



## The prevention of disorders in the articulation development of children at the infancy and post-infancy stages

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The development of speech, including articulation, begins at birth, whereas its biological foundations are shaped already during the foetal development. The acquisition of linguistic competence (including phonetic and phonological) is determined by various factors. The article is dedicated to the preventive care in regard to speech disorders of children. The author primarily focuses on the primary activities of speech/articulation (articulation is one of the aspects of speech, and the primary activities of speech may be considered, simultaneously, as primary in comparison to articulation). The article presents activities that prevent the occurrence of articulation development disorders, directed at infants and post-infancy children.

**KEY WORDS:** articulation disorders, preventive speech therapy, infancy and post-infancy

## The acquisition of phonetic and phonological competence during ontogeny

A number of subsystems may be distinguished within the system of a language, including the phonological, regarding the aspect of language pertaining to sound. According to Józef Porayski-Pomsta,

“the term *child language* pertains to the processes of acquisition and the knowledge of a *linguistic system*. At a consciousness-executive level, it is identified with the linguistic competence term”<sup>1</sup>. Following Edward Łuczyński, the following article adopts the premise that linguistic competence is the “(...) capability of unimpeded use of a particular language, the ability to communicate with it, and apply it to express all, that we wish to express”<sup>2</sup>. The phonetic and phonological competence, as an element of linguistic competence, is the ability of the precise articulation of phones present in a given language, as well as the ability to “(...) identify phonemes and recognise higher units of organisation constructed from the former”<sup>3</sup>. The acquisition of the competence occurs in phases, and the biological determinants can be traced back to the prenatal stage, with the formation of the brain, lungs, larynx, the sensory organs and the articulation apparatus (the oral and nasal cavities, the pharynx). The pre-linguistic phase of the development of speech, taking place from birth to the age of one, is a peculiar training of both the speech organ, as well as, of auditory perception. Then, the infant is preparing to articulate and recognise the sounds of speech. The child acquires linguistic abilities (including phonetic and phonological), by going through all the phases of speech development, however, at own pace<sup>4</sup>. If and when a certain phase is reached, depends on the biological, psychological state of the child, as well as, on the surroundings (the social environment) in which the child is being raised.

Considering the development of the phonetic and phonological competence, one must note the interdependence between percep-

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<sup>1</sup> J. Porayski-Pomsta, *O rozwoju mowy dziecka. Dwa studia*, Dom wydawniczy Elipsa, Warszawa 2015, p. 21.

<sup>2</sup> E. Łuczyński, *Mowa a język. Podstawy językowe neurologopedii*, [in:] *Podstawy neurologopedii. Podręcznik akademicki*, eds. T. Gałkowski, E. Szelaąg, G. Jastrzębowska, Wyd. Uniwersytetu Opolskiego, Opole 2005, p. 39.

<sup>3</sup> Ibidem, p. 39.

<sup>4</sup> J. Porayski-Pomsta, *Zagadnienia periodyzacji mowy dziecka*, „Logopeda” 2009, no. 1(7), p. 10.

tion and the expression of the sounds of speech, as well as, highlight that the perceptive abilities precede the articulative efficiency. According to Piotra Łobacz, a child between 3 and 4 years of age is capable of identifying auditorily an “almost complete inventory of phonemes”<sup>5</sup>. The author highlights that the process of learning articulation, i.e. the ability to articulate the most difficult phones according to the norm, continues up to the early school age<sup>6</sup>. In the practice of logopaedics, it is assumed that a 7 year old child should realise all the phones of the Polish language. Such precise assessment is necessary, as the correct development of speech (including correct articulation) is one of the conditions of success in school education and in a satisfactory participation in the group of peers.

The causing factor regarding articulation disorders, may affect particular phases of the development of the phonetic and phonological competence, as well as, the period following the learning of the inventory of phonemes and their phone realisations, therefore, among older children, youth, adults and seniors. The above-mentioned occurs in aphasia, where the **linguistic** system decomposes, dysarthria (the respiratory-phonatory-articulative disorders caused e.g. by a stroke or Parkinson’s disease), in cases of a resection of a part of the articulation apparatus, as a necessary part of treatment in oncology, the injuries of the articulation apparatus

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<sup>5</sup> P. Łobacz, *Prawidłowy rozwój mowy dziecka*, [in:] *Podstawy neurologopedii. Podręcznik akademicki*, eds. T. Gałkowski, E. Szelaąg, G. Jastrzębowska, Wyd. Uniwersytetu Opolskiego, Opole 2005, p. 233.

