



RECURRENT LABIAL ADHESIONS AT GIRLS: NEW ASPECTS OF AN OLD PROBLEM

INTRODUCTION

Problem of recurrent labial adhesions at girls under the age of 8 years is gaining more and more relevance [1]. The lack of official statistics on the incidence of this pathology led to a lack of clinical supervision in this category of patients. In turn, the short time observation of girls after surgical or conservative treatment gives the official low recurrence rate, only 11–14%. Inflammatory process of external genitalia at girls can be a good background for the future disorders of the reproductive health of young women [2].

ANALYSIS OF PUBLISHED DATA AND THE FORMULATION OF RESEARCH PROBLEMS

According to The Royal Children's Hospital Melbourne, manual separation of adhesions accompanied by high traumatization of girls emotional sphere and subsequent high risk of recurrence, and the use of creams containing estrogen is also associated with a high risk of relapse[3]. In the United States Center Disease Control conducts regular epidemiological studies which are based on a questionnaire survey of parents in order to find out real digits of the incidence of children diseases [4].

High rates of adhesions in girls up to 8 years old, not fully established etiological factors in their development, as well as the conflicting opinions about the diagnostic and therapeutic approaches in the management of children with adhesive process of vulva, caused the relevance of the present study. The aim of the research work «to find the consequences of disturbance of hygiene at girls in the family, taking into account the social and regional particularities» is to determine the disturbance of the rules of personal hygiene as one of the main factors leading to adhesive processes of the vulva, define the real percentage of the recurrence of the labial adhesions and develop the concept of prevention of this disease.

The object of study – level of knowledge about the intimate hygiene of the child at mothers of girls with recurrent labial adhesions.

The total number of patients was 463 mothers from the central (Kyiv), Western (Lviv), Eastern (Donetsk) regions of Ukraine. The criteria for inclusion to the study were 290 (basic or main study group) mothers of girls aged 2 to 8 years, with recurrent adhesions of the labia minora (2 or more). The control group included – 173 mothers who have healthy girls (age 8 years) without history of adhesions. Mom signed an informed consent form. All mothers-participants were given the opportunity to answer questions by themselves in private and in an atmosphere of complete comfort.

We divided questions into several blocks:

- ❖ 1 set of questions was devoted to the moms interest to the questions of personal hygiene and weather they understand the importance of the subject; and to determine what information mothers have and weather this information is adequate;
- ❖ separately, we asked about the source of the information at moms of control and basic groups;
- ❖ second block of questions was asked in order to find out what mothers fulfill indeed.

Questions are presented in the tables 1–3.

RESULTS OF THE STUDY AND DISCUSSION

After analyzing the responses of the first unit of questions, we identified the following characteristics (Table 1):

- ❖ mothers of healthy girls in significantly larger percentage are aware of pH vagina, its meaning at girl of 8 years and what kind of pH should personal hygiene product for girls contain;
- ❖ 41% of girls with recurrent labial adhesions have history episode of inflammatory process of vulva; only 11% of girls from control group had vulvitis in anamnesis;
- ❖ mother of the both groups in the majority cases believe that in order to save the girl's reproductive health, the lessons with a focus on reproductive health and contraception should be carried out in the school. Besides the number of mothers who believe that it is necessary to implement sexual education is almost twice more in the control group than in the main study group;
- ❖ mothers of healthy girls know periods of girls development on 20% cases more than mothers of girls with labial adhesions;



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TABLE 1. BLOCK OF QUESTIONS ON THE ISSUE OF MOTHERS INTEREST TO INTIMATE HYGIENE AND THEIR KNOWLEDGE ABOUT THE PROBLEM

