An Online Informational Website as a Support Tool for Families with Children Suffering from Juvenile Idiopathic Arthritis

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Abstract

There is insufficient dissemination of easily accessible reliable information for patients with juvenile idiopathic arthritis (JIA) in their native language on the Internet. Although there are various medical articles and scientific publications about JIA, many of them are presented in complex language, medical terminology and are intended for specialists. Aim: to design and develop an informational website for children with juvenile idiopathic arthritis and their families. The software used to realise this work: Visual Studio Code, HTML, CSS, JavaScript, Figma.com, wireframe.cc. Results and conclusion. The informative website was developed from January to May 2025 during the IT student's bachelor thesis in close collaboration with pediatric rheumatologists and resident doctors of the Pediatric Department of Lithuanian University of Health Sciences, who took care of the quality of literacy on the website. As the result of this multidisciplinary work, a website called *imunovaikai.lt* was created. Congnitive value: the evidence-based but easy-to-understand informational material in native language, as provided on the website *imunovaikai.lt*, should create a health literacy environment that promotes understanding and engagement, which can lead to better adherence to treatment regimens and reduced emotional distress.

Keywords: juvenile idiopathic arthritis, paediatric rheumatology, website, designing and programming, e-learning.

Introduction

Information technology is developing rapidly and is becoming an integral part of everyday life. The Internet provides access to a wide range of information, so more and more people are searching for relevant information online. The availability of reliable information on rare diseases, especially in the field of children‘s health, is limited. Many parents and patients have difficulty finding reliable information about rare diseases, including juvenile idiopathic arthritis (JIA).

Problem. There is insufficient dissemination of easily accessible reliable information about this disease on the Internet. Although there are various medical articles and scientific publications about JIA, many of them are presented in complex language, medical terminology and are intended for specialists. Scientific literature and medical articles about JIA are often difficult to understand for the general public - presented in complex language, medical terminology and are intended for specialists, but not adapted to solve practical problems that patients face every day. For this reason, many parents, caregivers and patients are left without clear information about the disease and its management. The website presented in this article will provide accurate and reliable information understandable to non-medical people about childhood arthritis, its symptoms, treatment options and advice for everyday life. It is intended to become a useful resource for patients, their parents, doctors and the public.

Changing Attitudes to Illness Influence Changes in Communication with Patients

As medicine has evolved, attitudes towards disease and its perception has changed. In the 19th century, the biomedical model, which quantifies the human body and its functions, was dominant. Disease was characterised only in medical terms because the model was based on the natural science paradigm, which emphasises accurate and objective diagnoses (Leonavičius, Večorskytė, 2018). In the 20th century, attention shifted to chronic diseases because medicine had become successful in treating acute infectious diseases, which were less likely to cause death. The biopsychosocial model (BPSM) (Engel, 1977) arose to treat chronic diseases. This model is based on a complex combination of biological and psychosocial dimensions of medicine. It provides an understanding of the interplay between biological, psychological, sociocultural, and spiritual factors. Self-management of patients' illnesses is reinforced through dynamic physician-patient relationships and multidisciplinary approaches to patient care (Kusnanto et al., 2018; Engel, 1977).

A person with a chronic disease has a lifelong illness, and must adapt to it and learn to live with it. A chronic illness can substantially limit the patient's activities, independence, even change the character, and affect relationships with others (Aušiūraitė, Pileckaitė-Markovienė, 2013). Sick people experience a double risk: it is not only the biomedical disorders caused by the chronic illness, but also the so-called social experience of the sick person. Chronic illness affects the patient's life by reducing the sick person's time and financial resources (Leonavičius et al., 2014). Family members also experience negative emotions, such as anxiety and fear (Aušiūraitė, Pileckaitė-Markovienė, 2013).

