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VIEWS OF PEDITRICIANS ON SPEECH AND LANGUAGE DEVELOPMENT

STAVOVI PEDIJATARA O GOVORNO- JEZIČKOM RAZVOJU

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ABSTRACT

Pediatricians that, in addition to treating children's diseases, deal with early growth and development, have a special responsibility in the early detection and diagnosis of speech and language difficulties. Aim of this research was to examine pediatricians' and pediatric specialists' familiarity with speech-language development, developmental-behavioral pediatrics, opinions on acquired knowledge at the specialist study on early growth and development and to examine the importance of multidisciplinary approach and cooperation between pediatricians and speech therapists, educators and rehabilitators and psychologists. The sample was comprised of 14 specialists pediatricians and 1 pediatrics resident, who were employed in primary and secondary health care and private practice, from different cities of the Federation of B&H and Republika Srpska. Results of this research have shown that surveyed pediatricians are working with children with difficulties in speech-language development on a daily basis. Respondents have mostly correctly answered all questions related to speech-language development which indicates that they have solid knowledge in this area. Results have shown that most of the respondents is not satisfied with the knowledge obtained from specialist study on early growth and development and that they are not completely familiar with developmental-behavioral pediatrics, but all of the pediatricians have agreed that this field of sub-specialty should be included as a part of our higher education program. When it comes to a multidisciplinary approach and cooperation with speech therapists, educators-rehabilitators and psychologists, respondents support and practice a multidisciplinary approach in the detection and diagnosis of speech and language difficulties.

Key words: opinions of pediatricians, speech-language development, developmental-behavioral pediatrics.

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SAŽETAK

Posebnu odgovornost u ranoj detekciji i dijagnostici govorno- jezičkih teškoća imaju pedijatri koji se pored liječenja dječijih bolesti bave i djetetovim ranim rastom i razvojem. Cilj ovog istraživanja je ispitati znanje pedijatara i specijalizanata pedijatrije o govorno- jezičkom razvoju, poznavanje pojma razvojno- bihevioralne pedijatrije, stavove o dobivenom znanju na specijalističkom studiju o ranom rastu i razvoju, te ispitati značaj multidisciplinarnog pristupa i saradnji pedijatara sa logopedima, edukatorima- rehabilitatorima i psihlozima. Uzorak je činilo 14 specijalista i 1 specijalizant pedijatrije, koji su zaposleni u primarnoj i sekundarnoj zdravstvenoj zaštiti i privatnoj praksi, iz različitih gradova Federacije BiH i Republike Srpske. Rezultati ovog istraživanja su pokazali da se ispitani pedijatri većinom svakodnevno susreću sa djecom sa teškoćama u govorno- jezičkom razvoju. Na pitanja/ stavove o govorno-jezičkom razvoju većina pedijatara je tačno odgovorila, tj. potpuno se složila sa tvrdnjama što ukazuje da ispitani pedijatri imaju dobro znanje iz područja govorno- jezičkog razvoja. Rezultati pokazuju da većina ispitanih pedijatara nije zadovoljna dobivenim znanjem na specijalističkom studiju o ranom rastu i razvoju, te da im „Razvojno- bihevioralna pedijatrija“ nije potpuno poznata, ali su se skoro svi pedijatri složili da bi se ovakav vid subspecijalizacije trebao uvrstiti u naš sistem visokoškolskog obrazovanja. Kada je riječ o multidisciplinarnom pristupu i saradnji sa logopedima, edukatorima- rehabilitatorima i psiholozima, ispitani pedijatri podržavaju i praktikuju multidisciplinarni pristup u detekciji i dijagnostici govorno-jezičkih teškoća.