<sup>6</sup> Ibidem, p. 235. A periodisation and a detailed analysis of the phonetic and phonological development of Polish children may be found in works by various authors, see: P. Smoczyński, *Przyswajanie przez dziecko podstaw systemu językowego*, Zakład im. Ossolińskich, Łódź-Wrocław 1955; M. Zarębina, *Kształtowanie się systemu dźwiękowego dziecka*, Ossolineum, Wrocław 1965; L. Kaczmarek, *Moje dziecko uczy się mowy*, Wyd. Lubelskie, Lublin 1988; P. Łobacz, *Polska fonologia dziecięca*, Energeia, Warszawa 1996; P. Łobacz *Prawidłowy rozwój mowy dziecka*, [in:] *Podstawy neurologopedii. Podręcznik akademicki*, eds. T. Gałkowski, E. Szelaąg, G. Jastrzębowska, Wyd. Uniwersytetu Opolskiego, Opole 2005, pp. 231–268; J. Porayski-Pomsta, *O rozwoju mowy dziecka. Dwa studia*, Dom wydawniczy Elipsa, Warszawa 2015.

resulting from currently popular piercing of the soft tissues of the oral cavity, as well as, in the changes in the mastication organs among seniors (loss of teeth, prosthetics, floppy soft palate).

### **Articulation disorders as a symptom of abnormalities in the phonetic and phonological development**

Articulation disorders, also referred to speech impediments, articulation impediments, segmental level disorders, are a deviation from the realisation of a phoneme or phonemes, according to norm, caused by the inability of its/their proper realisation. As highlighted by Danuta Pluta-Wojciechowska, "an erroneous phone is evidence of the occurrence of certain difficulties in a normative realisation of a phoneme"<sup>7</sup>. Articulation impediments do not include regionalisms or phonetic **dialecticisms** in compliance with national and/or local linguistic forms<sup>8</sup>, articulation errors being a result of the lack of knowledge or a habit of the speaker, with the preserved capabilities of expressing a sound, as well as the so-called child articulation<sup>9</sup>, which are a result of the unfinished process of phoneme development, naturally transforming into proper realisations in the course of the physical and psychological development of the child. The evaluation, whether a given realisation of the phoneme is pathological, or results from the lack of maturity regarding the perceptive-realisation processes, is not unambiguous, in result of the similarity of symptoms. The difference between "erroneous

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<sup>7</sup> D. Pluta Wojciechowska, *Dyslalia obwodowa. Diagnoza, i terapia logopedyczna wybranych form zaburzeń*, Wydawnictwo Ergo-Sum, Bytom 2017, p. 85.

<sup>8</sup> I. Jaros, *Trzy krzywe krzyże – cecha wymowy, błąd wymowy czy wada wymowy*, [in:] *Współczesne tendencje w diagnostyce i terapii logopedycznej*, eds. D. Pluta-Wojciechowska, B. Sambor, Harmonia Universlairs, Gdańsk 2017, p. 100.

<sup>9</sup> B. Ostapiuk, *Standard postępowania logopedycznego w dyslalii ankyloglosyjnej*, „Logopedia” 2008, vol. 37, p. 143; G. Demelowa, *Minimum logopedyczne nauczyciela przedszkola*, Wyd. Szkolne i Pedagogiczne, Warszawa 1994, p. 31.

articulations” and “child articulations” lies in the different mechanisms of their generation, which should be included in the diagnostic process.

Articulation impediments may constitute an isolated issue and be a symptom of other speech disorders. Non-normative realisations of phonemes are diagnosed e.g. in cases of hearing impairment, intellectual disability, aphasia, dysarthria, or specific language impairment (SLI). Such patients exhibit impairment in all language subsystems: phonological, morphological, syntactic and lexical.

According to Gerhard Böhme, the causes of articulation impairments correspond with the aetiology of speech disorders<sup>10</sup>. Among the factors that lead to the above, one may list: vision and hearing impairment, intellectual disability, injuries and dysfunctions of the nervous system, abnormalities in the structure and functioning of the respiratory, phonation and articulation systems. Unfavourable environment conditions (insufficient amount of stimuli from the surroundings and incorrect models) may additionally impede the development of language communication, including the phonetic and phonological competence.

Articulation disorders are listed among the most commonly occurring abnormalities regarding speech development of children. The enormity of the problem is further evidenced by statistics. Research conducted by Grażyna Jastrzębowska in the early 1990s, among 575 year zero and one students, from the Opole Voivodeship, indicated 18% of children to exhibit articulation impairments<sup>11</sup>. The results presented by other scholars, are even more alarming. Screening speech therapy study, conducted in the Śląsk urban area, by various authors, proves, that the rate of preschool

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<sup>10</sup> G. Böhme, *Sprach-Sprech-Stimm und Schlucströngen*, Urban-Fischer, München-Jena 2003.