Question	Answer	Main study group (mothers of girls with recurrent labial adhesions)	Control group (mothers of Girls without any episode of labial adhesions)	Pr
Do you know what a vaginal Ph content is and what diseases can be caused by its changing in girls	Yes	55 18,97%	54 31,21%	0,007
	No	115 39,66%	48 27,75%	
	heard about it	113 38,97%	69 39,88%	
What kind of the vaginal pH content in girls during childhood (from 1 to 8 years) is?	neutral	67 23,1%	63 36,42%	0,002
	sour	10 3,45%	6 3,47%	0,991
	alkaline	10 3,45%	18 10,40%	0,002
	difficult to say	193 66,55%	88 50,87%	0,002
	your answer	5 1,72%	0	0,082
Do you know that soap for intimate hygiene may have different pH (acidity)?	Yes	178 61,38%	112 64,74%	0,557
	No	109 37,59%	58 33,53%	
If you answered the previous question yes, then do you know what kind of the pH (acidity) should be for intimate hygiene for girls from 1 year to 8 years?	neutral	63 21,72%	52 30,06%	0,045
	sour	9 3,1%	1 0,58%	0,071
	weakly acidic	5 1,72%	4 2,31%	0,658
	alkaline	8 2,76%	20 11,56%	0,000
	difficult to say	200 68,97%	80 46,24%	0,000
	your answer:	0 0	2 1,16	0,067
Did your daughter ever has inflammatory process of vulva (vulvitis)?	yes	117 40,37%	28 16,18%	0,000
	No, there was no	168 57,93%	154 83,82%	
Does the child have interest to the external genitalia?	Yes	52 17,93%	58 33,33%	0,000
	No	232 80,0%	108 62,43%	
Do you know what labial adhesion is?	Yes	235 81,03%	83 47,98%	0,000
	No	52 17,93%	89 51,45%	
Do you know that the adhesions of the labia minora can be caused by the inflammation of the external genitalia?	Yes	170 58,62%	55 31,79%	0,000
	No	117 40,34%	115 66,47%	
Do you know that the adhesions of the labia minora may have recurrence in a child till 10 years old?	Yes	164 56,55%	49 28,32%	0,000
	No	123 42,41%	124 71,68%	
When did the recurrence of labial adhesions happen in you case ?	After 3 months	109 37,59%	0	0,000
	after 6 months	71 24,48%	0	0,000
	12 months later	23 7,93%	0	0,005
	your answer:	31 10,69%	0	0,005

Question	Answer	Main study group (mothers of girls with recurrent labial adhesions)	Control group (mothers of Girls without any episode of labial adhesions)	Pr
What measures (action plan) should be carried out during the childhood and adolescence in order to prevent disorders of reproductive health	proper nutrition	55 18,97%	54 31,21%	0,003
	implementation of lessons devoted to the health in school that are focused on reproductive health and contraception	203 70,0%	105 60,69%	0,080
	sex education	112 38,62%	103 59,54%	0,000
	your answer	5 1,72%	4 2,31%	0,658
Would you like to listen to a lecture on girls hygiene?	Yes	232 81,4%	127 74,27%	0,005
	No	13 4,56%	17 9,94%	> 0,5
	Do not know	40 14,04%	27 15,79%	> 0,5
What are the main periods of girls development you know?	neonate	61 21,03%	24 13,87%	0,054
	childhood	41 14,14%	31 17,92%	0,277
	prepubertal	20 6,9%	19 10,98%	0,126
	puberty	23 7,93%	20 11,56%	0,193
	difficult to say	102 35,17%	28 16,18%	0,000
	all of the above	104 35,86%	96 55,49%	0,000
How often do you change underwear?	as often as it gets dirty	113 38,97%	35 20,23%	0,000
	every day	162 55,86%	132 76,30%	0,000
	2–3 times a week	1 0,34%	9 5,20%	0,001
	difficult to say	32 11,03%	5 2,89%	0,002
	your answer	1 0,34%	1 0,58%	0,711
What towel do you use to take care for genitals?	individual	203 70,0%	91 52,6%	0,000
	individual, separate from the towels of the body	72 24,83%	72 41,62%	0,000
	any towel that is at hand	8 2,76%	2 1,16%	0,251
	difficult to say	4 1,38%	6 3,47%	0,135
	your answer	1 0,34%	2 1,16%	0,293
Does child have an individual: soap, washcloth, towel?	Yes	273 94,14%	161 93,06%	0,651
	No	12 4,14%	10 5,78%	
Do you use intimate hygiene products for the intimate hygiene for your daughter?	Yes	221 76,21%	136 78,61%	0,402
	No	60 20,69%	35 20,23%	
Does your child drink enough water throughout the day?	Yes	175 60,34%	148 85,55%	0,000
	No	110 37,93%	25 14,45%	

НАУКОВЕ ДОСЛІДЖЕННЯ

- the amount of mothers of the control group who change underwear at girls every day and not only when underwear gets dirty is more on 20% than in the main study group;
- it has been found that the percentage of recurrence of labial adhesions in 3 months was almost 40%, in 6 months – 25% and in the year reaches 10%, there wasn't any significant differences in relapses in three regions.