Ključne riječi: stavovi pedijatara, govorno- jezički razvoj, razvojno- bihevioralna pedijatrija

INTRODUCTION

Primary pediatric health care encompasses wholesome health care throughout person’s childhood to young adulthood and it includes health surveillance with a focus on the prevention of physical and mental health conditions; anticipatory guidance and promotion of well-being including mental health and monitoring of physical, cognitive and social growth and development (Boudreau, Hamling, Pont, Pendergrass & Richerson, 2022). Primary and secondary health care doctors are an important factor in the rehabilitation process, because they are the first to come into contact with children with neurodevelopmental risks and developmental difficulties, and their families. The doctor assesses the child’s physical and health development, sets a diagnosis, monitors the child medically and provides guidelines for early intervention programes (King, Strachan, Tucker, Duwyn, Desserud, Shillington, 2009, prema Matijaš, Bulić & Kralj, 2019). The Croatian Association for Early Intervention in Childhood (HURID) points out that the doctors, especially pediatricians, have a special responsibility in primary health care. Deviations in communication, social and language-speech development can be the first indicators that there are some more serious developmental deviations present, which experts can determine later in speech therapy and other differential diagnostic procedures (Blaži, 2016, prema Žudić, 2022). A pediatrician in the Early Intervention Team in primary health care takes care of the child, makes a working diagnosis, refers to diagnostic treatment, medically monitors the child, is connected to all health and non-health institutions, directs towards habilitation and rehabilitation, and

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monitors the child's progress (Bulić, Joković Oreb & Nikolić 2012, prema Konjarik, Španović, Jovančević, Planinić & Kostinčer- Pojić, 2016). As pediatric medicine advanced with the advent of antibiotics, vaccinations, and improvements in neonatal care after World War II, the importance of addressing the social and emotional needs of families raising children received greater attention from pediatricians, child psychologists, and child psychiatrists. Pediatricians have moved their practice from treating acute pediatric diseases towards treating chronic diseases, disabilities and behavioural and emotional problems. In 1948, the American Academy of Pediatrics established the Division of Mental Growth and Development to address the psychosocial needs of children. In 1960, the American Academy of Pediatrics established the Section on Child Development, which later became the Section on Developmental and Behavioral Pediatrics (Haggerty, Friedman 2003, prema Weitzman Baum, Fussell, Korb, Leslie, Ppinks- Franklin & Voight, 2022). This is the origin of definition that developmental behavioral pediatrics (DBP) is a certified medical subspecialty that cares for children with complex and difficult problems by recognizing the multifaceted influences on children's development and behavior and addressing them systematically. Developmental-behavioral pediatricians care for children from birth through young adulthood, including those suspected of being at risk for or known to have developmental and behavioral disorders into intervention programs. Considering aforementioned, it can be concluded that pediatricians, in additoin to treating children's diseases, also monitor the child's early growth and deevelopment, and they are indispensable members of early intervention teams. The goal of this research is to examine the knowledge of pediatricians and pediatric specialists about speech and language development, in accordance with developmental milestones from birth to five years of age, and to examine whether they are familiar with the concept of developmental-behavioral pediatrics and its effects during the life of a child who suffers from developmental or behavioral difficulties.

MATERIAL AND METHODS

Sample of participants

Initially, 26 pediatricians were contacted for the needs of this research, out of which 15 accepted to be a part of the research (14 pediatricians and pediatrics resident).
All the respondents are employed in primary and secondary health care and come from different cities in Bosnia and Herzegovina (both Federation of B&H and Republic of Srpska)

Measuring instruments

For the needs of this research we have constructed a *questionnaire for examining views of pediatricians on speech and language development*. Questionnaire was constructed according to the model of developmental milestones in speech-language development recommended by an American Speech-Language-Hearing Association (ASHA), and questions related to developmental-behavioral pediatrics were based on the literature reviewed. Questionnaire consisted of 22 questions and it was delivered to the respondents via their personal emails. Questionnaire had three sections. First section was related to demographic data (age, gender, institution of employment and place of employment). Second section was related to questions

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about speech-language difficulties and views on speech-language development from child's birth to fifth year of age.

Third section was related to views and questions on developmental-behavioral pediatrics and knowledge related to early growth and development, acquired at specialist study, and opinions about significance of multidisciplinary approach and cooperation with speech therapists, defectologists and psychologists.

Data processing methods

The data was processed using the statistical program SPSS 20.0. In the statistical processing of the data, the frequency of the results was calculated.

