

МЕДИЦИНСКИЕ НАУКИ

ЗАКАЛИВАНИЕ ДЕТЕЙ ДО 3 ЛЕТ - ВАЖНЫЙ КОМПОНЕНТ ПРОФИЛАКТИКИ УДАЛЕНИЯ

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HARDENING OF CHILDREN UNDER 3 YEARS OF AGE – AN IMPORTANT COMPONENT OF DISPOSITION PROPHYLAXIS

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АННОТАЦИЯ

Закаливание - это различные действия, которые помогают повысить устойчивость организма к влиянию факторов внешней среды. За счет природных факторов и других физических средств закаливание направлено на достижение совершенства по сравнению с терморегуляцией организма. По своей сути, закаливание - это условный рефлексивный процесс, который осуществляется через различные внешние раздражители - воздух, солнечные ванны, плавание.

ABSTRACT

The hardening is a variety of activities which help increase the sustainability of the organism to influence the factors of the outer environment. Through natural factors and other physical means, the hardening aims to achieve perfection over the thermoregulation of the organism. In its core the hardening is a conditional reflective process that is done through different outer irritants - air, sun baths, swimming.

Ключевые слова: вода, воздух, гимнастика, массаж, плавание, ребёнок, солнце, терморегуляция

Keywords: air, baby, gymnastics, massage, thermoregulation, sun, swimming, water

INTRODUCTION

The purpose of prophylaxis is to create conditions for proper development of the child and for prevention of diseases. It can be aimed at the factors of the environment that can be changed in a way to meet the needs of the child (exposition prophylaxis) or to increase the resistance of the child's organism (disposition prophylaxis). Hardening is an essential element of the disposition prophylaxis that increases the resistance of the organism to the adverse effects of the environment related to the chilling of the child (cold, wind, humidity, temperature fluctuations) [2,9]. The climate in Bulgaria is not stable and the temperature ranges are wide – from -25 to +40 degrees,

the humidity varies from 20 % to 90 % in the different seasons, and the fog and wind are quite frequent [1,5]. The hardening includes general and specific hardening procedures that should train the thermoregulation mechanisms and the physiological processes ensuring the balance between the thermogenesis and thermolysis to provide constant body temperature and fast adaptation to the climate conditions. The schemes of performing the various procedures are in compliance with the individual characteristics of each organism – type of nervous system, age, sex, health status [3,4]. The hardened child has better thermoregulation, he/she is calmer, sleeps and eats better, gets sick rarely. When exposed to cold his/her body temperature decreases less

than the one of the non-hardened child, i.e. the child is more resistant to the chilling and deals better with the infections [9].

PRESENTATION

The hardening of the child starts immediately after the birth. The daily change of clothes and showers are the initial general hardening procedures, and the essential hardening procedures, such as air baths, partial water rubbing and partial sun baths, can be initiated 3 months after the birth. The most appropriate season for hardening procedures is the summer, but winter babies should not be deprived of them given that the main principles of hardening are observed [9]. The absence of adherence to the hardening procedures and especially the prolonged interruption causes loss of the achieved effect [5,8].

Main principles of hardening

Gradualness – at the beginning the hardening procedures have short duration and gradually the time of impact increases.

Systematicity – the hardening procedures should not be interrupted unless there are contraindications to them. If the interruption is long /15 days/, the hardening effect disappears and the procedures should be started from the very beginning.

Sequence – should be in compliance with the strength of the irritant – from weak to strong /air-water-sun/.

Complexity – use of warmth, cold, sun energy, water, air movement in various combinations in various conditions.

Individual approach – the type and intensity of the hardening procedure is specified individually for each child [6].

The best prophylaxis against colds in children is hardening, consisting of a system of procedures, performed regularly since the birth of the child. Hardening is achieved through two types of regimens: general hardening regimen and special hardening

regimen (hardening procedures with loading) – dosed hardening [1].

General hardening regimen – the following should be ensured:

- optimal temperature and humidity of the premises where the child is being raised;
- access to clean air /aeration/;
- suitable clothing [1,8].