According to Bolton (2023) "over the past few decades, substantial evidence has accumulated supporting the BPSM". The biopsychosocial approach aims to empower patients to take an active role in managing their illness. This is facilitated by multidisciplinary approaches to chronic disease management, which help to empower patients to manage their chronic disease and reduce the associated emotional distress. They can be implemented through a range of effective self-management, behavioural and cognitive tools (Kusnanto et al., 2018). Modern technologies applicable to this multidisciplinary solution include information retrieval, data processing and communication tools. Rare diseases, including juvenile idiopathic arthritis (JIA), remain one of the areas where information availability is limited. One important approach is to focus on health literacy, particularly in the area of child care. It is essential for healthcare providers to recognise barriers to clear communication and to develop effective patient education materials that are accessible to both patients and their families. This includes creating a health literacy environment that promotes understanding and engagement, which can lead to better adherence to treatment regimens and reduced emotional distress in the long term (Connelly, Turner (eds.), 2017). For this reason, there is a growing need for the development of specialised online platforms. Specialised online resources can significantly improve parents' and carers' understanding of juvenile arthritis by providing accessible, reliable and tailored information. A study by Kulasingham et al. (2022) assessing the readability and reliability of online patient and parent information on jia demonstrated the need for easy-to-understand material. It found that while such information is available, it often does not meet recommended standards of readability or reliability, indicating a gap that needs to be addressed to better help parents understand their child's condition. For patients themselves, comprehensible information is also important (Kulasingham et al., 2022).

According to Roberts (2023) "the biopsychosocial model (BPSM) is increasingly influential in medical research and practice. Several philosophers and scholars of health have criticised the BPSM for lacking meaningful scientific content". According to the authors, providing medical information to patients and their families raises the issue of responsibility and professionalism of the content author (Roberts 2023; Ghaemi 2010; McLaren 2021; Bolton and Gillett 2019). Irregular discourse on BPSM can become a source of questionable claims in medicine. According to Roberts (2023) "fixing the problems associated with wayward discourse will likely require reimposing conceptual rigour on BPSM discourse where it has been lost. It is reasonable enough to "take a biopsychosocial perspective" on some illness, or to use the BPSM as a tool for presenting existing research findings. However, the limitations of the BPSM should be kept at the forefront of the discussion." Thus, on the one hand, information providers should take responsibility for the reliability of the content they provide, and content users should be able to critically evaluate various sources of information, and on the other hand, healthcare professionals should advise the patient and direct them to appropriate, reliable sources of information.

In summary, it can be stated that the realisation of the goal of the modern biopsychosocial approach (i.e., to provide patients with the opportunity to actively participate in managing their diseases) is largely ensured by the application of modern technologies in communication between the doctor and the patient (and his family members). The task becomes multidisciplinary not only because it is based on a complex combination of biological and psychosocial dimensions of medicine, i.e., an understanding of the interaction of biological, psychological, sociocultural and spiritual factors, but also because additional dimensions are used to realise and ensure communication. I.e., the capabilities of modern information technologies (IT), which are realised and ensured by the help of IT specialists and the information literacy of the target group (patients with chronic diseases and their family members) (the ability to choose appropriate sources of information based on scientific research).

Characteristics of Juvenile Idiopathic Arthritis

Juvenile idiopathic arthritis (JIA) is one of the most common chronic rheumatic diseases in children, occurring before the age of 16. JIA is diagnosed when arthritic symptoms last for more than six weeks and their etiology is unknown. This disease can manifest in various types, each with different clinical features and course. The incidence of different types of JIA can vary depending on geographical location and ethnic groups (Doya, Bijow, Dayoub, 2020). Studies show that JIA can cause not only joint inflammation, but also growth retardation, which is a serious complication in children. A study of 155 children with JIA found that 25.81% of children experienced growth retardation. The main risk factors for growth impairment were long duration of illness, low physical activity, glucocorticoid use and active disease course (Zhang et al., 2025). In addition, this disease can have widespread psychological and social consequences for children, affecting their daily lives, learning and emotional well-being, so it is important to pay attention to these aspects when treating and supporting children and their families. Research suggests that children diagnosed at a younger age may have better psychosocial adaptation than children diagnosed later, but this does not mean that they are protected from psychological difficulties (April et al., 2013; Jeppesen et al., 2012).

JIA treatment typically involves nonsteroid anti-inflammatory drugs (NSAIDs) and disease-modifying antirheumatic drugs (DMARDs), including biologic therapies. The availability and use of biologics in the treatment of JIA has increased in recent years, contributing to improved JIA outcomes for many patients (Yalamanchili et al., 2025). However, the effectiveness of treatment is highly dependent on early diagnosis, adherence to the treatment plan, and the individual patient's response (Chhabra et al., 2020).

