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Innocent Murmurs: Parental Viewpoint, What are the Most Common Misconceptions and How to Avoid Them

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A B S T R A C T

The aim of this study was to investigate the parental reaction after they have been informed that their child has a heart murmur. This study also explored whether their reaction was influenced by the fact that the heart murmur is innocent, which actually means that the child is healthy. One hundred parents participated in this cross-sectional study. According to the statistical results, minor parent concern was notable after cardiologist´s examination and consulting. Whereas before the cardiologist´s examination 98% of parents were concerned about their child´s health, later, less than half of them, or to be exact, only 38% of them, were still concerned. Before the questionnaire was filled, according to gender distribution, males were less concerned than females. Regarding the number of children, parents having three or more children were less worried before the medical examination. Before the examination, only 17% of parents were completely confident that their child had no heart complaint, and after a month 60% of parents had the same opinion. After cardiologist´s examination and educational consulting, parental concern dropped significantly, which points to an obligatory need to thoroughly familiarize parents with their child´s health condition.

Key words: *innocent murmur, parent, pediatrician cardiologist, examination*

Introduction

Innocent murmurs have often been found in children with anatomic and functionally healthy heart and cardiovascular system. According to some authors, 23.3% of children aged 4 to 17 have a systolic murmur[1]. Others have found that 63.3% of children younger than 18 have uncomplicated innocent systolic murmur[2]. The most common is Still's murmur[3,4]. If unrecognized and wrongly interpreted, it can initiate a complex and long-lasting diagnostic process, and unnecessary burdening of parents and children with the possibility that there is a heart disease.

Even when a specialist diagnoses a heart murmur and labels it as innocent, parents are still worried as they assume that their child has a heart disease. Therefore, it is very important to get parents educated about their child's condition, where the child's doctor (pediatrician cardiologist) plays the main and decisive role. The aim of this study is to determine how parents act when they find out and become aware that their child has a heart murmur, how much they know about heart murmurs and what are the most common misconceptions, in order to reduce concern and the wrong conclusions of parents of children who have an innocent murmur.

Materials and Methods

This is a cross-sectional study. The data were collected from parents who have brought their children for examination to the pediatrician cardiologist for the evaluation of the cardiac murmur. The patients who had no abnormalities on clinical examination, for whom no pathological findings were found on the electrocardiogram and for which congenital heart malformations were excluded echocardiographically are included in this study. The cardiologist explained to the parents in detail that their child has an innocent heart murmur which means that there is no need for concern and restrictions. After one month, parents of children with innocent murmur were phoned and were provided with the information

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about current condition of their child. One hundred parents participated in this research, 39 males and 61 females. Observed parameters were: gender, residence, level of education, standard of living, number of children in the family, family heart diseases' and heart murmurs' anamnesis, course of the pregnancy and labor, parental concern for their child's health condition, parental thoughts about necessity for medication, then discussion on the necessity of surgery, reducing physical activities and harmfulness of extreme temperature fluctuations. A hundred parents participated, 56 of which live in the city, 24 in the suburbs and 20 in the village. Ten of them finished only primary school, 73 of them graduated high school, 7 of them took some college courses and 10 of them had college education. Their living standard was mostly satisfactory (65% of examinees). There were 11 families with one child, 43 families with two children, and 46 families with three or more children.

The data were processed in program SPSS 13.0 for Windows, interpreted with descriptive statistics. Chi-square, Fisher's exact and Mann-Whitney U test were used in the data analysis. Statistically significant difference was $p<0.05$.

Results

Before the cardiologist's examination parents were extremely concerned. Hundred of them participated and 98 of them have shown concern for their child's health condition ($\chi^2=92.2$, $p<0.001$). After the examination, when the specialist had explained to the parents what an innocent murmur in fact is, they were less concerned. Only 38 of them was still concerned about child's health condition ($\chi^2=5.8$, $p=0.016$). So, we can see that before the cardiologist's examination parental concern was greatly expressed, and afterwards significantly reduced ($\chi^2=82.7$, $p<0.001$, Table 1).