RESULTS AND DISCUSSION

Table 1 shows that age of the respondents was between 25 and 55 years where 1 respondent, or 6.7%, was in age group from 25 to 35, 9 respondents, or 60%, were between 35 and 45, 4 respondents were between 45 and 55, while 1 respondent, or 6 .7% at the age of over 55.

Table 1. Frequency of the respondents in relation to age

Age	N	Valid percent	Cumulative percent
25 - 35 years	1	6,7	6,7
35 - 45 years	9	60,0	66,7
45 - 55 years	4	26,7	93,3
over 55 years	1	6,7	100,0
Total	15	100,0	

Out of a total of 15 surveyed pediatricians, 2 respondents or 13.3% were male respondents, while 13 respondents or 86.7% were female respondents.

Table 2. Frequency of the respondents in relation to gender

Gender	N	Valid percent	Cumulative percent
Male	2	13,3	13,3
Female	13	86,7	100,0
Total	15	100,0	

Out of a total of 15 respondents, 14 or 93.3% were pediatric specialists, while 1 respondent or 6.7% was a doctor – pediatrics resident (table 3).

Table 3. Frequency of the respondents in relation to professional title

Professional title	N	Valid percent	Cumulative percent
Pediatric specialist	14	93,3	93,3
Doctor – pediatrics resident	1	6,7	100,0
Total	15	100,0	

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Table 4 shows that 10 respondents, or 66.7%, are employed in health centers, 4 respondents, or 26.7%, are employed in a hospital, while 1 respondent, or 6.7%, is employed in private practice (table 4).

Table 4. Frequency of the respondents in relation to employment institution

Employment institution	N	Valid percent	Cumulative percent
Health center	10	66,7	66,7
Hospital	4	26,7	93,3
Private practice	1	6,7	100,0
Total	15	100,0	

Results shown in table 5 indicate that 7 respondents or 46.7%, sometimes treat children with speech development difficulties, while 8 respondents or 53.3% have daily encounters with children with speech development difficulties.

Table 5. Frequency of answer to the question: Do you encounter children with speech development difficulties in your work daily?

	N	Valid percent	Cumulative percent
Sometimes	7	46,7	46,7
Daily	8	53,3	100,0
Total	15	100,0	

Observing the frequency of responses to the question "What difficulties in speech development have you encountered or are you encountering", 4 respondents or 26.7% answered that they encounter children with difficulties in pronouncing sounds, while 9 respondents or 60% answered that they encounter children with delayed speech and language development, while 2 respondents or 13.3%, answered that they are experiencing a disorder of speech fluency. Based on the answers, it can be concluded that the surveyed pediatricians mostly encounter children with delayed speech and language development (table 6).

Table 6. Frequency of answers to the question "What difficulties in speech development have you encountered or are you encountering?

	N	Valid percent	Cumulative percent
Difficulties in pronouncing sounds	4	26,7	26,7
Slow speech-language development	9	60,0	86,7
Speech fluency disorder	2	13,3	100,0
Total	15	100,0	

Observing the frequency of answers to questions/views about speech and language development, the majority of pediatricians answered correctly and completely agreed with the statements.

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In the first question/claim, only 1 respondent did not answer the question/claim correctly, 3 respondents (20%) partially agreed, while 11 respondents (73.3%) answered the question correctly. In the second and third question/claim, 3 respondents (20%) partially agreed with the stated question/claim, while 12 respondents (80%) completely agreed with the statement, i.e. they answered the question/claim correctly. To questions/points 4 and 5, all pediatricians (100%) answered the questions/claims correctly. On the sixth question/claim, 2 respondents (13.3%) partially agreed with the claim, while 13 respondents (86.6%) completely agreed, i.e. answered correctly. On the seventh question/paragraph, 3 respondents (20%) partially agreed with the claim, while 12 respondents (80%) completely agreed with the claim, i.e. answered the question correctly. From the above, it can be concluded that most of the surveyed pediatricians answered the questions/claims correctly, and that they are well aware of the milestones of children's speech and language development from birth to age five (table 7).

