar. It can be inferred that people in the Song Dynasty paid attention to timely umbilical cord cutting and using warm and clean tools to prevent cold and infection in newborn umbilical cord cutting. Because children are very delicate, people in the Song Dynasty attached great importance to the medical hygiene of umbilical cord cutting and subsequent care to prevent diseases such as perforation and infection.

Thirdly, children need to be fed with breast milk for rearing. Whether the mother feeds the baby herself or hires a wet nurse, Song medical books have requirements for the feeder. For wet nurses, *General Treatise on Pediatric Health and Total Micro-Differentiation* stipulated: "If a child is breastfed by its own mother, there is no restriction. If a wet nurse is employed to breastfeed, the person must be carefully selected. Those with chronic diseases, body odor, goiter, asthma and cough, scabies and tinea, head sores, chicken breast, hunchback, flat nose, lip defects, dementia, deafness, dumbness, mania, epilepsy, carbuncle and gangrene, etc., are not allowed to breastfeed the baby." If a wet nurse is hired to feed the baby, a suitable person must be carefully selected. Any wet nurse with old diseases, or suffering from body odor, neck goiter, asthma and cough, scabies and tinea, head pus sores, chicken breast, hunchback, flat nose, lip defects, dementia, deafness, dumbness, mania and epilepsy, carbuncle and abscess, etc., is not allowed to breastfeed the baby. *Key to Therapeutics of Children's Diseases* also stipulated dietary taboos for feeders according to different symptoms of children. For example, for children with chicken back and chicken breast, the wet nurse "should eat more five pungent herbs"; for children with "sparse hair and blue veins on the belly", the wet nurse "should always avoid fishy seafood, garlic, chicken, duck, pork, etc.", and treat children's diseases by managing the wet nurse's diet [12]. Because children do not eat other food but only breast milk, breast milk should contain the nutrients needed for the healthy growth of children. Therefore, people in the Song Dynasty had strict requirements for wet nurses, who must be healthy, and the wet nurse's diet should be changed frequently during feeding to meet the needs of pediatric care.

Fourthly, children's daily life needs careful care to grow up healthily, and Song physicians also formulated rules for careful nursing. *General Treatise on Pediatric Health and Total Micro-Differentiation* recorded: "When the weather is mild and windless, hold the child to play in the sun. Frequent exposure to wind and sunlight will make the blood coagulate and qi strong, muscles and skin dense, and able to withstand wind and cold. If hidden in a tent with thick and warm clothes, like plants in the shade without seeing wind and sunlight, the child will be fragile and easily injured." The same record can be found in *Shengji Jing*. Wearing too thick clothes, covering too warmly, and wrapping the child too tightly in a tent should be properly reduced, otherwise it will hurt the child's skin and damage the blood vessels, making the child prone to illness. Usually, the child should wear thinner clothes; even in winter, only two lined coats or cotton-padded clothes are enough, and old cotton-padded jackets can be added slowly when it is extremely cold. Many families love their children too much and always make thick clothes with new cotton, keeping the child too warm, which will harm the child instead. To get the child used to thin clothes, training should start from autumn. When the weather gets a little warmer in the next spring, clothes should also be reduced slowly, not taken off too much at once, otherwise the child is easy to catch cold and get a cold. In short, children should not be wrapped in too many clothes, nor should they avoid wind and sunlight, otherwise they will become fragile. *Chen's Treatise on the Causes and Symptoms of Pediatric Diseases* mentioned: "After birth, bathing and swaddling the child in a tent without seeing wind and sunlight, like plants in the shade, few are strong [13]." It can be seen that children should also actively contact plants and nature in mild weather, otherwise their bones and flesh will not be strong. People in the Song Dynasty generally believed that pediatric care must let children contact wind and sunlight, not hide in the house wrapped in thick cloth all the time. At the same time, attention should be paid to the weather for contacting wind and sunlight and exercising; children should not be taken out in bad weather conditions to ensure the healthy development of children's bodies. In winter, children should not wear too many clothes out of love, and in summer, they should not be exposed to cold, so as to make the child's body strong and improve immunity.

Fifthly, children's intestines and stomach are still delicate, so there are many dietary taboos. *General Treatise on Pediatric Health and Total Micro-Differentiation* recorded that children should not eat chestnuts, fiddleheads, etc. Meanwhile, "children should not eat millet, chicken, and cucumber, which will cause worms in the child's belly. *Jingyan Fang* says: children who are not weaned and eat chicken will get roundworms in the belly. Children should not eat snake melon, which will cause chronic diseases. Children should not eat wheat, which will cause hair loss." In addition, children should not eat millet, chicken, cucumber, snake melon, sturgeon, etc. *Key to Therapeutics of Children's Diseases* also recorded different symptoms. For example, for "vomiting and diarrhea in summer and autumn", "take a small dose of Yihuang Powder before meals and a large dose of Yulu Powder after meals"; for "indigestion", "Yihuang Powder is the main treatment"; for the symptom of "having mass in the abdomen, not eating, only drinking milk", "gradually use Baibing Zi to purge"; for "abdominal distension due to deficiency and excess", Zishuang Pill and Baibing Zi should be used. Pediatrics in the Song Dynasty attached great importance to infants' milk and food. Feeding children should be moderate, and adult food should not be fed randomly to take care of their spleen and stomach and reduce the occurrence of diseases. It can be seen that a mature set of dietary taboo theories was formed in the Song Dynasty, with strict regulations on what can be eaten and what cannot be eaten.