<sup>11</sup> G. Jastrzębowska, *Stan i perspektywy opieki logopedycznej w Polsce*, [in:] *Logopedia. Pytania i odpowiedzi. Podręcznik akademicki. Interdyscyplinarne podstawy logopedii*. Vol. 1, eds. T. Gałkowski, G. Jastrzębowska, Wyd. Uniwersytetu Opolskiego, Opole 2003, p. 38.

and early school children with articulation disorders, oscillates between 29,4% and 56,8%<sup>12</sup>. The received data corresponds to that acquired in 2016 by speech pathologists from the Department of Polish Dialectology and Logopaedics, University of Łódź, who conducted screening research among year one-year three students in one of the elementary schools in Łódź. Among 150 children examined, 71 students exhibited an abnormal realisation of phonemes, making it 47%<sup>13</sup>. The research conducted among 2012 preschool children from Zielona Góra and the Lubuskie Voivodeship, shows that articulation disorders occur in almost 70% of the cases<sup>14</sup>.

The results presented, confirm the necessity of undertaking decisive action in regard to the substantial number of children with articulation impairment. As the articulation disorders may result in issues in education, emotional and social difficulties, it is imperative to undertake preventive action against the appearance of articulation impairment, as early as possible, and when the option is unavailable (e.g. in terms of **genetic disorders**), to initiate early diagnosis and speech therapy.

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<sup>12</sup> According to the research performed by Iwona Michalak-Widera, 48% of year one students from the Katowice region exhibit speech impediments; See: I. Michalak-Widera, *Zaburzenia dyslaliczne u dzieci realizujących edukację elementarną – doniesienia z badań*, „Śląskie Wiadomości Logopedyczne” 2004, no. 7, p. 30; Joanna Trzaskalik demonstrated the presence of speech impediments in 55% of six year old children in Katowice; See: J. Trzaskalik, *O konieczności badań nad wpływem chorób układu oddechowego na wady wymowy u dzieci w województwie katowickim*, [in:] *Effata – Otwarcie. Logopedia jako nauka interdyscyplinarna i stosowana*, ed. I. Nowakowska-Kempna, Uniwersytet Śląski, Katowice 1998, p. 245; The data presented by Katarzyna Węsierska, regarding children between 3 and 6 years of age in Katowice, the abnormality indicator in regard to speech, including speech impediments in particular age groups ranges from 29,4% to 56,8%; See: K. Węsierska, *Opieka logopedyczna w przedszkolu. Profilaktyka – diagnoza – terapia*, Wydawnictwo Edukacyjne AKAPIT, Toruń 2013, p. 166.

<sup>13</sup> E. Gacka, M. Kaźmierczak, *Przesiewowe badania mowy jako przykład działań z zakresu profilaktyki logopedycznej*, „Logopaedica Lodziensia” 2017, no. 1, p. 39.

<sup>14</sup> M. Rządźka, *Warunki prawidłowego rozwoju mowy dziecka*, online: [docplayer.pl/429465-warunki-prawidlowego-rozwoju-mowy-dziecka.html](http://docplayer.pl/429465-warunki-prawidlowego-rozwoju-mowy-dziecka.html) [access: 29.11.2017].

## Prevention of the articulation impairment in the early phases of life

Preventive care is one of the main areas of the activity of speech therapists. Its task is to prevent speech disorders, promote the knowledge regarding speech development and its deficits, as well as, early intervention – early detection of abnormalities regarding language communication in order to initiate therapeutic action, preventing the perpetuation of the negative consequences of speech disorders. Ewa Małgorzata Skorek defines speech therapy preventive care as a “(...) general assortment of organisation forms, contents, methods, principles and means constituting a coherent structure serving the purpose of preventing – primarily – the human dysfunctional communicative ability<sup>15</sup>, biologically and/or environmentally determined and secondly – the effects of a disturbed communicative ability for the functioning of a human”<sup>16</sup>.

Speech therapy (similar to medicine) distinguishes three phases of preventive care: primary, secondary and tertiary prevention<sup>17</sup>. The task of primary prevention is to prevent the speech and voice disorders by promoting speech therapy knowledge, e.g. information regarding the conditions that positively affect the regular develop-

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<sup>15</sup> The term “dysfunctional communicative ability” (DCA) („zaburzona zdolność komunikacyjna”) (ZZK), is used by numerous scholars, i.a.: G. Gunia, V. Lechta, see: *Wprowadzenie do logopedii*, eds. G. Gunia, V. Lechta, Oficyna Wydawnicza Impuls, Kraków 2011, also E.M. Skorek, see: *Wielowymiarowość przestrzeni profilaktyki logopedycznej*, ed. E.M. Skorek, Uniwersytet Zielonogórski, Zielona Góra 2017. The term is considered synonymous to “speech disorders” or “language communication disorders”.