Table 7. Frequency of pediatricians' views on speech and language development

Questions/ Claims	I do not agree N %	I partially agree N %	I completely agree N %
1. From birth to the third month, a child should coo and use his voice depending on his needs	1 6,7%	3 20%	11 73,3%
2. A child of 4 to 5 months should move his eyes towards the source of the sound, react to changes in the voice, notice toys that make sounds, coo and babble when it is alone or playing	-	3 20%	12 80%
3. A child from 7 months to 1 year should look at things shown to it, turn to its name when called, understand words for objects, react to the words "NO", "COME", say one or two words, e.g. "MOM DAD"	-	3 20%	12 80%
4. A child between the ages of 1 and 2 should be able to show several parts of the body, understand simple commands, point to pictures in books, use several new words, respond to questions, put two words together in a phrase, e.g. "MORE APPLES", " I DON'T WANT A BED", "MOM, A BOOK".	-	-	15 100%
5. A child between the ages of 2 and 3 needs to understand opposites, e.g. "START - STOP", "BIG - SMALL", perform more complex commands, e.g. "TAKE A SPOON AND PUT IT ON THE TABLE", constructs sentence from one or two words, people understand it	-	-	15 100%
6. A child aged 3 to 4 should answer the call if someone calls him from another room, understand and name colors, understand relationships in the family (brother, grandmother, aunt), use the plural for words, combine 4 words in a sentence, talk about the day's events, use four sentences at once	-	2 13,3%	13 86,7%
7. A child aged 4 to 5 should be able to tell short stories, pronounce all sounds correctly, name letters and numbers, maintain a conversation, communicate with younger children	-	3 20%	12 80%

To the question "If you are in a situation where an 18-month-old child still does not have its first words, does not understand simple commands, what will you do?", 4 respondents (26.7%) answered that they would advise the parents on how to encourage speech and language development, while 11 of the respondents (73.3%) would refer the child and parents

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to speech therapy treatment and would consult other specialists, e.g. ENT, neuropediatrician, psychologist. Based on the above, it can be concluded that most pediatricians practice a multidisciplinary approach when encountering children with speech and language difficulties (table 8).

Table 8. Frequency of answers to the question "If you are in a situation where an 18-month-old child still does not have its first words, does not understand simple commands, what will you do?

	N	Valid Percent	Cumulative percent
Advise parents on how to encourage speech-language development	4	26,7	26,7
Refer the child and parents to speech therapy treatment and would consult other specialists, e.g. ENT, neuropediatrician, psychologist	11	73,3	100,0
Total	15	100,0	

Table 9 shows the frequency of responses to the question about difficulties from the autism spectrum. With the statement that children on the autistic spectrum have difficulties in the development of communication, difficulties in social interactions and repetitive behavior/limited interests, 2 respondents (13.3%) partially agree, while 13 respondents (86.7%) completely agree, i.e. correct have answered the question. Based on the results, it can be concluded that most pediatricians know and can recognize difficulties from the autistic spectrum.

Table 9. Frequency of answers to the question: "Children on the autistic spectrum have difficulties in the development of communication, difficulties in social interactions and repetitive behavior/limited interests"

	N	Valid Percent	Cumulative percent
Partially agree	2	13,3	13,3
Completely agree	13	86,7	100,0
Total	15	100,0	

Table 10 shows the frequency of responses to the statement that respondents acquired a lot of knowledge in the field of early growth and development during their specialist studies. 4 respondents (26.7%) disagree with this position, 9 respondents (60%) partially agree, while 2 respondents (13.3%) completely agree. Based on this, it can be concluded that the majority of respondents are partially satisfied with the knowledge of early growth and development that they acquired at the specialist study, while 4 respondents declared that they did not receive much knowledge in the field of early growth and development, which is a higher number compared to those respondents who completely agreed that they received a lot of knowledge in the field of early growth and development.