The most suitable temperature for raising a mature baby is 23-24°C, for immature baby – 25-26°C; for children above 1 year of age – 20-22°C, and during sleep 3-4°C lower; fluctuations of the temperature from 2°C to 3°C while awake are allowed. The air humidity should be in the range 40-60%.

The aeration is made through regular ventilation of the premises and systemic outdoor walks. The newborn can be taken out after the second week if the temperature is 12-15° and not higher than 27°.

The suitable clothing is very important for the child hardening. It helps the free movements and protects the organism from overheating, chilling and coddling.

Signs for chilling: cold nose and ears.

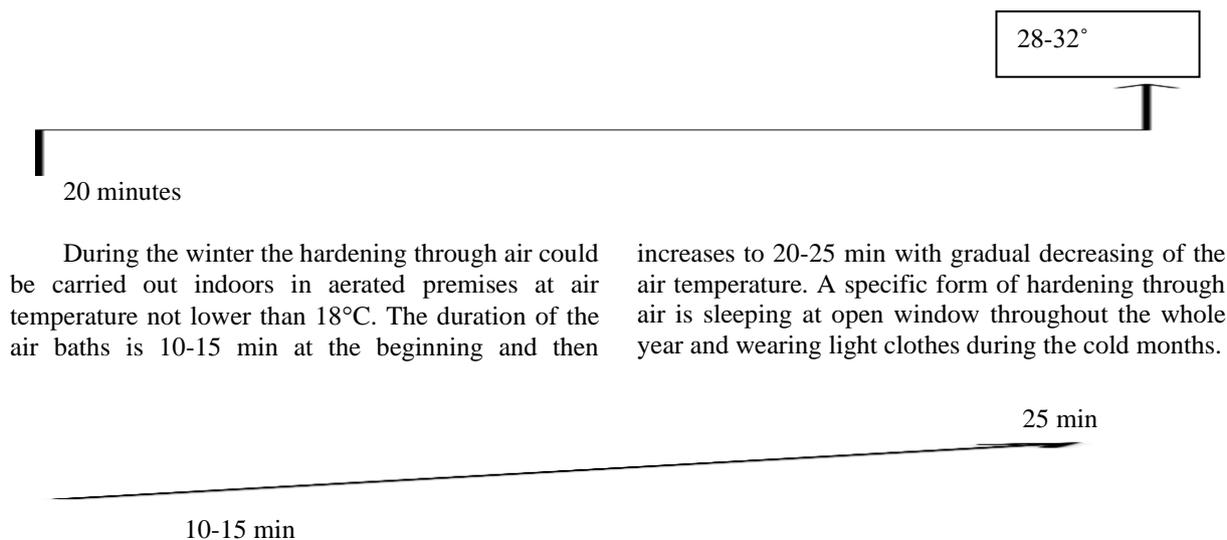
Signs for overheating: red face and anxiety [1,4,7].

Special hardening regimen – dosed hardening:

- hardening through air – air baths;
- hardening through water – rubbing, rinsing, walking in pools, rivers, lakes, sea;
- hardening through sun.

Types of hardening procedures

Hardening through air /air baths/ - The effectiveness of hardening through air depends on the physical factors of air – temperature, humidity, air flow velocity. Hardening through air during the summer or the warm first autumn days at temperature 20-30°C is carried out outdoors for 20 min and then slowly and gradually the duration could be increased to 2-3 hours.