<sup>16</sup> E.M. Skorek, *Profilaktyka logopedyczna-poziomy i strategie*, [in:] *Wielowymiarowość przestrzeni profilaktyki logopedycznej*, eds. E.M. Skorek, Uniwersytet Zielonogórski, Zielona Góra 2017, p. 51.

<sup>17</sup> *Ibidem*, pp. 53–69; K. Węsierska, *Profilaktyka logopedyczna w ujęciu systemowym*, [in:] *Profilaktyka logopedyczna w praktyce edukacyjnej*, ed. K. Węsierska, vol. 1, Wydawnictwo Uniwersytetu Śląskiego, Katowice 2012; G. Gunia, *Koncepcja i organizacja opieki logopedycznej w Polsce*, [in:] *Wprowadzenie do logopedii*, eds. G. Gunia, V. Lechta, Oficyna Wydawnicza Impuls, Kraków 2011, pp. 58–59.

ment of speech, regular voice projection, or promoting the principles of effective communication. This information is aimed at the general population. Secondary prevention consists of the early detection of the disorderly communicative ability and of recognising voice pathology – the activities encompassing risk groups, and so, e.g. premature births, congenital anomalies, professional voice-users. An early identification of the abnormalities allows to undertake therapeutic action in a time span optimal in regards to the effects of the therapy. Tertiary prevention consists of reducing the negative results of previously diagnosed issues regarding language communication, therefore, actions directed at “speech therapy” patients and their families, e.g. reinforcing the feeling of self-esteem in children with speech/articulation disorders, preventing their social isolation, exclusion from the group of peers, and preventing bullying<sup>18</sup>. Currently, the necessity is highlighted increasingly, regarding placing emphasis in speech therapy care, so that the preventive care would be treated with higher importance, particularly, primary and secondary prevention.

Preventing articulation disorders, means to provide the optimal conditions for acquiring the phonetic and phonological competence, from the moment of birth, as well as, monitoring the development of children within risk groups. As speech/articulation develops from birth, it is most rational and justified to prevent abnormalities already in the infancy phase. The activities primary in comparison to speech (as, simultaneously, being primary in comparison to articulation) such as respiration, food and water ingestion, developed on the basis of oro-facial reflexes<sup>19</sup>, should be the object of particular attention and care. As highlighted by Elżbieta Stecko, an advocate

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<sup>18</sup> Bullying is “negative physical or verbal actions that have hostile intent, cause distress to victims, are repeated over time, and involve a power differential between bullies and their victims”, W.M. Craig, D.J. Pepler, *Identifying and targeting risk for involvement in bullying and victimization*. “Canadian Journal of Psychiatry” 2003, vol. 28, p. 577.

<sup>19</sup> D. Pluta-Wojciechowska, *Dyslalia obwodowa. Diagnoza i terapia logopedyczna wybranych form zaburzeń*, Wyd. Ergo-Sum, Bytom 2017, p. 39.



and promoter of early speech therapy intervention, the development of articulation takes place "(...) on the basis of the **food ingestion movements** formed in the phase of suckling, later mastication and deglutition"<sup>20</sup>. Activities aimed at preschool children, consisting of conducting hearing, respiratory and articulation organ performance exercises, which in practice, the speech therapy preventive care is often reduced to, are to be considered far insufficient<sup>21</sup>. For the effective prevention of articulation impairment, it is imperative to promote information regarding the indicative factors of articulation/speech among parents, grandparents and counsellors of the youngest children – children in the infancy and post-infancy phases of development. It will allow to avoid the means of nursing and child care, unfavourable in terms of shaping the articulation abilities, as well as, will indicate how to stimulate the development of linguistic competence.

In terms of primary prevention against speech impairment, information should be promoted regarding the following:

1. The advantages of natural breastfeeding. Suckling involves all the muscles of the child's oral cavity, which positively affects correct development. Natural breastfeeding provides stimuli, preparing for mastication. This type of feeding eliminates the pressure of the bottle applied to the lower alveolar process, which could result in deformations<sup>22</sup>. Natural breastfeeding allows the forming of a regular nasal pattern of breathing;

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<sup>20</sup> E. Stecko, *Logopedia małego dziecka*, Wydawnictwo@stecko.com.pl, Warszawa 2013, p. 11.