The Problem of Access to Information

Although there is a wide range of medical articles and scientific publications on JIA, many of them are written in complex language and are dominated by medical terminology, as they are primarily intended for professionals. Patients and their families often face difficulties in interpreting this information and applying it to their daily lives. Research shows that parents caring for children with JIA face medical, emotional, financial, and social challenges that not only affect their well-being but also family relationships (Silim, et al., 2025). Research shows that most children with JIA can attend school but often need adaptations and special support to fully participate in the learning process. Because JIA is a disease that is not widely known in the public, schools lack resources and information on how to help children. A UK-wide school-based tool to help teachers understand JIA and provide the necessary support has already reached over 100,000 families, but this shows that a lack of information is still a problem (Beesley, 2023). In addition, in some countries, there is still a lack of information in the national language, which further complicates understanding and management of the disease (Fusama, et al., 2025). For patients with chronic diseases and their families, understanding the disease is an important aspect. It determines the success of disease management and health-related quality of life. Healthcare professionals play a key role in providing reliable information about specific chronic diseases (Pociūtė, et al., 2024; Aušiūraitė, Pileckaitė-Markovienė, 2013; Leonavičius et al., 2014). It is important to mention that digital health tools can significantly contribute to patient education and awareness. Online platforms, the use of mobile applications, and virtual consultations can help patients and their families to access reliable information and support more easily (Butler et al., 2024). Examples of such websites include:

- PRINTO (https://www.printo.it/pediatric-rheumatology/) is a website of the Paediatric Rheumatology INternational Trials Organisation (PRINTO) that provides multilingual access to information on pediatric rheumatic diseases. It provides diagnostic, treatment and brief guidelines for daily living with the disease, adapted to different age groups. However, there is a lack

of regularly updated information on the latest treatments and behavioural recommendations for some diseases. In addition, there are no video lessons or other interactive tools to facilitate the absorption of information.
- JAR Project (https://www.jarproject.org/home). This website focuses on research on juvenile arthritis and information for patients and their families. It provides concise evidence-based medical information about JIA, clinical trials, and patient experiences. The website also includes interactive features and video tutorials to help users understand the medical information more easily, however, the information provided is only available in English and is primarily aimed at UK patients.
- Children's Arthritis Association (https://vaikuartritas.lt/#about) is a website focusing on psychological and social support for families with children suffering from juvenile arthritis, seminars, training for parents, teachers, and doctors, and collecting financial support.

Requirements for the information platform:
- Easy to understand and clear content: the information provided must be in plain language, without excessive use of medical terminology.
- Interactive elements: features should be integrated to make it easier for patients and their families to find the information they need.
- Design adaptability: it is important to ensure that the website is optimised for computers and mobile phones.
- Keeping content up-to-date: the information provided should be regularly reviewed and updated based on the latest research.

To ensure that an information website meets the needs of its users, it is important to take into account their experience and expectations. Based on user experience studies, the platform should include the following features:
- An easily navigable menu with clearly arranged information.
- Customised sections for parents and carers, patients, and healthcare professionals.
- Visual illustrations to enhance understanding of texts.
- Self-assessment tool to evaluate disease management preparedness.

Website imunovaikai.lt

Customer needs analysis. The customer wants an information website for juvenile idiopathic arthritis (JIA), which would be useful for three main target groups – patients (children and adolescents), their relatives and doctors. The website should be:
- Accessible to everyone without logging in, but the content should be divided into user groups.
- For children – understandable, visual, friendly information, video lessons, emotional support.

- For parents – reliable, detailed information about the disease, practical advice, contacts.
- For doctors – structured, science-based material, treatment methodologies, professional resources.
- The website administrator will be able to manage the content: create, edit pages, upload files, manage menus.

The functional requirements of the information website have been implemented(fig.1):

- Displaying images – the ability to see thematic images on the page (e.g. sanatoriums, physiotherapy).
- Viewing information – text blocks about the disease, help, communities.
- Downloading a test – a self-assessment test for readiness for independent disease management.
- FAQ functionality – clicking on a question provides the answer.
- Educational videos – the ability to watch lessons on how to use prescribed medications.

