

The effectiveness of the use of natural remedies for the correction of insomnia in children preschool age

E.V. Bochkareva

(GBOU VPO RNIMU named after N.I. Pirogov of the Ministry of Health of Russia, Moscow)

The effectiveness of the use of drugs of natural origin for the correction of insomnia in children of preschool age EB Bochkareva

Pirogov Russian National Research Medical University (Moscow, Russia)

SUMMARY

Means of natural origin, due to the unique technology of their preparation, do not even have a potential toxic and sensitizing effect. At the same time, they have an established clinical effect, allow an individual approach to each child and start early rehabilitation measures. In the course of the studies, the comparative effectiveness of the use of glycine and dormikind as a means of correcting insomnia in preschool children was carried out. It was found that both drugs demonstrated a positive effect on insomnia, with the most pronounced and significantly greater effect observed with the use of Dormikind.

Key words: insomnia, glycine, dormikind, preschool children, means natural origin.

RESUME

Remedies of natural origin because of the unique technology of their preparation do not even have the potential toxic and sensitizing effect. At the same time, they have established clinical effect, allow a personalized approach to each child and an early start to rehabilitation activities. In the course of the research we compared the effectiveness of the use of glycine and remedy of natural origin dormikind as a means for correction of insomnia in preschool children and found that both drugs have demonstrated a positive effect on insomnia, the most pronounced and significantly greater effect was noted with use of the drug dormikind.

Keywords: insomnia, glycine, dormikind, pre-school children, the means of natural origin.

Introduction

Currently, there is a significant interest in the study of the role of sleep for the health of the child, the formation of his cognitive functions. The cyclicity of sleep and wakefulness is regulated by both certain brain structures and external stimuli, as well as various hormones of the hypothalamic-pituitary system [3]. In addition, among the causes of insomnia in children, a deficiency of serotonin, which is necessary for sleep processes, is noted [2]. Difficulty falling asleep in children and disturbances in the circadian rhythm of sleep-wakefulness are classified as sleep disorders associated with the risk of sudden death [6].

In the last decade, there has been an increase in the birth of children with intrauterine growth retardation (IUGR), in whom not only the process of early postnatal adaptation is difficult, but also a high frequency of delayed pathological conditions, especially of the nervous system. These children are more likely to show signs of attention deficit hyperactivity disorder (ADHD), accompanied by neuropsychiatric disorders and difficult social adaptation [4]. In 2010, in the Russian Federation, the birth rate of children with IUGR was 79.5 per 1000 full-term and 221.7 per 1000 premature babies, and the incidence of the nervous system in children increased by 18% compared to 2009 [1, 8, 9] ...

The most important risk factors for sudden death are combined with sleep disorders in a child, such as inadequate organization of life and insufficient stimulation of the child's development, prematurity, and mother's smoking during pregnancy [7]. A number of authors refer to the criteria, the use of which will make it possible to distinguish among children with IUGR those in need of early therapy and subsequent rehabilitation in order to optimize the functional development of the central nervous system, include the quantitative and qualitative assessment of the cyclic organization of sleep, the determination of the level of urinary excretion of 6-sulfatoxymelatonin, as well as the activity of the brain isoenzyme. creatine kinase [8]. During a comprehensive examination of children aged 3 to 6 years with chronic adenoiditis, T.P. Kalashnikov, N.V. Voronchikhin and S.O. Tervo

it was found that sleep disturbance in them is accompanied by the development of psychoautonomic syndrome with a high level of anxiety, decreased stability and productivity of attention, decreased visual and auditory memory, and autonomic dysfunction [5]. Thus, the search for methods for correcting insomnia in children remains relevant.

In recent years, there has been a growing interest of physicians of various specialties in homeopathy as the leading method of traditional medicine. This is due to the fact that the means of natural origin, due to the unique technology of their preparation, do not even have a potential toxic and sensitizing effect. At the same time, they have an established clinical effect, allow an individual approach to each child and start early rehabilitation measures from the standpoint of his constitutional affiliation. For drugs in this group, addiction and withdrawal effects are not characteristic. The aim of the work was a comparative assessment of the use of Glycine and Dormikind as a means of correcting insomnia and a natural remedy (SPP).