3. Characteristics of pediatric care in the Song Dynasty

3.1. Meticulous feeding

The Song Dynasty attached great importance to children's diet in pediatric care, with regulations on wet nurse feeding and food intake. In terms of wet nurse selection, the wet nurse's temperament, physical fitness and diet directly affect the quality of breast milk, which is related to the healthy development of the child, so special emphasis was placed on carefully selecting wet nurses and standardizing their daily diet. Relevant records about wet nurses can be found in *General Treatise on Pediatric Health and Total Micro-Differentiation*, *Key to Therapeutics of Children's Diseases* and *Youyou Xinshu*. *General Treatise on Pediatric Health and Total Micro-Differentiation* stipulated that wet nurses should not have diseases; *Key to Therapeutics of Children's Diseases* also recorded that wet nurses should observe dietary taboos; *Youyou Xinshu* stipulated that wet nurses should avoid cooked noodles, pork, etc., and raw and cold food [14]. The selection of wet nurses was very strict; they should not have serious diseases, otherwise they would make children sick. Wet nurses should also pay attention to their diet during breastfeeding and not eat randomly. Especially when children are ill, wet nurses should choose different foods according to the children's conditions.

Secondly, for older children, feeding should also be careful. *General Treatise on Pediatric Health and Total Micro-Differentiation* recorded a treatise on dietary taboos, which recorded the foods that children should not eat. It stipulated that children should not eat too many chestnuts, and should not eat fiddleheads, *Euryale ferox*, millet, chicken, cucumber, snake melon, buckwheat, water chestnut, sturgeon, or eat fried beans and pork together, otherwise they are easy to get sick and become weak.

In summary, physicians in the Song Dynasty always attached importance to dietary conditioning and wet nurse management in pediatric care. There were clear and strict norms from the wet nurse's physical condition, temperament and moral character to daily dietary taboos. Relevant records in many pediatric medical books also reflect the pediatric care concept of prevention first and protecting the spleen and stomach. For older children, moderate diet was also emphasized, which fully reflects the importance attached to children's diet in pediatrics of the Song Dynasty.

3.2. Moderate clothing warmth for children, avoiding over-warming and thick wrapping

People in the Song Dynasty also paid attention to children's warm clothing. Children's zang-fu organs are delicate. In clothing care, they advocated moderate cold and warmth, opposed excessive wrapping, emphasized that clothing should keep moderately warm, and avoided damaging children and causing diseases due to heat accumulation from thick clothes. *General Treatise on Pediatric Health and Total Micro-Differentiation* stipulated: "If hidden in a tent with thick and warm clothes, like plants in the shade without seeing wind and sunlight, the child will be fragile and unable to bear." *Chen's Treatise on the Causes and Symptoms of Pediatric Diseases* stipulated: "After birth, bathing and swaddling the child in a tent without seeing wind and sunlight, like plants in the shade, few are strong." The above two arguments reflect the core concept of wearing thin clothes to resist cold and frequent exposure to wind and sunlight in pediatric care in the Song Dynasty. It emphasized that children should not be over-cared in greenhouses, but should properly contact natural air and sunlight to enhance physical fitness and strengthen bones and muscles. This concept is not only in line with children's physiological characteristics, but also demonstrates the rationality of pediatrics in the Song Dynasty.

3.3. Mild medication

Pediatric care in the Song Dynasty was also characterized by mild and gentle medication. People in the Song Dynasty believed that children's zang-fu organs are delicate, so they opposed using drastic drugs in treatment, advocated using a small amount of drugs, and not using overly potent drugs. Qian Yi put forward in *Key to Therapeutics of Children's Diseases* that children's zang-fu organs are fragile and should not be treated with drastic attacks. He emphasized that a little stagnation will cause stasis, and a little heaviness will cause injury, and warned physicians to use drugs gently to avoid damaging children with extreme cold, extreme heat or extreme tonification, which would make children get sick instead. Medical books such as *Youyou Xinshu* also repeatedly emphasized that pediatric medication should be light and slow, and mild drugs should be mostly used to protect the spleen and stomach, reflecting the treatment principle of reasonable drug selection in pediatrics of the Song Dynasty. At the same time, for younger children who cannot take medicine, their health is adjusted by modifying the wet nurse's milk.

4. Conclusion

In summary, people in the Song Dynasty formed a consistent medical theory on newborn care, umbilical cord cutting, wet nurses, careful nursing and dietary taboos for children. In terms of newborn care, Song physicians attached great importance to the warmth, cleanliness and feeding norms of children. In terms of umbilical cord cutting, people in the Song Dynasty attached great importance to the medical hygiene of umbilical cord cutting and subsequent care. In terms of wet nurse selection, people in the Song Dynasty required wet nurses to be free of diseases and had strict requirements on their diet. In terms of careful nursing, people in the Song Dynasty paid attention to more contact with nature, more exercise, and moderate cold and warmth. In terms of diet, people in the Song Dynasty had regulations on what children can eat and what cannot eat.

People in the Song Dynasty were very particular about pediatric care, forming specific characteristics in children's feeding, clothing care and medication treatment. In children's feeding, emphasis was placed on carefully selecting wet nurses and moderate milk and food, with protecting children's spleen and stomach as the core, reflecting the preventive medical thought of prevention first. In clothing care, moderate cold and warmth and frequent exposure to wind and sunlight were advocated, opposing excessive wrapping and greenhouse care, and focusing on enhancing children's physical fitness through proper contact with nature. In medication treatment, the principle of mild and gentle medication and stopping when the disease is cured was adhered to, avoiding drastic attacks to protect children's delicate zang-fu organs. These concepts and practices together constitute the distinctive feature of taking gentle nurturing as the foundation and conditioning care as the priority in pediatric care of the Song Dynasty.

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