The non-functional requirements of the informational website have been implemented:

- Navigation – clear menu bar with sections: About us, About the disease, Help, For patients, Contacts.
- Browser compatibility – operation is ensured in all modern browsers.
- Structuring – HTML semantic tags (section, header, nav, etc.) are used correctly.
- Accessibility – alt descriptions are specified for images.
- Design/UX – simple, visually clear structure.
- Language – content is presented in Lithuanian, oriented towards Lithuanian users.

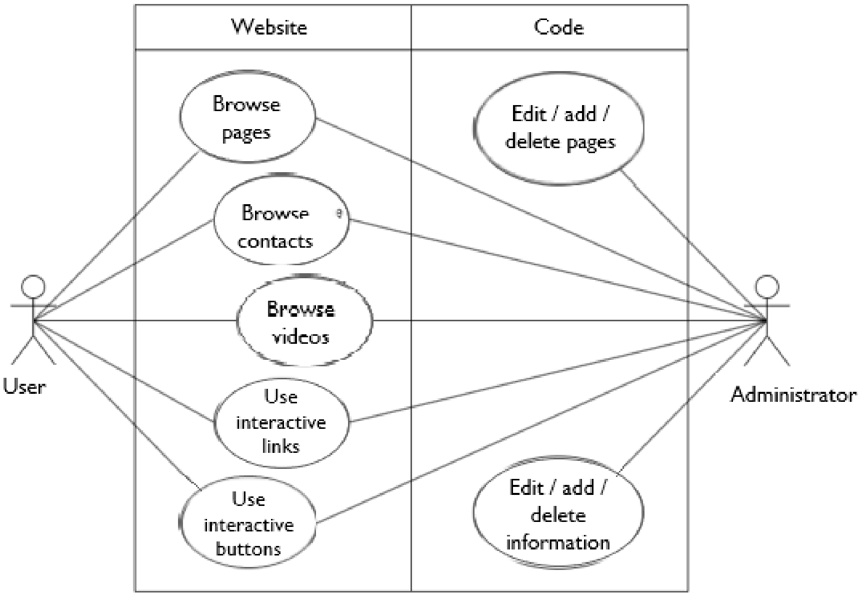

Figure 1.
Use case diagram (Janavicius, 2025).

Principle of system operation. The main principle of the site's operation is the presentation of content according to target user groups (children, parents, doctors), so that each visitor can quickly find relevant information (fig. 2).
Main aspects of operation:

- **Static content** – information is presented on static HTML pages adapted to different user groups.
- **Navigation** – in the top menu, the user can easily navigate to individual information sections ("About the disease", "Help", "For patients", "Contacts", etc.).
- **File download** – a self-test can be downloaded in PDF format.
- **Visual communication** – images, videos and clearly structured text are used to make it attractive to users of all age groups.
- The system is implemented using HTML/CSS/JS, therefore it does not require server-side programming – it works as a static website hosted on a web server or cloud platform.

In the BPSM model for the treatment of juvenile idiopathic arthritis, doctors communicate with patients and their relatives in a language they understand. Examples of medical and patient text are given in the table (Table1).

The essential requirements for immunovaikai.lt are the following: the content must be presented in a clear, easy-to-understand language, interactive elements must be included to make it easier to find and absorb information, the design of the website must be adapted to both computers and mobile devices, and the content must be continuously updated to reflect the latest medical science.

Table 1. Medical and patient-oriented texts:

Medical text	Patient-oriented text
The aetiology of JIA is unknown.	The cause of juvenile idiopathic arthritis is unknown.
JIA pathogenesis is characterised by a dysregulated interplay between innate and adaptive immune responses, culminating in synovial hyperplasia and chronic inflammation. Aberrant antigen presentation, potentially mediated by HLA class II alleles, primes autoreactive $CD4^+$ T lymphocytes, which trigger a cascade involving Th1 and Th17 polarisation, with concomitant overproduction of pro-inflammatory cytokines IL-1β, IL-6, TNF-α. Concurrently, impaired regulatory T cell function and epigenetic modifications within synovial fibroblasts potentiate a feed-forward loop of joint-specific inflammation and pannus formation, ultimately driving articular cartilage degradation and subchondral bone erosions.	What happens in a joint if you have juvenile idiopathic arthritis (JIA)? JIA happens when a child's immune system, which usually fights off infections, starts attacking the body's own joints by mistake. This causes the joints to become swollen, warm, and painful. Certain genes may make this more likely to happen. Special cells in the immune system send out signals that cause inflammation, and the body can't stop this process properly. Over time, this ongoing inflammation can damage the joints.