Materials and methods

We examined 40 children (16 girls and 24 boys) with various manifestations of ADHD, in whom one of its main manifestations was insomnia. The criteria for the severity of insomnia were assessed by us on a point scale presented below (Table 1). The maximum number of points on the insomnia severity scale could reach 11 points, the minimum - 0 points.

Table 1

Scale of severity of insomnia in children (in points)

1	Длительность засыпания	Менее 20 минут (0)	
		20 минут и более (1)	
2	Трудности поддержания сна	Отсутствуют (0)	
		Беспорядочные пробуждения (1)	
		Трудности засыпания после ночного пробуждения (1)	
3	Продолжительность сна (за сутки)	возраст от 4 до 6 лет	9 часов и более (0)
			менее 9 часов (1)
4	Беспокойный сон	Отсутствует (0)	
		Снохождение, моторная активность во сне (1)	
		Сноговорение или произнесение звуков во сне (1)	
5	Вялость и замедление действий после пробуждения	Отсутствует (0)	
		Присутствует (1)	
6	Немотивированное беспокойство	Отсутствует (0)	
		Плаксивость, раздражительность (1)	
		Моторное возбуждение (1)	
7	Частота нарушений сна	Отсутствуют (0)	
		3 дня в неделю и менее (1)	
		Более 3 дней в неделю (2)	

The average age of children with insomnia, when included in the study, was 5.24 ± 0.63 years. The children were randomized into two subgroups of 20 people each. In terms of age and sex composition, the subgroups were comparable. Children included in the first subgroup received dormikind as a means of correcting the manifestations of insomnia, and the children of the second subgroup received glycine according to the schemes given in table. 2.

table 2

Scheme of the appointment of dormikind and glycine

Доза	Дормикинд	Глицин
	по 1 таблетке	до 3 лет – по ½ таблетки от 3 до 6 лет – по 1 таблетке
Кратность	4 раза в день	2 раза в день
Длительность	28 дней	28 дней

Dormikind is a complex homeopathic drug, belongs to the means of natural origin (SPP), one tablet (100 mg) includes - Cypripedium pubescens D4 15 mg, Magnesium carbonicum D10 20 mg, Zincum valerianicum D12 15 mg. The components that make up the drug help to eliminate sleep disorders and insomnia: anxiety, increased excitability, are effective in cases of irritability, tearfulness, and anxiety in patients. Glycine is a nonessential amino acid involved in the regulation of metabolism, normalizes and activates the processes of protective inhibition in the central nervous system, reduces psycho-emotional stress.

The severity of insomnia was assessed by the parents of children on a point scale before the start of treatment, on days 3-5, 14 days and 28 days of therapy. After determining the severity of the complaints, the total of points was calculated, which could be a maximum of 11 points. Statistical processing of the obtained data was carried out using the software packages Microsoft Excel 2010, AtteStat version 9.1.2. in Microsoft Windows 7. The test for normal distribution of the obtained data was carried out using the Kolmogorov-Smirnov test. The results obtained allowed using the Student's t-test to assess the reliability of differences, in connection with which the data were presented as mean values (M) and standard deviation errors (m).

Results and discussion

The total score of complaints before the start of treatment was: in the group of children receiving dormikind - 7.23 ± 0.21 ; in the group of children receiving glycine - 6.88 ± 0.21 ($t = 1.2$, $p = 0.226$). In addition, it should be noted that the severity of individual signs of insomnia in the subgroups of children included in the study did not differ significantly (Table 3).