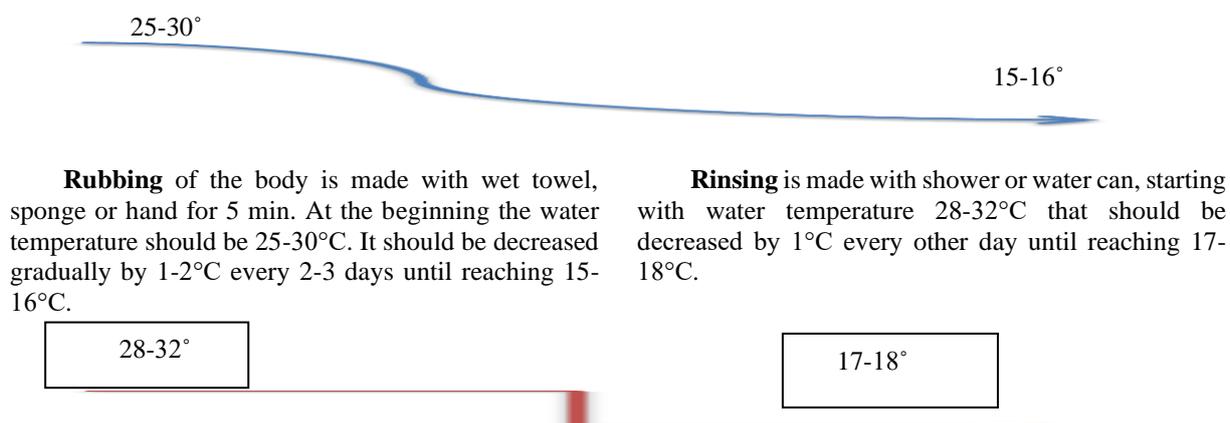


During the winter the hardening through air could be carried out indoors in aerated premises at air temperature not lower than 18°C. The duration of the air baths is 10-15 min at the beginning and then

increases to 20-25 min with gradual decreasing of the air temperature. A specific form of hardening through air is sleeping at open window throughout the whole year and wearing light clothes during the cold months.

Hardening through water – the water procedures are the most efficient. They cause general and local reactions induced by the great thermal capacity and thermal conductivity of water. Besides, the various

water hardening procedures have mechanical impact on the skin and the subcutaneous tissues. Various water procedures are used: moist rubbing, rinsing, baths in waters outdoors, water walking [8].



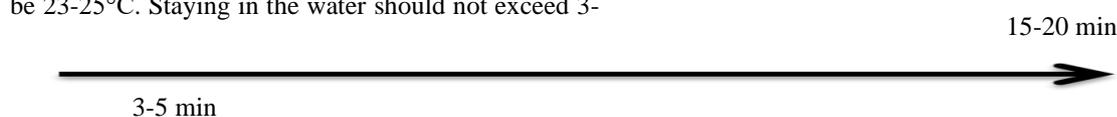
Rubbing of the body is made with wet towel, sponge or hand for 5 min. At the beginning the water temperature should be 25-30°C. It should be decreased gradually by 1-2°C every 2-3 days until reaching 15-16°C.

Rinsing is made with shower or water can, starting with water temperature 28-32°C that should be decreased by 1°C every other day until reaching 17-18°C.

The duration of the procedure is 2 min at most.

Baths in waters outdoors have the greatest hardening effect because of the fast and strong body cooling. At the beginning the water temperature should be 23-25°C. Staying in the water should not exceed 3-

5 min at the beginning and should be increased gradually until reaching 15-20 min. Before entering the water the body should be warmed and while bathing the children should swim or move all the time.



The preventive effect of swimming – the physical activity is increased many times when using waters outdoors – pools, sea, rivers, where the favorable impact of the water is combined with the effect of the sun, air and nature that are the main factors of hardening the human organism, anti-stress and resistance to infectious diseases. Pedagogues and physicians recommend swimming as a hardening mean – it improves the activity of all organs and systems (increases the metabolism, trains the cardiovascular system). Compared to the other procedures, the recovery processes when swimming are faster.

Hardening through sunlight – besides increasing the resistance to the sun radiation, hardening through sun also causes multiple positive changes in the organism that are determined by the biological impact of the sun radiation: stimulation of various physiological functions that improve the general condition of the organism, increase the working capacity, strengthen the immunobiological protection, reduce the morbidity of infectious diseases and colds, have bactericidal effect on the pathogenic microorganisms. Exposing to sun light is considered one of the basic means for prophylaxis and treatment of rickets. It should be preceded by preparation – taking off the clothes at partial shade in the first 3 days, respectively for 10, 20 and 30 min. The child is exposed to direct sunlight on the 4th day, starting with 1-2 min, as this duration increases by 2 min every other day until reaching 15-20 min; the total number of procedures should be 15-20, respectively for children at 3-6 months and for children above 6 months of age [1,6,7].