<sup>21</sup> One should mention, that within the framework of speech therapy preventive care conducted in schools, sometimes the introduced exercises are harmful – particularly for children who had already exhibited beyond-normative realisations of phonemes, e.g. exercises to bolster the lingual performance, consisting of licking lips are inadvisable in cases of interdental lispings.

<sup>22</sup> M. Borkowska, *Usprawnianie czynności karmienia u dzieci z mózgowym porażeniem*, [in:] *ABC rehabilitacji dzieci. Mózgowe porażenie dziecięce*, eds. M. Borkowska, Vol. 2, Wyd. Pelikan, Warszawa 1989, p. 92.

2. The significance of the proper position of a child during feeding (both natural and with a bottle), with the ability of controlling the entire body, particularly, the head and the mandible. According to Paweł Zawitkowski<sup>23</sup> the proper position allows the child to maintain a proper pattern of breathing, a normative muscle pressure of the entire body, including neck and face, as well as the appropriate position of the head in accordance to the body, allowing for easier deglutition. The appropriate way of handing the bottle in mid-line (instead from feeding from the side) prevents the asymmetric positioning of the infant's body. Specialists note the significance of proper postural-motor-skills patterns, for the proper functioning of the oro-facial apparatus, as well as, for speaking<sup>24</sup>.
3. Appropriate selection of accessories, in case of the need to bottle-feed. The shape of the teat should resemble the natural shape of the nipple, its size adjusted to the age of the infant, and the size of the holes should allow for a free flow of milk, without choking the infant with the excess of nourishment. It is significant to position the bottle in a way (in an almost perpendicular position to the infant's mouth), that would enforce protrusive mandibular movements<sup>25</sup>, therefore, preventing the perpetuation of physiological retrognathia, present at birth. One should also remember, that prolonged bottle-feeding may cause malocclusions and enhance the possibility of forming a high-arched palate<sup>26</sup>. Without

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<sup>23</sup> P. Zawitkowski, *Wczesna stymulacja rozwoju psychoruchowego dzieci urodzonych przedwcześnie*, [in:] *Noworodek przedwcześnie urodzony – pierwsze lata życia*, ed. Kornacka M.K., Wyd. Lekarskie PZWL, Warszawa 2003, p. 79.

<sup>24</sup> M. Matyja, I. Doroniewicz, *Neurorozwojowe podstawy rozwoju mowy i terapii*, [in:] *Wczesna interwencja logopedyczna*, eds. K. Kaczorowska-Bray, S. Milewski, Harmonia Universalis, Gdańsk 2016, p. 57.

<sup>25</sup> I. Karłowska, *Profilaktyka i oświata zdrowotna*, [in:] *Zarys współczesnej ortodoncji. Podręcznik dla studentów i lekarzy dentyków*, eds. I. Karłowska, Wyd. Lekarskie PZWL, Warszawa 2008, p. 315.

<sup>26</sup> G. Śmiech-Słomkowska, W. Rytłowa, *Wybrane zagadnienia z profilaktyki i wczesnego leczenia ortodontycznego*. Med. Tour Press International, Warszawa 1993, p. 16.

proper hygiene, bottle-feeding may also result in the development of the so-called bottle tooth decay, and the premature loss of deciduous teeth;

4. The necessity of keeping a feeding log (spoon-feeding from c. 4 months after birth<sup>27</sup> – as additional means of feeding, teaching to drink from a cup, introducing solids). It is advised to introduce e.g. sponge cake and bread during the emergence of incisors, i.e. at approximately 6 months<sup>28</sup>. In the second part of the first year, it is recommended to introduce solids slowly and remove baby gruel meals. Prolonged consumption of mixed products impedes the development of biting, mastication and grinding. Parents can teach drinking from a cup, when the child learns the ability to eat from a spoon. Additionally, one must remember to maintain the proper position while teaching the child to drink – without tilting the child's head back;
5. The necessity of oral cavity hygiene care, already at the infancy stage, and attending regular dentist control. In case of malocclusions, early examination and orthodontic treatment are recommended;
6. The significance of the appropriate positioning of the baby during sleep/rest in a crib or a stroller. It is recommended to lay the child flat, with the head placed on a small pillow, so that the mastication organs form properly;

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<sup>27</sup> Cf: I. Karłowska, *Profilaktyka i oświata zdrowotna*, [in:] *Zarys współczesnej ortodoncji*, eds. I. Karłowska, wyd. Lekarskie PZWL, Warszawa 2008, p. 315; The Polish Society for Paediatric Gastroenterology, Hepatology and Nutrition recommends breastfeeding only up until the 6<sup>th</sup> month, due to the nutrition value of mother's milk. Cf: H. Szajewska et al., *Karmienie piersią. Stanowisko Polskiego Towarzystwa Gastroenterologii, Hepatologii i Żywienia Dzieci*. „Pediatria”, Vol. 13, p. 9. Orthodontists and speech pathologists highlight, that introducing spoon-feeding during the 4<sup>th</sup> month is an important element of the training preparing the infant to speak, particularly to articulating labial phones; collecting the meal from the spoon requires increased lip activity in comparison to suckling.