Table 3

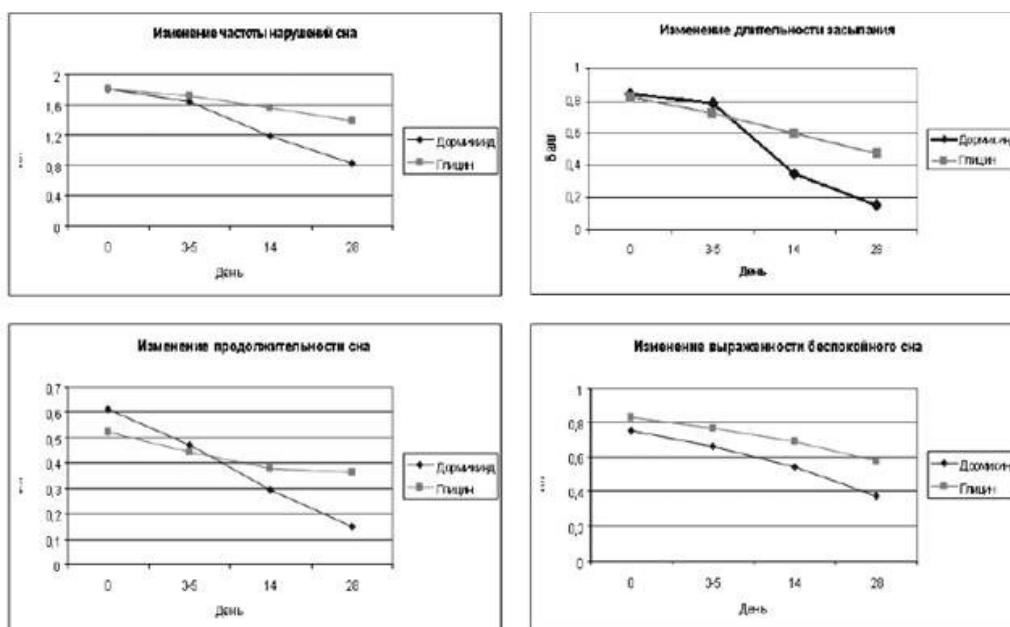
The severity of insomnia in points (M \pm m) before treatment

Критерии инсомнии (диапазоны балльной оценки признаков)	Дормикинд	Глицин	Достоверность различий	
			t	p
Длительность засыпания (0-1 балл)	$0,84 \pm 0,04$	$0,82 \pm 0,04$	0,36	0,4
Трудности поддержания сна (0-2 балл)	$0,78 \pm 0,04$	$0,81 \pm 0,04$	0,50	0,07
Продолжительность сна за сутки (0-1 балл)	$0,61 \pm 0,05$	$0,52 \pm 0,05$	1,21	0,229
Беспокойный сон (0-2 балла)	$0,76 \pm 0,05$	$0,83 \pm 0,04$	1,15	0,197
Вялость и замедленность действий после пробуждения (0-1 балл)	$0,32 \pm 0,05$	$0,32 \pm 0,05$	0,00	1,000
Немотивированное беспокойство (0-1 балл)	$0,6 \pm 0,05$	$0,51 \pm 0,05$	1,21	0,23
Частота нарушений сна (0-2 балла)	$1,81 \pm 0,04$	$1,81 \pm 0,04$	0,00	1,000
Суммарная балльная оценка	$7,23 \pm 0,21$	$6,88 \pm 0,21$	1,20	0,226

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A fairly pronounced dynamics of the mean values of points, reflecting the frequency of sleep disturbances, was noted on the 14th day from the start of therapy. If against the background of taking glycine it decreased from 1.8 to 1.6 points, then against the background of Dormikind there was a decrease from 1.8 to 1.2 points. By the 28th day, the severity of the scoring of sleep disorders against the background of glycine was 1.4 points, and against the background of dormikind - 0.85 points.

The score for the duration of falling asleep against the background of glycine by the end of 2 weeks decreased from 0.8 to 0.6, and against the background of dormikind - from 0.8 to 0.32 points. By the 28th day, the average score for the duration of falling asleep against the background of glycine was 0.48 points, and against the background of Dormikind - 0.15 points (Fig. 1). The score for the duration of sleep by the 14th day from the start of treatment against the background of glycine decreased from 0.52 to 0.37 points, and against the background of dormikind - from 0.61 to 0.3 points. By the 28th day, the duration of sleep, assessed in points, against the background of glycine was 0.36 points, and against the background of Dormikind - 0.15 points.



Rice. 1. Dynamics of scores for the main signs of insomnia during treatment.

The severity of restless sleep decreased evenly both against the background of glycine and against the background of Dormikind, however, in the latter case, the positive dynamics was also more pronounced. By the 14th day, when taking glycine, the score decreased from 0.83 to 0.7, and by the 28th day - to 0.58 points, while against the background of Dormikind, the decrease in the score was also uniform - from 0,76 to 0.38 points by 28th day.