It is advised the hardening procedures to be carried out under physician's monitoring, taking into consideration the age, the functional possibilities, the individual reactivity and the health condition of the child [5].

Walking barefoot – this is an effective hardening method. Walking barefoot on contrast paths is widely used nowadays. These paths have sections with differing temperature regulation – from cold to hot. It is thought that shoes isolate the human organism from the negatively charged layer of the earth's electric field, and the positively charged atmosphere takes away part of the human's negative ions. Walking barefoot provides to the human being the lacking negative ions, and electric energy at the same time. Various ways of this hardening method are recommended today – walking barefoot at home, on the beach, on dewy grass in the morning, even on snow [8].

Conducted research

Purpose of the research: investigation of the awareness and knowledge of the respondents about the means of applying hardening procedures and about their impact on the protective strength of the child's organism.

Subject of the research: parents to children below 3 years of age.

Materials and methods:

sociological method – direct anonymous survey, interview and observation;

documentary method – studying the available literature on this issue;

statistical method – processing and analysis of the information.

Methodology of the research

The research was carried out in the period 01.10.2018 – 30.04.2019 with the participation of 165 respondents at age 20-35 years.

Results of the conducted research and discussion. The results were analyzed, summarized and illustrated in figures 1,2,3 and 4.

The answers of the respondents to the question "What is the source of your information about the hardening procedures?" are shown in figure 1.

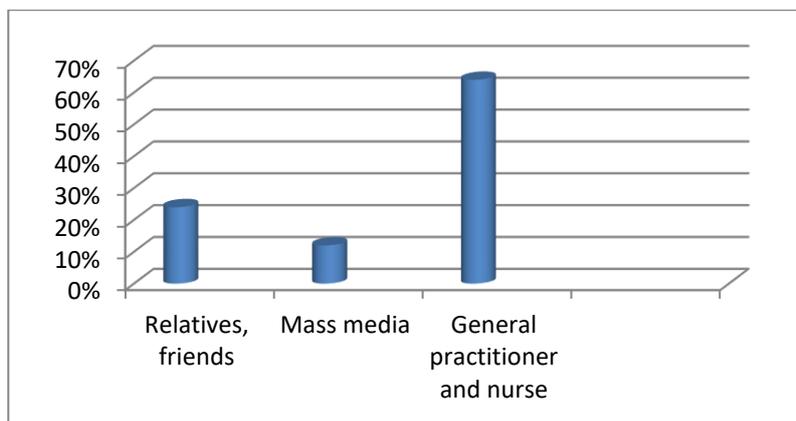


Figure 1. Source of information about the hardening procedures

The analysis of the results shows that the medical specialists /physician, nurse/ has primary role in explaining the significance of the hardening procedures for the proper development of the child’s organism – 64

% of the respondents state the medical specialists as a source of information.

The answers of the respondents to the question “What types of hardening procedures do you know?” are shown in figure 2.