Before the specialist's examination, males were less concerned in relation to females (Mann-Whitney test, $U=940.5$, $p=0.044$), and after a month there was no difference in concern between the genders (Mann-Whitney test, $U=1095.5$, $p=0.323$). According to the number of children, parents with three or more children were less worried before the specialist's examination (Mann-Whitney test, $U=733.0$, $p=0.028$). A month after research, regarding the number of children, there was no difference in parental concern. In this research parents were also asked if they assume that their child has a heart disease, what are their thoughts about possible need for taking medicine or surgery, whether they consider that their child will be affected by excessive heat or whether they

TABLE 1
PARENTAL CONCERN BEFORE AND AFTER CARDIOLOGIST´S EXAMINATION

Parental concern	Before examination	After examination
Concerned	98	38
Not concerned	2	62

TABLE 2
PARENTAL ANSWERS TO THE SURVEY QUESTIONS

Parental opinion	Yes	Probably yes	I am not sure	Probably not	No
Comparison of parental opinion whether their child has heart disease					
Before examination	9	2	41	31	17
After examination	0	5	8	21	60
Comparison of parental opinion whether their child needs medication					
Before examination	1	2	46	31	20
After examination	1	1	12	13	73
Comparison of parental opinion whether their child needs surgery					
Before examination	0	0	22	39	39
After examination	1	0	4	7	88
Comparison of parental opinion if the child with innocent heart murmur is affected with excessive heat					
Before examination	9	15	56	16	4
After examination	5	6	10	15	64
Comparison of parental opinion whether their other children will have heart murmur					
Before examination	5	4	17	34	40
After examination	0	1	13	18	68
Comparison of parental opinion whether their child will have more difficulties enduring other children's illnesses compared to his/her peers					
Before examination	1	3	30	37	29
After examination	4	2	7	5	82

*$p<0.001$, Fisher's exact test

think that their child will be vulnerable to other diseases more than his peers, and their viewpoints were different in this case. Before the specialist's examination 9% of parents assumed that their child had a heart disease, and after a month none of them had the same thoughts (χ^2=7.5, p=0.003, Table 2). Before the examination parents were doubtful since they did not have enough information about heart murmurs. 41% of parents did not know whether their child was going to have heart complaints, while after one month only 8% of them had the same opinion (χ^2=27.7, p<0.001, Table 2). Before the examination only 17% of parents were completely convinced that their child did not have heart disease, and after one month this percentage increased up to 60% as shown in Table 2 (χ^2=37.3, p<0.001). At the beginning of examination 46% of parents did not know whether their child needed medical treatment and medication, and later on, only 12% of them were still in doubt (χ^2=26.5, p<0.001, Table 2). In the questionnaire which was completed before the specialist's examination only 20% of parents assumed that their child would not need medication, and afterward 73% of them were convinced of that (χ^2=54.4, p<0.001, Table 2). Although, before the examination, no parent was entirely convinced that their child would need surgery, they still had different thoughts: 22% of them did not know whether their child needed surgery, and later only 4% of them were still doubtful (χ^2=12.8, p<0.001, Table 2). Before the specialist's examination less than half of them (39%) were totally assured that the child would not need surgery and afterwards 88% of parents categorically rejected any need for surgery (χ^2=49.7, p<0.001, Table 2). Concerning the thoughts about the impact of excessive heat on child's health, before the examination parents had different notions: 9% of them believed that the child would be affected by excessive heat, 15% of them assumed that the child would probably be affected by excessive heat, 56% of them were not sure if it would make an impact on their child and how, and 16% of parents considered that their child presumably would not be affected by excessive heat. Before the examination was done, only 4% of parents claimed that the child would not be affected by excessive heat, and afterwards 64% of them were confident about that (χ^2=77.6, p<0.001, Table 2). As soon as they noticed that one of their children had some medical problems, parents became concerned because it increased the possibility that the same problem might occur with other children. In accordance with that, before the specialist's examination 40% of parents believed that their other children would not have similar health complaints, and later that percentage increased up to 68% of them (χ^2=14.7, p<0.001, Table 2). If their child had heart disease, parents were often inclined to believe that it would affect the overall life and health of the child. They also frequently assumed that their child would have more difficulties in enduring other children's illnesses than their peers. Before the examination 29% of parents believed that the heart disease would not cause the emergence of other diseases, while after a month this viewpoint was shared by 82% of them (χ^2=54.7, p<0.001, Table 2).