A low-detail prototype was developed in response to the client's requirements, with 6 main sections: ‚Home', ‚About us' (APIE MUS), ‚About the disease' (APIE LIGĄ), ‚Help' (PAGALBA), ‚For patients' (PACIENTAMS), and ‚Contact' (KONTAKTAI) (Fig. 2). Each of these is structured in detail according to specific types of information and services, such as video material on the use of medicines, psychological support options, clinical trials, or patient organisations. This structure will help to ensure that the site is intuitive to navigate, that relevant information is accessible, and that it meets the expectations of different users (Fig. 2).

Figure 2. *Website imunovaikai.lt - a working version is being prepared.*

In summary, the website immunovaikai.lt is based on BPSM, scientifically validated data on JIA, and the information is presented in a language that is easy to understand for patients with chronic disease and their family members. Currently, the final work is being carried out. The website immunovaikai.lt will be available on the website of the Lithuanian University of Health Sciences.

Conclusions

The biopsychosocial model of chronic disease management is based on a sophisticated combination of the biological and psychosocial dimensions of medicine, i.e., an understanding of the interplay between biological, psychological, socio-cultural, and spiritual factors, where self-management of patients' illnesses is reinforced through a dynamic physician-patient relationship and a multidisciplinary approach to patient care. BPSM was developed as an alternative to the traditional biomedical model. The aim of the biopsychosocial approach is to empower patients to take an active role in the management of their illness.

A multidisciplinary solution is also needed to develop an appropriate communication tool between physicians and patients (and their families) to provide professional medical information about juvenile idiopathic arthritis in a language that patients can understand. The informative website was developed from January to May 2025 during the IT student‘s bachelor thesis in close collaboration with pediatric rheumatologists and resident doctors of the Pediatric Department of Lithuanian University of Health Sciences, who took care of the quality of literacy on the website. As the result of this multidisciplinary work, a website called imunovaikai.lt was created. It contains informational material about pediatric rheumatological conditions and resources to support families, such as centres of rare diseases in Lithuania and worldwide, patient organisations, webinars, and possibilities to join clinical trials. We provide the evidence-based information about arthritis, its diagnostics and management, administration of drugs, transition to adult age, resources to physiotherapy and rehabilitation, as well as emotional support.

Providing medical information to patients and their families raises the question of the responsibility and professionalism of the author. Incorrect BPSM discourse can be a source of questionable medical claims. Therefore, further research into the solution presented in this paper is necessary.

Cognitive value. The evidence-based but easy-to-understand informational material in native language, as provided on the website imunovaikai.lt, should create a health literacy environment that promotes understanding and engagement, which can lead to better adherence to treatment regimens and reduced emotional distress.

References

April, K. T., Cavallo, S., & Feldman, D. E. (2013). Children with juvenile idiopathic arthritis: are health outcomes better for those diagnosed younger? *Child: care, health and development*, 39(3), 442-448.

Ausiuraite, S., Pileckaite-Markoviene, M. (2013). Lėtine liga sergančio asmens šeimos suaugusiųjų narių pasitenkinimo gyvenimu ir jo išteklių ypatumai (Life satisfaction and its resources among adults having family member with chronic disease). *Visuomenės sveikata*, 1(60), 106-114.

Beesley, R. (2023). Op0160 Supporting Children and Young People with Juvenile Idiopathic Arthritis in Schools, Colleges and Other Educational Settings Through School Toolkits. *Annals of the Rheumatic Diseases*, 82, 106.

Bolton, D. (2023). A revitalized biopsychosocial model: core theory, research paradigms, and clinical implications. *Psychological medicine*, 53(16), 7504-7511.