<sup>28</sup> G. Śmiech-Słomkowska, W. Rytłowa, *Wybrane zagadnienia z profilaktyki i wczesnego leczenia ortodontycznego*. Med. Tour Press International, Warszawa 1993, p. 19.

7. The necessity of caring for the proper breathing pattern of the child (nasal). In a situation of notorious mouth breathing, an examination by the otorhinolaryngologist is recommended. The organic causes of mouth breathing require medical intervention. If an abnormal breathing pattern is caused by habit, then it is recommended to close the child's mouth, e.g. during sleep, passive or active exercises that increase the tension of the orbicularis oris muscle. Prolonged mouth breathing "(...) leads to changes in facial bone structure, primarily, the jaw, as well as, changes in the thorax"<sup>29</sup>. Thereby, such breathing pattern leads to the so-called high-arched palate, malocclusions, and in consequence, articulation impairments;
8. The harmful effects of para-functional habits (atypical, habitual exercise), such as: suckling on the bottle teat or on a thumb, pressing the tongue against lips, etc. which may cause articulation impairments and malocclusions;
9. **Caring for healthy hearing** – the necessity of immediate examination by an audiologist or an otorhinolaryngologist in case of any disturbing symptoms such as: the child not reacting to surrounding sounds, the deterioration of the formerly **normal state of hearing**, notorious and repeating infections of the upper respiratory tract, that, if untreated, may cause hearing impairment;
10. The impact of the anatomical structure of the lingual frenulum on the quality of ingestion and articulation. Even a slightly shortened frenulum may impair articulation, and cause difficulties in breastfeeding, and mastication<sup>30</sup>;
11. The significance of verbal and non-verbal contact (smile, gaze, gesture, facial expression) with the infant from the very

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<sup>29</sup> S. Iwankiewicz, *Otolaryngologia. Podręcznik dla studentów medycyny i stomatologii*, PZWL, Warszawa 1991, p. 229.

<sup>30</sup> B. Ostapiuk, *Postępowanie logopedyczne u osób z dyslalią i ankyloglosją*, [in:] *Logopedia. Standardy postępowania logopedycznego*, eds. S. Grabias, J. Panasiuk, T. Woźniak, Wyd. UMCS, Lublin 2015, p. 659.

first moments after birth. It is essential to respond to the signals sent by the infant, creating an incentive for the development of pre-linguistic, and later linguistic forms of communication. Additionally, it is important to provide correct patterns of speech/articulation. The quality and quantity of interactions with infants, affects the state of their linguist (including articulation) and communicative abilities;

12. The significance of the correct psychomotor, social and emotional development in regard to forming of speech/articulation;
13. The possibility of speech therapy consultation in case of the slightest doubts of parents or child **counsellors**, regarding the state of the child's articulation/speech, as well as, the quality of the preceding **primary activities**.

In order to prevent articulation disorders, apart from promoting information regarding the conditions of the proper articulation development, activities regarding the secondary prevention are necessary, including:

1. Early identification of children with abnormal oro-facial reflexes<sup>31</sup> in order to implement therapeutic procedures. Speech therapy consultation for children with abnormal oral cavity reflexes should take place already at neonatal wards;
2. Monitoring of the development of children from risk groups regarding the occurrence of abnormalities of linguistic communication (including articulation disorders) within early intervention. The subjects of early speech therapy intervention, are children with genetic **disorders** (e.g. Prader-Willi syndrome, Down syndrome), neurological congenital disorders, peripheral speech organ disorders (e.g. cleft palate), and children with metabolic disorders, peripheral speech organ damage that occurred in the prenatal, perinatal and early devel-

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<sup>31</sup> Among the reflexes, particularly significant in regard to speech/articulation development, one may list: suckling, deglutition, root, ryjkowy, pharyngeal, biting, mastication.

opment phases, psychomotor development retardation, sensory impairment, premature births, as well as, children whose subsequent phases of the speech development have not appeared at a proper time, however, no other developmental abnormalities were observed<sup>32</sup>;

3. Conducting screening among the youngest children that attend preschool education (therefore, children of ages between 2,5 and 3)<sup>33</sup>.