Discussion and Conclusion

In this study we reported parental reaction to the knowledge that their child has a heart murmur and whether or not they change their notions when they find out that the heart murmur is innocent. World research suggests that parental stress is unrelated to the severity of the child's heart disease and also that parental stress and protectiveness may reflect unrealistic fears concerning child's cardiac condition[5]. Even when we talk about innocent heart murmur there is also great parental concern and we should not consider it unessential. Research shows that 49% of parents feel that their child will have to take medication, and 29% of them assume that the child will need surgery. Data from the world literature show that it has been believed that children having heart murmur should try to avoid tiredness: 41% of parents consider that their child will have to restrict physical activity[6]. It was expected that, when they perceive that the child does not have heart complaints, and when they accept the specialist's explanation that the heart murmur does not necessarily mean heart disease, the parents should be less concerned. The parents should also know that it is very likely to have heart murmur in childhood. The world research has shown the same: before cardiology assessment, 97% of parents were concerned about their child's need to be seen by a pediatric cardiologist and 96% of them were satisfied with the cardiologist's explanation[7]. In order to enhance the quality of child's life, the pediatric cardiologist should give parents a detailed explanation to clarify that the innocent heart murmur means that the child is completely healthy. We should not ignore the fact that the health and well-being of children are inextricably linked to their parents´ physical, emotional and social health[8]. Therefore, the parents should be provided with accurate and detailed information about the health condition of their child in order to get the child properly treated and protect the child from unnecessary restrictions. To provide appropriate care for children, pediatricians must expand their practices to encompass the assessment of family relationships, health, and behaviors[8].

Considering the family heart diseases' and heart murmurs' anamnesis, course of pregnancy and the childbirth, there was no perceived significant statistical difference. The reason for that could be partially attributed to the fact that there were several families with family heart diseases, a large percentage of children were healthy, and mothers had normal course of pregnancy and labor. By the time the data were collected, one month after cardiologist's examination, we noticed a new breakthrough: another health setback, which has no connection to the heart, can shatter parental notion. Although the pediatric cardiologist had successfully convinced parents that the child has no health complaint, they are still frightened and concerned at the moment when a new disease shows up.

The parents do not know enough about heart murmurs and for most of them the diagnosis of heart murmur means that the health of their child has been seriou-

sly damaged. Therefore, the pediatric cardiologist should explain to parents in detail what does an innocent heart murmur in fact mean. Family-oriented care often requires that pediatricians refer to and collaborate with other professionals to address the needs of families[8].

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NEDUŽNI ŠUMOVI: RODITELJSKA TOČKA GLEDIŠTA, NAJČEŠĆE ZABLUDE I KAKO IH IZBJEĆI

SAŽETAK

Cilj ovoga istraživanja jeste saznati kako roditelji reagiraju na spoznaju da njihovo dijete ima srčani šum i koliko tu reakciju mijenja činjenica da je šum na srcu nedužan što znači da je dijete zapravo zdravo. U ovoj je presječnoj studiji sudjelovalo 100 roditelja. Statistički je značajno manja zabrinutost nakon specijalističkog pregleda i savjetovanja s liječnikom. Dok je prije specijalističkog kardiološkog pregleda 98% roditelja zabrinuto za zdravlje svog djeteta, mjesec dana poslije brine manje od polovice, njih 38%. Muški je spol prije ispitivanja bio manje zabrinut u odnosu na ženski spol. S obzirom na broj djece prije su pregleda manje bili zabrinuti roditelji s troje i više djece. Prije je pregleda tek 17% roditelja u potpunosti uvjereno da njihovo dijete nema srčanih problema, a poslije mjesec dana to mišljenje dijeli 60% roditelja. Nakon specijalističkog pregleda i edukativnog razgovora s liječnikom vidno opada zabrinutost roditelja što ukazuje na neizostavnu potrebu iscrpnog upoznavanja roditelja sa stanjem djeteta.