One of the goals of our study was to determine the real percentage of recurrence of labial adhesions and period when it happens after treatment. The lowest percentage of recurrence is at girls with adhesions, who never had vulvitis – 33,92% in three months and 23,8% in 6 months and 7,73% in a year. The highest percentage of the recurrence (45,29%) of labial adhesions was at girls with adhesions and vulvitis in anamnesis. In 6 months the percentage of recurrence at girls with adhesions and vulvitis in anamnesis was 26,49% and in a year 8,54%. Besides, we analyzed the percentage of recurrence at girls (the main study group) whose moms got information of intimate hygiene from pediatrician. This group had the highest amounts of recurrence of labial adhesions – 57,57% in 6 months.

We had found out interesting fact that the information about the rules of personal hygiene mom of girls of the study group received in significantly more cases from pediatricians. Number of mothers from the control group who received information about the hygiene of the girls from the books was in three times higher than in the study group (Table 2).

This information may testify on two fundamental questions. There should be close cooperation work between pediatrician and OB&GYN in questions of girls care. But more likely, pediatricians in the structure of total admissions because of lack of time, time do not pay attention to the problem of personal hygiene and as a result of that, mothers also don't pay much attention to that information.

After analyzing the second set of questions, we found the following facts in the study groups (Table 3):

- mothers who have used baby powder and baby liquid wipes for intimate hygiene were twice time more in the control group;
- the mothers from both groups almost in the same percentage of cases, wash their child after defecation, use individual soap and do not routinely use disinfectants and antiseptics for the intimate hygiene.

In addition, we found that mothers of girls with recurrent adhesions only in 25% of the cases use a separate towel for intimate hygiene for their daughters.

CONCLUSION

Thus, after data processing about the quality of women's knowledge about intimate hygiene, where do they get this information and how this knowledge is being implemented in practice, we have made the following conclusions:

- Violation of the rules of intimate hygiene at girls plays definite role in the development of labial adhesions and can be a risk factor for recurrence of labial adhesions.

TABLE 2. SOURCE OF INFORMATION MOTHERS CONTROL AND BASIC GROUPS

Question	Source of knowledge	Main study group (mothers of girls with recurrent labial adhesions)	Control group (mothers of girls without any episode of labial adhesions)	Pr
How do you get information about the rules of intimate hygiene at girls?	Internet	76 26,21%	61 35,26%	0,039
	book	28 9,66%	46 25,59%	0,000
	from my mother, friends	75 25,86%	56 32,37%	0,133
	the pediatrician	159 54,83%	74 42,77%	0,012
	Dr. Komarovsky TV show	27 9,31%	16 9,25%	0,982
	your answer	42 14,48%	11 6,36%	0,008

We analyzed the responses to questions of the 2 block of the main study group of mothers who have received information from a pediatrician.

Only 21% of women use a separate towel for personal hygiene for her daughter. The question «how often should I change underwear» moms who have learned about the intimate hygiene from pediatricians responded that every day only in 63% of all cases. About 75% of these women wash their children after the act of defecation and only 63% change a diaper every 2–3 hours. Also in this group, about 40% use wet wipes for personal hygiene and not more than 20% – baby powder. However, 100% of women reported that their daughters have an individual soap and towel.

2. The level of knowledge of mother about the rules of girl intimate hygiene is one of the most important factors in the prevention of disorders of reproductive health at girls.

3. Educative work of pediatrician and child gynecologist may have a decisive role in reducing the occurrence of relapse of adhesions of the labia minora in girls.

4. The highest percentage of relapses occurs within 3 months after treatment – up to 45%.

5. Long-term follow-up (not less than 1 year after the treatment) of the girl with every 3-months visit to the doctor should be implemented to the daily work of pediatricians and child gynecologists.