## Conclusion

The promotion of attitudes regarding speech therapy knowledge, i.e. spreading information regarding the correct development of speech and neutralising linguistic communication disorders, including articulation within the secondary prevention, should constitute a common area for the activities of speech pathologists, paediatricians, as well as, neonatologists, otorhinolaryngologists, audiologists, orthodontists, physiotherapists, nurses, midwives, pedagogues, psychologists, preschool teachers and child care counsellors. Training for future parents in childbirth schools, meetings with specialists at child care, preschools, schools, as well as, inspection visits, the so-called reviews and regular dental examination, may be a good occasion to promote such knowledge.

## Bibliography

Borkowska M., *Usprawnianie czynności karmienia u dzieci z mózgowym porażeniem*, [in:] *ABC rehabilitacji dzieci. Mózgowe porażenie dziecięce*, ed. M. Borkowska, T. 2, Wyd. Pelikan, Warszawa 1989, pp. 90-114.

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<sup>32</sup> E. Gacka, *Wczesna interwencja logopedyczna*, [in:] *W świecie logopedii. Materiały dydaktyczne*, eds. A. Podstolec, K. Węsierska, Vol. 1, Uniwersytet Śląski w Katowicach, Katowice 2012, pp. 40-41.

<sup>33</sup> Currently, preschools accept children aged 2,5 and up.

- Böhme G., *Sprach-Sprech-Stimm-Und Schlucksträngen*. Urban-Fischer. München – Jena 2003.
- Craig W.M., Pepler D.J., *Identifying and targeting risk for involvement in bullying and victimization*. „Canadian Journal of Psychiatry” 2003, vol. 28, pp. 577–582.
- Demelowa G., *Minimum logopedyczne nauczyciela przedszkola*, Wyd. Szkolne i Pedagogiczne, Warszawa 1994.
- Gacka E., Kaźmierczak M., *Przesiewowe badania mowy jako przykład działań z zakresu profilaktyki logopedycznej*, „Logopaedica Lodziensia” 2017, no. 1, pp. 31–42.
- Gacka E., *Wczesna interwencja logopedyczna*, [in:] *W świecie logopedii. Materiały dydaktyczne*, eds. A. Podstolec, K. Węsierska, Vol. 1, Uniwersytet Śląski w Katowicach, Katowice 2012, pp. 31–49.
- Gunia G., Lechta V. (eds.), *Wprowadzenie do logopedii*, Oficyna Wydawnicza Impuls, Kraków 2011.
- Gunia G., *Koncepcja i organizacja opieki logopedycznej w Polsce*, [in:] *Wprowadzenie do logopedii*, eds. G. Gunia, V. Lechta, Oficyna Wydawnicza Impuls, Kraków 2011, pp. 53–67.
- Iwankiewicz S., *Otolaryngologia. Podręcznik dla studentów medycyny i stomatologii*, PZWL, Warszawa 1991.
- Jaros I., *Trzy krzywe krzyże – cecha wymowy, błąd wymowy czy wada wymowy*, [in:] *Współczesne tendencje w diagnostyce i terapii logopedycznej*, eds. D. Pluta-Wojciechowska, B. Sambor, Harmonia Universalis, Gdańsk 2017, pp. 99–110.
- Jastrzębowska G., *Stan i perspektywy opieki logopedycznej w Polsce*, [in:] *Logopedia. Pytania i odpowiedzi. Podręcznik akademicki. Interdyscyplinarne podstawy logopedii*, eds. T. Gałkowski, G. Jastrzębowska, Vol. 1, Wyd. Uniwersytetu Opolskiego, Opole 2003, pp. 301–314.
- Kaczmarek L., *Moje dziecko uczy się mowy*, Wyd. Lubelskie, Lublin 1988.
- Karłowska I., *Profilaktyka i oświata zdrowotna*, [in:] *Zarys współczesnej ortodoncji*, ed. I. Karłowska, PZWL, Warszawa 2008, pp. 314–319.
- Łobacz P., *Prawidłowy rozwój mowy dziecka*, [in:] *Podstawy neurologopedii. Podręcznik akademicki*, eds. T. Gałkowski, E. Szelağ, G. Jastrzębowska, Wyd. Uniwersytetu Opolskiego, Opole 2005, pp. 231–268.
- Łobacz P., *Polska fonologia dziecięca. Studia fonetyczno-akustyczne*. Wyd. Energeia, Warszawa 1996.
- Łuczniński E., *Mowa a język. Podstawy językowe neurologopedii*, [in:] *Podstawy neurologopedii. Podręcznik akademicki*, eds. T. Gałkowski, E. Szelağ, G. Jastrzębowska, Wyd. Uniwersytetu Opolskiego, Opole 2005, pp. 13–42.
- Matyja M., Doroniewicz I., *Neurorozwojowe podstawy rozwoju mowy i terapii*, [in:] *Wczesna interwencja logopedyczna*, eds. K. Kaczorowska-Bray, S. Milewski, Harmonia Universalis, Gdańsk 2016, pp. 54–71.
- Michalak-Widera I., *Zaburzenia dyslaliczne u dzieci realizujących edukację elementarną – doniesienia z badań*, „Śląskie Wiadomości Logopedyczne” 2004, no. 7, pp. 29–35.