The severity of manifestations of insomnia under the influence of treatment significantly decreased in both groups by the 14th day of therapy. However, there was a more significant positive response to dormikind compared to glycine. So, by the 14th day, there was a decrease in the average values of the total points of the severity of insomnia against the background of dormikind from 7.23 ± 0.21 to 4.1 ± 0.23 points ($t = 10.3$, $p < 0.001$), the dynamics of the decrease amounted to 43.3%. Against the background of glycine, by the 14th day, the dynamics was also reliably positive, the point estimate decreased by 22.97% from 6.88 ± 0.207 to 5.3 ± 0.23 points ($t = 5.11$, $p < 0.01$) ...

Nevertheless, by the 14th day from the start of therapy, significant differences in the severity of insomnia were revealed between the subgroups in terms of the total mean value of points - in the Dormikind subgroup the mean point was 4.1 ± 0.23 , in the glycine subgroup - $5.3 \pm 0,23$ ($t = 3.69$, $p < 0.001$) (Table 4).

Table 4

Dynamics of the total scores of the severity of insomnia ($M \pm m$) in the course of treatment

Дни	Дормикинд	Глицин	Достоверность различий	
			t	p
До начала	$7,23 \pm 0,207$	$6,88 \pm 0,207$	1,20	$p = 0,226$
14-й день	$4,1 \pm 0,23$	$5,3 \pm 0,23$	3,69	$p < 0,001$
Достоверность различий в динамике (до начала и на 14-й день)	$t = 10,3$	$t = 5,11$		
	$p < 0,0001$	$p < 0,01$		
28-й день	$2,55 \pm 0,19$	$4,68 \pm 0,3$	6,00	$p < 0,0001$
Достоверность различий в динамике (до начала и на 28-й день)	$t = 16,9$	$t = 9,0$		
	$p < 0,0001$	$p < 0,0001$		

t- критерий Стьюдента для неравных дисперсий

By the end of the 4th week from the start of treatment against the background of Dormikind, the decrease in mean values of insomnia severity scores was 64.7% - from 7.23 ± 0.207 to 2.55 ± 0.19 ($t = 16.9$, $p < 0.001$) (fig. 2).



Rice. 2. Dynamics of the severity of manifestations of insomnia (mean values of points).

The decrease in the mean total scores of insomnia in the subgroup receiving glycine was also significant, by 31.98% - from 6.88 ± 0.207 to 4.68 ± 0.3 ($t = 9.0$, $p < 0.001$). At the same time, the total mean score of the severity of insomnia by the end of the 28th day between the groups significantly differed - 2.55 ± 0.19 and 4.68 ± 0.3 ($t = 6.0$, $p < 0.001$). On the background of taking Dormikind, the children became calmer, i.e. the drug has a general sedative effect. The effectiveness of treatment with Dormikind on the 28th day was rated by the parents as "no complaints" or "significant improvement" in 62% of cases, while in the glycine group, the parents gave similar estimates only in 24% of cases.

When correcting insomnia, as one of the manifestations of ADHD, with a comparative assessment of the effectiveness of dormikind and glycine, it was revealed that dormikind, compared with glycine, more effectively reduced the severity of the manifestations of insomnia. With initially comparable insomnia scores in children enrolled in the study, both drugs showed a beneficial effect on insomnia. The greatest positive effect, which was already revealed by the end of the 2nd week of treatment, was noted in the subgroup taking Dormikind. By the end of the 4th week of treatment, the severity of positive dynamics against the background of both drugs was also significant, however, the effectiveness with the use of Dormikind prevailed.

conclusions

The study showed that dormikind is able to solve not only tactical tasks (insomnia treatment), but also strategic ones. In particular, against the background of the treatment carried out in children, the normalization of the processes of excitation and inhibition in the central nervous system was noted, due to which their learning ability increased, which, in turn, contributed to the harmonious development of the child. All of the above allows us to recommend it as an effective means of correcting insomnia in preschool children.

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Author's address

Bochkareva E.V.

Department of Hospital Pediatrics No. 2 of the Faculty of Pediatrics N.I. Pirogova, Ministry of Health of Russia

helen_skit@mail.ru

Bochkareva, E.V. The effectiveness of the use of natural remedies for the correction of insomnia in preschool children / E.V. Bochkareva // Traditional Medicine. - 2013. - No. 2 (33). - pp. 15-19.

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