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Table 10. Frequency of responses to the statement: "During my specialist studies, I gained a lot of knowledge in the field of early child growth and development"

	N	Valid Percent	Cumulative percent
I do not agree	4	26,7	26,7
I partially agree	9	60,0	86,7
I completely disagree	2	13,3	100,0
Total	15	100,0	

To the question "Are you familiar with the name "Developmental Behavioral Pediatrics" 4 respondents (26.7%) answered that they were not familiar with that name, 7 respondents (46.7%) had heard that name somewhere, while 4 respondents (26.7%) answered that they are completely familiar with the name developmental-behavioral pediatrics. It can be concluded that the examined pediatricians are not completely familiar with the name developmental-behavioral pediatrics, considering that the largest number of pediatricians answered that they had heard of this name somewhere (table 11).

Table 11. Frequency of answers to the question "Are you familiar with the name "Developmental-behavioral pediatrics"?

	N	Valid Percent	Cumulative percent
No I am not	4	26,7	26,7
I have heard that term somewhere	7	46,7	73,3
I am completely familiar with the term	4	26,7	100,0
Total	15	100,0	

Table 12 shows the results of the answers to the question of whether pediatricians know what developmental-behavioral pediatrics does. Four respondents (26.7%) do not know what DBP does, 7 respondents (46.7%) answered that they partially know and 4 respondents (26.7%) answered that they are fully aware of what DBP does. Based on this, we can conclude that most pediatricians are not completely familiar with the field of DBP and that this field is still unknown in our community.

Table 12. Frequency of responses to the question "Do you know that Developmental-behavioral pediatrics deals with children and adolescents, from birth to young adulthood continuously, who are suspected to be at risk or who are known to have developmental disorders and behavioral disorders"

	N	Valid percent	Cumulative percent
I am not familiar	4	26,7	26,7
I am partially familiar	7	46,7	73,3
I am completely familiar	4	26,7	100,0
Total	15	100,0	

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Table 13 shows the results of the answers to the question whether in the future pediatricians would like to exclusively deal with children and adolescents with behavioral difficulties and problems. 6 respondents (40%) answered that they would not like to work in the field of developmental-behavioral pediatrics, while 9 respondents (60%) answered that they would consider it. Based on the above, it can be concluded that none of the respondents answered this question affirmatively.

Table 13. Frequency of responses to the question "In the future, would you like to deal exclusively with children and adolescents with developmental difficulties and behavioral problems?"

	N	Valid percent	Cumulative percent
No I would not like to do this	6	40,0	40,0
I would thing about it	9	60,0	100,0
Total	15	100,0	

Table 14 shows the frequency of responses to the question whether respondents believe that DBP as a sub-specialization should be included in our system of higher education, given that pediatricians in their practice encounter children with developmental disabilities, 2 respondents (13.3%) declared that this type of sub-specialization should not be included in our system of higher education, while 13 respondents (86.7%) declared that this type of sub-specialization should be included in the system of higher education. On the basis of the above, it can be concluded that the majority of the examined pediatricians responded affirmatively regarding this issue.

Table 14. Frequency of answers to the question "Do you think that this type of sub-specialization should be included in our system of higher education, considering that in your practice you have encountered, and still encounter, children with developmental disabilities?"

	N	Valid percent	Cumulative percent
No, it should not	2	13,3	13,3
Yes it should	13	86,7	100,0
Total	15	100,0	

The last question of the questionnaire was how much a multidisciplinary approach to children with developmental disabilities and cooperation with special education teachers, psychologists and speech therapists means to pediatricians. All respondents (100%) answered that a team approach is necessary in detection, diagnosis, rehabilitation and continuous monitoring of growth and development in order to achieve the best possible progress in all of the child's developmental areas.

Early detection of language and speech delays is based on knowledge of developmental patterns (Feldman, 2019). In this research, the examined pediatricians showed that they are well aware of speech-language milestones from birth to five years of age. Pediatricians are on the front line of primary, secondary and tertiary prevention of language and speech disorders. Primary prevention, like immunization, prevents the condition from occurring.

