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Investigation on the Current Situation of Psychological and Behavioral Warning Signs in Infants and Young Children Aged 0-3 in Nanchong City

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Abstract

Objective: To investigate the current status of psychological and behavioral warning screening for infants and young children aged 0-3 in Nanchong City, in order to further analyze its influencing factors and provide a basis for improving the level of children's mental health services. Method: From April 1, 2023 to December 31, 2023, a stratified random sample of 3000 cases was selected from maternal and child health institutions in Nanchong City for screening of early warning signs of psychological and behavioral development in infants and young children. Result: Among the surveyed infants and young children, the highest positive rate of early warning sign screening was in the large motor area (11.9%) at 3 months old, in the large motor area (2.43%) at 6 months old, in the fine motor area (2.13%) at 8 months old, in the language area (6.10%) at 2 years old, and in the personal social area (1.52%, 1.66%) at 2 and a half and 3 years old. Conclusion: Regular screening for warning signs is essential during the critical period of development in children aged 0-3 years old. Targeted health education should be carried out for caregivers at different age groups of children to help them establish correct parenting concepts.

Keywords

Children; Psychological and behavioral development; Warning signs; present situation.

1. INTRODUCTION

0-3 years old is the fastest stage of children's neurological and psychological development, and it is also a critical period for early identification and intervention of children with developmental delays. In 2013, the National Health Commission issued the Early Warning Signs Checklist for Children's Psychological and Behavioral Development Problems (referred to as the Early Warning Signs) as an early screening tool for children's psychological and behavioral development problems at the grassroots level. This study aims to understand the current situation of early warning signs among children aged 0-3 in Nanchong City, and provide a basis for further analyzing its influencing factors and improving the level of children's mental health services.

2. OBJECT AND METHOD

2.1 From April to December 2023, a stratified random sample of 3000 maternal and child health institutions in Nanchong City was selected for a questionnaire survey. The questionnaire was distributed through Wenjuanxing and voluntarily filled out by the primary caregivers of children. This study passed the ethical review of the Medical Ethics Committee of Nanchong Maternal and Child Health Care Institution and obtained informed consent from the child's guardian.

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2.2 Research Tools and Measurement Methods: The Chinese Child Psychological and Behavioral Development Early Warning Scale was used in this study[1]， This scale covers four dimensions: language, gross motor skills, fine motor skills, and personal socialization. Any warning sign is considered positive. The correlation coefficients between the test-retest reliability and the tester reliability of the scale are both 0.7 or above, and the consistency Kappa value is 0 6. Sensitivity is 82 2% with a specificity of 77 7%, with an overall Youden index of 0 6. Both reliability and validity meet the basic requirements for psychological screening scale evaluation.[2]

2.3 Quality control warning assessment shall be filled out by the primary caregiver based on their knowledge. For children whose parents fill in the warning signs with positive results, the information filled in should be verified by doctors from child health institutions, and retested based on observation and understanding of the situation during daily care or face-to-face testing of the child's reaction. Correct any erroneous information.

2.4 Statistical methods: The data was analyzed using SPSS 24.0 software. The chi square test is used for univariate analysis of positive screening results in early warning signs. The inspection level α is 0.05.

3. RESULTS

Table 1. General Information of Children Tested (n=3000)

Item	Options	n
Gender	male	1503 (50.10)
	female	1497 (49.90)
family structure	Single-parent family	68 (2.27)
	Intergenerational	42 (1.40)
	Core	2890 (99.30)
Monthly household income	<2000	96 (3.20)
	2000-3000	220 (7.33)
	3000-5000	669 (22.30)
	>5000	2015 (67.20)
Educational background of the primary caregiver	Bachelor's degree or above	1421 (47.4)
	Junior college degree	560 (18.67)
	high school	638 (21.27)
	Junior high school and below	381 (12.70)
Abnormal birth history	Yes	2566 (85.53)
	No	434 (14.47)
Child age	three months old	929 (30.97)
	six months old	205 (6.83)
	eight months old	375 (12.50)
	twelve months old	408 (1.60)
	2 years old	428 (14.27)
	2 and a half years old	527 (17.57)
	3 years old	965 (32.17)

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Among the surveyed subjects, the family structure is mainly nuclear families (99.30%), and the main caregivers have a bachelor's degree or above (47.4%). The vast majority of infants and young children have no abnormal birth history (85.53%), as shown in Table 1. According to the survey analysis, the positive rate of early warning sign screening in children aged 0-3 years old in this study was 4.0%. The highest positive rate of early warning sign screening in infants aged 3 months was in the motor area (11.9%). The highest positive rate of early warning sign screening in infants aged 6 months was in the motor area (2.43%). The highest positive rate of early warning sign screening in infants aged 8 months was in the fine motor area (2.13%). The highest positive rate of early warning sign screening in infants aged 2 and a half and 3 years old was in the language area (6.10%). The highest positive rates of early warning sign screening in infants aged 2 and a half and 3 years old were in the personal social area (1.52%, 1.66%), Table 2.

Table 2. Positive rates of early warning signs screening in children of different age groups (%)

Age	n	language(n/%)	Personal socialization(n/%)	Fine motor skills(n/%)	Great Movement(n/%)
three months old	92	5 (5.43)	0	0	11 (11.9)
six months old	205	0	3 (0.49)	0	5 (2.43)
eight months old	375	3 (0.80)	4 (1.07)	8 (2.13)	6 (1.60)
twelve months old	408	2 (0.49)	3 (0.74)	4 (0.98)	0
2 years old	428	26 (6.10)	0	0	0
2 and a half years old	527	3 (0.56)	8 (1.52)	0	0
3 years old	965	4 (0.41)	16 (1.66)	13 (1.35)	5 (0.52)
P		<0.01	<0.01	<0.01	0. 14

4. DISCUSSIONS

The age range of 0-3 is a critical period for children's psychological development, and early identification and intervention are of great significance in promoting children's development. However, as children grow older, the proportion of children's health clinic screenings meeting the standard decreases[3].

At the same time, the physical examination items in daycare institutions lack screening content for the psychological and behavioral development of infants and young children, so it is necessary to carry out early warning screening in daycare institutions. The positive rate of early warning signs screening in children aged 0-3 in this study was 4.0%, which is basically consistent with the national growth and development report of neurological and psychological developmental delay rate of 1.1% -16.07% in children aged 0-6 years[4-6],It can be seen that it is feasible to conduct early warning screening in daycare institutions by distributing questionnaires filled out by the primary caregivers of young children and controlling the quality through trained teachers or healthcare personnel. This can be promoted as a supplementary project for physical examinations in daycare institutions.

The study found that the highest positive rate of early warning signs screening for infants and young children at 3 months of age was in the motor area (11.9%), the highest positive rate of early warning signs screening for infants and young children at 6 months of age was in the motor area (2.43%), the highest positive rate of early warning signs screening for infants and young children at 8 months of age was in the fine motor area (2.13%), the highest positive rate

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of early warning signs screening for infants and young children at 2 years of age was in the language area (6.10%), and the highest positive rate of early warning signs screening for infants and young children at 2 and a half years of age and 3 years of age was in the personal social area (1.52%, 1.66%). This is consistent with Shi Qianping[7-8].

In summary, child healthcare professionals should provide targeted health education to parents and staff in childcare institutions based on the different age groups of children, and provide timely guidance and suggestions to achieve the joint construction of home, kindergarten, and medical care, and jointly safeguard children's health.

5. CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

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