TABLE 3. UNIT OF QUESTIONS DESIGNED TO FIND OUT WHAT THE MOTHER FULFILLS INDEED

Asked questions	Answers	Main study group (mothers of girls with recurrent labial adhesions)	Control group (mothers of girls without any episode of labial adhesions)	Pr
What products do you use for your daughter's intimate hygiene?	bar of baby soap	71 24,48%	74 42,77%	0,000
	baby liquid soap	174 60,0%	65 37,57%	0,000
	using the same soap of intimate hygiene as mine	60 20,69%	29 16,76%	0,3
	any product of hygiene is at hand	14 4,83%	12 6,94%	0,340
	difficult to say	3 1,03%	3 1,73%	0,520
	difficult to say	4 1,38%	6 3,47%	0,135
	your answer	1 0,34%	2 1,16%	0,293
Do you wash child after the act of defecation?	Yes	231 79,66%	132 76,3%	0,146
	No	30 10,34%	28 16,18%	
Do you change diapers every 2–3 hours?	Yes	171 58,97%	90 52,2%	0,154
	No	20 6,9%	20 11,56%	
	When a	72 24,83%	51 29,48%	
Does child has an individual: soap, washcloth, and towel?	Yes	273 94,14%	161 93,06%	0,651
	No	12 4,14%	10 5,78%	
Do you use wet wipes for intimate hygiene for your daughter?	Yes	138 47,59%	99 57,23%	0,052
	No	144 49,66%	73 42,2%	
Do you use baby powder for your daughter?	Yes	69 23,79%	89 51,45%	0,000
	No	214 73,79%	79 45,66%	
Do you use disinfectant solution every day for intimate hygiene?	Yes	25 8,62%	25 14,45%	0,146
	No	259 89,31%	145 83,82%	
Do you use anti-inflammatory drugs every day for intimate hygiene for your child?	Yes	20 6,9%	11 6,36%	0,864
	No	265 91,38%	160 92,46%	
Do you take bath with your child in the bathroom at the same time?	Yes	27 9,31%	13 7,51%	0,171
	No	258 88,97%	160 92,49%	

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РЕЦИДИВИРУЮЩИЕ СИНЕХИИ У ДЕВОЧЕК: НОВЫЙ ВЗГЛЯД НА СТАРУЮ ПРОБЛЕМУ

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Было выполнено исследование уровня знаний о гигиене ребенка у матерей девочек с рецидивирующими синехиями. В исследование вошли 463 матери с центрального (Киев), западного (Львов), восточного (Донецк) регионов Украины: 290 мам девочек в возрасте от 2 до 8 лет с рецидивирующими синехиями малых половых губ (2 и более раз); группу контроля составили 173 мамы, у которых девочки (возраст 8 лет) не имели в анамнезе синехий.

Женщинам проводили опрос о качестве их знаний об интимной гигиене, откуда они получают эту информацию и насколько эти знания выполняются на практике. В итоге авторы сделали следующие выводы:

1. Самый высокий процент рецидивов происходит через 3 месяца после лечения – до 45%.
2. Нарушение правил интимной гигиены у девочек играет определенную роль в развитии синехий и является фактором риска рецидива.
3. Большое значение в профилактике нарушений репродуктивного здоровья девочек играет уровень знаний мамы о правилах интимной гигиены.
4. Просветительская работа педиатра и детского гинеколога может оказать решающую роль в снижении возникновения и рецидива синехий малых половых губ у девочек.
5. Необходимо длительное (не менее 1 года) диспансерное наблюдение девочки после лечения с визитом к доктору 1 раз в 3 месяца.

Ключевые слова: синехии, рецидивирующие синехии, девочки-подростки.

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The study of the level of knowledge about hygiene of girls with recurrent adhesions in their mothers was performed. The study included 463 mothers at Central (Kiev), Western (Lviv), East (Donetsk) regions of Ukraine: 290 mothers of girls aged 2 to 8 years with recurrent adhesions of the labia minora (2 or more); the control group consisted of 173 mothers who have girls (age 8 years) with a history of adhesions.

Women were questioned about knowledge about intimate hygiene, where do they get this information and how this knowledge is being implemented in practice; and it was made the following conclusions:

1. Violation of the rules of intimate hygiene at girls plays definite role in the development of labial adhesions and can be a risk factor for recurrence of labial adhesions.
2. The level of knowledge of mother about the rules of girl intimate hygiene is one of the most important factors in the prevention of disorders of reproductive health at girls.
3. Educative work of pediatrician and child gynecologist may have a decisive role in reducing the occurrence of relapse of adhesions of the labia minora in girls.
4. The highest percentage of relapses occurs within 3 months after treatment - up to 45%.
5. Long-term follow-up (not less than 1 year after the treatment) of the girl with every 3-months visit to the doctor should be implemented to the daily practice of pediatricians and child gynecologist.

Key words: labial adhesions, recurrent adhesions, teenage girls.