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Secondary prevention requires early detection and treatment of the disorder in order to result in a milder variant than would otherwise occur, while tertiary prevention may not change the disorder but improves the functional outcomes of children (Simeonsson, 1991, according to Feldman, 2019). Due to the long wait for consultations with a speech therapist, Canadian pediatricians have developed a tool that aims to help doctors in early and accurate recognition of speech development delays, thereby empowering parents to create a rich and stimulating language environment at home. By using this tool in conjunction with the Canadian Pediatric Society's Read, Speak, Sing and Develop Literacy initiative, clinicians are better positioned to provide users with practical strategies to improve children's speech and language abilities. The tool presents a strategy for assessing speech and language delays, shows age-specific language/phonetic milestones and suggests intervention (Moharir, Barnett, Taras, Cole, Ford-Jones & Levin, 2014). Žudić (2022), examining pediatric residents in assessing their own readiness to recognize deviations in early communication development and what their views are about the inclusion of primary pediatricians in the screening system for autism spectrum disorders, the participants agreed that primary pediatricians should be able to recognize deviations in communication children of an early age and that due to good communication with parents they have good prerequisites for monitoring clinical indicators of suspected autism spectrum disorders. Also, Žudić (2022) states that primary pediatric outpatient clinics lack protocols for systematic monitoring of clinical indicators of suspected disorders, and that participants reported that more time should be devoted to content on the characteristics of communication in children aged 0-3 years during the course of the study. The results from this research can be linked to the aforementioned statement as the examined pediatricians mostly partially agreed that they had received enough knowledge about early growth and development at their residency in pediatrics, and they mostly declared that the field of developmental - behavioral pediatrics education should be included in the higher education system, given that in their work they encounter children with developmental disabilities.

CONCLUSION

The results of this research indicate that the surveyed pediatricians mostly encounter children with difficulties in speech-language development on a daily basis, most often, children with delayed speech-language development, somewhat less children with difficulties in pronouncing sounds, and least often children with disorders fluency of speech. The majority of pediatricians answered the questions/statements about speech-language development correctly, i.e. they completely agreed with the statements, which indicates that the examined pediatricians have good knowledge in the field of speech-language development. Also, it can be concluded that the examined pediatricians mostly support and practice a multidisciplinary approach in the detection and diagnosis of speech and language difficulties. When it comes to children with difficulties from the autistic spectrum, the majority of the examined pediatricians correctly answered the statement that children from the autistic spectrum have difficulties in the development of communication, difficulties in social interactions and repetitive behavior/limited interests, therefore, we can conclude that the examined pediatricians have a good knowledge in the field of this developmental difficulty.

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With the statement that the respondents received enough knowledge about early growth and development during their residency, a larger number of respondents partially agreed and disagreed with it, while a very small number of respondents completely agreed that they received enough knowledge about early growth and development, therefore it can be concluded that most of the examined pediatricians are not satisfied with the knowledge obtained at the residency. Developmental behavioral pediatrics as a field of pediatrics and its effects in childhood is still not completely known to the examined pediatricians, and almost all pediatricians agreed that this type of sub-specialization should be included in our system of higher education, considering that pediatricians encounter children with difficulties at an early growth and development, but none of the examined pediatricians affirmatively declared that in the future they would like to deal exclusively with children and adolescents with behavioral difficulties and problems.

Pediatricians are indispensable and the most important members in the process of early detection and diagnosis of developmental, in this case speech-language difficulties, and represent the most important link when referring children to speech therapy treatments. By monitoring developmental speech-language indicators and cooperating with a speech therapist, psychologist, educator-rehabilitator, deviations in speech-language development in children from birth can be recognized and detected in a timely manner, and therefore referred to speech therapy treatment, i.e. early intervention. Limitation of this research is the sample size, therefore similar research should be done in the future with a larger sample. The significance of this research is that, based on the review of the available literature, there is not enough data on the views and knowledge of pediatricians about speech and language development. The results of the answers about the knowledge gained at the residency the field of early growth and development and the inclusion of DBP in the system of higher education can be used in some other researches, the results of which could be sent to the relevant Ministries so that in some future period they could consider changing already existing plans and programs of residency studies, and that more attention should be pointed to the area of early growth and development, early detection and diagnosis of deviations in developmental areas, and that each primary health care form available Centers for early growth and development in which pediatricians will collaborate with speech therapists, educators-rehabilitators and psychologists, i.e. multidisciplinary action according to the needs of each child of preschool age.

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