- Ostapiuk B., *Postępowanie logopedyczne u osób z dyslalią i ankyloglosją*, [in:] *Logopedia. Standardy postępowania logopedycznego*, eds. S. Grabias, J. Panasiuk, T. Woźniak, Wyd. UMCS, Lublin 2015, pp. 655–685.
- Ostapiuk B., *Standard postępowania logopedycznego w dyslalii ankyloglosyjnej*, „*Logopedia*” 2008, vol. 37, pp. 141–166.
- Pluta Wojciechowska D., *Dyslalia obwodowa. Diagnoza, i terapia logopedyczna wybranych form zaburzeń*, Wydawnictwo Ergo-Sum, Bytom 2017.
- Porayski-Pomsta J., *O rozwoju mowy dziecka. Dwa studia*, Dom wydawniczy Elipsa, Warszawa 2015.
- Porayski-Pomsta J., *Zagadnienia periodyzacji mowy dziecka*, „*Logopeda*” 2009, no. 1(7), pp. 7–31.
- Rządźka M., *Warunki prawidłowego rozwoju mowy dziecka*, online: [docplayer.pl/429465-warunki-prawidlowego-rozwoju-mowy-dziecka.html](http://docplayer.pl/429465-warunki-prawidlowego-rozwoju-mowy-dziecka.html) [access: 29.11.2017].
- Skorek E.M. (ed.), *Wielowymiarowość przestrzeni profilaktyki logopedycznej*, Uniwersytet Zielonogórski, Zielona Góra 2017.
- Skorek E.M., *Profilaktyka logopedyczna-poziomy i strategie*, [in:] *Wielowymiarowość przestrzeni profilaktyki logopedycznej*, ed. E.M. Skorek, Uniwersytet Zielonogórski, Zielona Góra 2017, pp. 51–92.
- Smoczyński P., *Przyswajanie przez dziecko podstaw systemu językowego*, Zakład im. Ossolińskich, Łódź–Wrocław 1955.
- Stecko E., *Logopedia małego dziecka*, Wydawnictwo@stecko.com.pl, Warszawa 2013.
- Szajewska H., Horvath A., Rybak A., Socha P., *Karmienie piersią. Stanowisko Polskiego Towarzystwa Gastroenterologii, Hepatologii i Żywienia Dzieci*. „*Pediatrics*” 2016, vol. 13, pp. 9–24.
- Śmiech-Słomkowska G., Rytłowa W., *Wybrane zagadnienia z profilaktyki i wczesnego leczenia ortodontycznego*. Med. Tour Press International, Warszawa 1993.
- Trzaskalik J., *O konieczności badań nad wpływem chorób układu oddechowego na wady wymowy u dzieci w województwie katowickim*, [in:] *Effata – Otwarcie. Logopedia jako nauka interdyscyplinarna i stosowana*, red. I. Nowakowska-Kempna, Uniwersytet Śląski, Katowice 1998, pp. 243–350.
- Węsierska K., *Opieka logopedyczna w przedszkolu. Profilaktyka – diagnoza – terapia*, Wydawnictwo Edukacyjne AKAPIT, Toruń 2013.
- Węsierska K., *Profilaktyka logopedyczna w ujęciu systemowym*, [in:] *Profilaktyka logopedyczna w praktyce edukacyjnej*, ed. K. Węsierska, vol. 1, Wydawnictwo Uniwersytetu Śląskiego, Katowice 2012, pp. 25–47.
- Zarębina M., *Kształtowanie się systemu dźwiękowego dziecka*, Ossolineum, Wrocław 1965.
- Zawitkowski P., *Wczesna stymulacja rozwoju psychoruchowego dzieci urodzonych przedwcześnie*, [in:] *Noworodek przedwcześnie urodzony – pierwsze lata życia*, red. M.K. Kornacka M.K., Wyd. Lekarskie PZWL, Warszawa 2003, pp. 68–86.