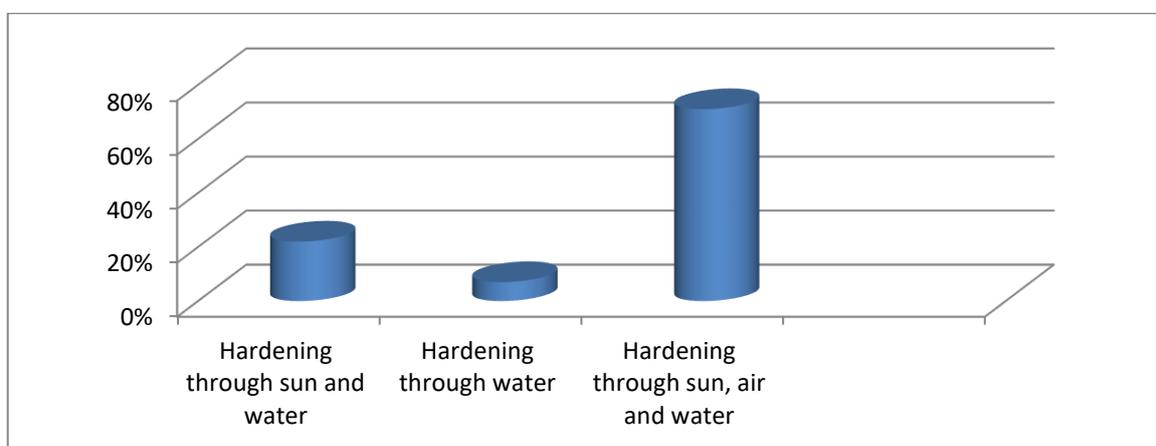


Figure 2. Knowledge of the hardening procedures

The graphics in figure 2 shows the level of knowledge about the hardening procedures of the respondents. All participants in the research are aware of the hardening procedures, but it is very nice that a significant part of them /71 %/ are aware of all hardening procedures.

The answers of the respondents to the question “In your opinion, do the hardening procedures have impact on the protective strength of the child’s organism?” are shown in figure 3.

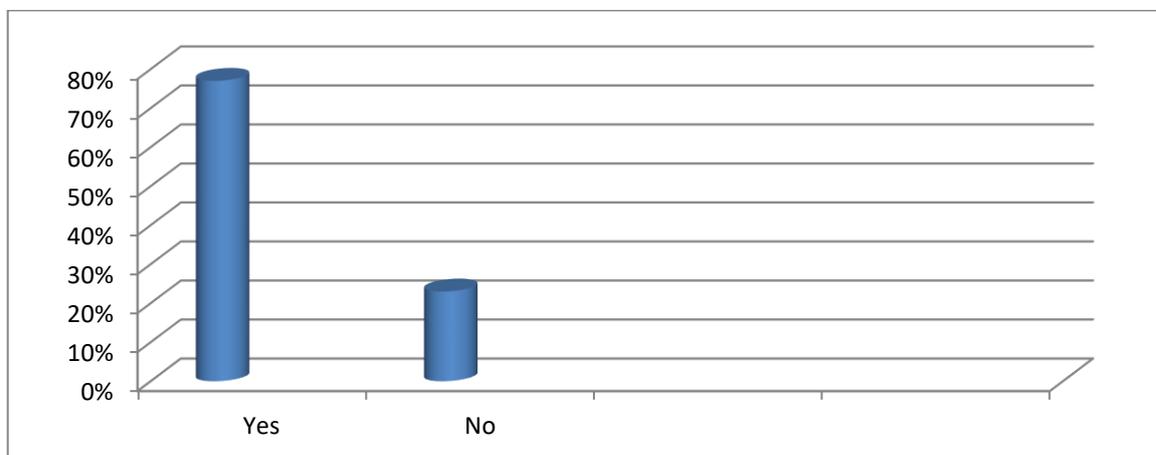


Figure 3. Impact of the hardening procedures on the protective strength of the child’s organism

The graphics in figure 3 convincingly supports the fact that the used hardening procedures increase the protective strength of the child's organism – in 77 % of the respondents the answer is “Yes”.

The summarized answers of the question “Do you use hardening procedures for your child according to his/her age?” are visualized in figure 4.

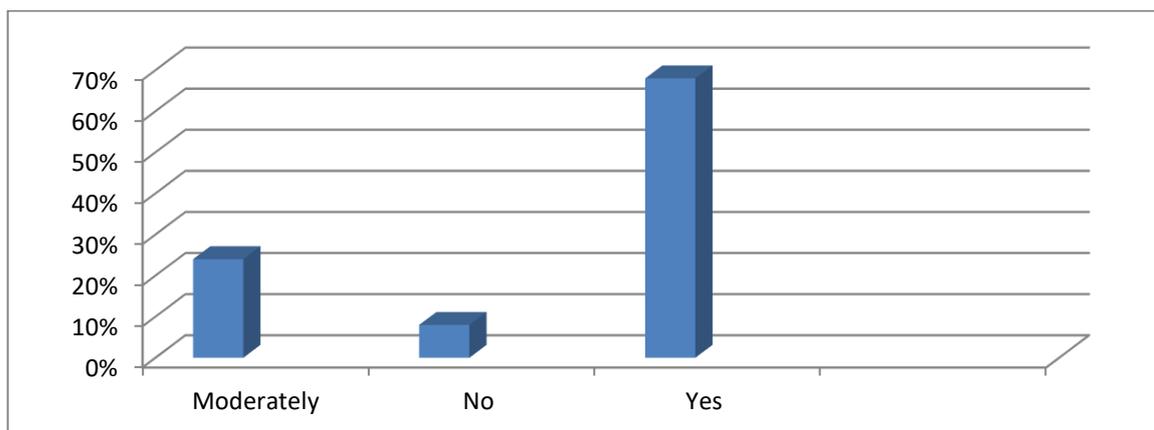


Figure 4. Use of hardening procedures

The analysis of the results regarding the self-assessment of the respondents for using hardening procedures is interesting. A significant part of the respondents – 68 % - use hardening procedures for their children according to the season and the age and health condition of the children. The result can be explained with the good knowledge and awareness of the respondents about the hardening.

CONCLUSION

Based on the analysis of the results of the conducted research, the following conclusions and recommendations can be made: it is found out that there is good knowledge and awareness of the respondents about the hardening procedures regardless the variety of sources: a significant part of the respondents /68 %/ use hardening procedures for their children; according to 77 % of the respondents the hardening procedures have impact on the protective strength of the child's organism; there is lack of knowledge about hardening procedures in 20-24 % of the respondents and in order to compensate this, monthly discussions about the use of the hardening procedures for the children's good health with the general practitioner and the nurse should be carried out. Each year the number of children below 3 years of age who get sick very often increases. Usually this is explained with the poor life environment, as well as unhealthy eating during pregnancy and breastfeeding. Hardening would be useful for prevention of diseases, but should be carried out carefully observing the main principles! The selected hardening procedure should be applied systematically regardless the type – cool shower, walking in the snow or air bath with cool air.

Hardening procedures could protect the child not only against frequent colds and chronic diseases, but also against bad mood, and the phrase “Strong spirit in a strong body” is not a coincidence!

СПИСОК ЛИТЕРАТУРЫ: REFERENCES:

- [1] Бобев Д., Евгений Генев, „Педиатрия“, МИ „АРСО“, 2000 / Bobev D., Evgeniy Genev, “Pediatrics”, MI “ARSO”, 2000
- [2] Желева Е. Общи и специални сестрински грижи. Стара Загора, 2006:354 / Zheleva E. General and Special Nursing Care. Stara Zagora, 2006:354
- [3] Желева Е. Сестрински и акушерски грижи. Философски аспекти, ЕКС-ПРЕС. 2013:297 / Zheleva E. Nursing and Obstetrical Care. Philosophic aspects, EX-PRESS. 2013:297
- [4] Малахов, Г. „Закаляване и водолечение“, 2010, ISBN: 9789548420037, с.98 / Malahov G. Hardening and Water Therapy, 2010, ISBN: 9789548420037, p. 98
- [5] Найденов, Г. „Закаляване и закаляващи процедури“, Пловдив, 1965, с.6 / Naydenov, G. Hardening and Hardening Procedures, Plovdiv, 1965, p. 6
- [6] Петков Г. и колектив, „Педиатрия“, МФ, София 1997 г. / Petkov G. et al, Pediatrics, MF, Sofia 1997
- [7] <http://roditel.bg/zakalyavane-bebe-dete-pravila>
- [8] <https://saveti.framar.bg>
- [9] <https://zdravodete.bg/2016/03/28/zkalaqvanе-i-detsko-zdrave/>