Bolton, D., and G. Gillett. 2019. *The Biopsychosocial Model of Health and Disease: New Philosophical and Scientific Developments*. Palgrave MacMillan. (https://library.oapen.org/handle/20.500.12657/22889)

Butler, S., Sculley, D., Santos, D., Gironès, X., Singh-Grewal, D., & Coda, A. (2024). Development and Delivery of an Integrated Digital Health Care Approach for Children With Juvenile Idiopathic Arthritis: Usability Study. *JMIR Pediatrics and Parenting*, 7(1), e56816.

Chhabra, A., Oen, K., Huber, A. M., Shiff, N. J., Boire, G., Benseler, S. M., ... & Dancey, P. (2020). Real world effectiveness of common treatment strategies for juvenile idiopathic arthritis: results from a Canadian Cohort. *Arthritis Care & Research*, 72(7), 897-906.

Connelly, R. A., & Turner, T. (Eds.). (2017). *Health literacy and child health outcomes: Promoting effective health communication strategies to improve quality of care*. Springer.

Doya, L. J., Bijow, F. W., & Dayoub, A. (2020). Juvenile idiopathic arthritis in a premature baby: rare case report. *Oxford Medical Case Reports*, 2020 (11), omaa100.

Engel, G. L. (1977). The need for a new medical model: a challenge for biomedicine. *Science*, 196(4286), 129-136.

Fusama, M., Nakahara, H., Miyamae, T., Mori, M., Urata, Y., Kawahata, K., ... & Matsui, T. (2025). Challenges nurses face in providing care for patients with juvenile idiopathic arthritis. *Modern Rheumatology*, 35(1), 185-193.

Ghaemi, S.N. 2010. *The Rise and Fall of the Biopsychosocial Model*. Baltimore: Johns Hopkins University Press.

Janavicius M. (2025). *Retos ligos jaunativinio idiopatinio artrito informacinės svetainės projektavimas ir programavimas (Designing and programming an informational website for the rare juvenile idiopathic arthritis disease.)*. Bachelor's thesis. SMK College of Applied Sciences.

Jeppesen, J. H., Herlin, T., Christensen, A. E., Leegaard, A., & Thastum, M. (2012). THU0475-HPR A waitlist controlled trial of the efficacy of a psychological treatment program for children with juvenile idiopathic arthritis and their parents. *Annals of the Rheumatic Diseases*, 71, 739.

Kulasingham, A. Y., Kulasingham, N., O'Leary, D., & Bains, S. (2022). 330 Readability and reliability of online patient and parent information for juvenile idiopathic arthritis, juvenile dermatomyositis, juvenile scleroderma, and juvenile systemic lupus erythematosus. *Archives of Disease in Childhood*, 107 (Suppl 2), A259-A259.

Kusnanto, H., Agustian, D., Hilmanto, D. (2018). Biopsychosocial model of illnesses in primary care: A hermeneutic literature review. *Journal of family medicine and primary care*, 7(3), 497.

Leonavicius, V., Baltrusaityte, G., Veciorskyte, E. (2014). Lėtine neinfekcine liga sergančiųjų asmenų socialinė atskirtis (Social exclusion as an aspect of chronic illness experience: macro and mezzo social levels). *Kultūra ir visuomenė: socialinių tyrimų žurnalas*, (5), 148-177.

Leonavičius, V., Vecorskyte, E. (2018). Sveikatos modelio ir sveikatos nelygybės santykis visuomenės vertybių kaitos požiūriu (The Nexus between the Health Model and Health Inequalities from the Perspective of the Change in Social Values). *Kultūra ir visuomenė: socialinių tyrimų žurnalas. Culture and society: journal of social research*. Kaunas: Vytauto Didžiojo universitetas, 2018, nr. 9 (2).

McLaren, N. 2021. The biopsychosocial model: Reality check. *Australian and New Zealand Journal of Psychiatry* 55 (7), 644–645.

Pociute, S., Jakavonyte-Akstiniene, A., Gimzauskiene, J., Kutkauskiene, J. (2024). Sergančiųjų migrena ligos suvokimas ir gyvenimo kokybė (Illness perception and quality of life in patients with migraine). *Sveikatos mokslai / Health sciences in eastern europe* ISSN 1392-6373 print / 2335-867X online 2024, 34 tomas, Nr.2, p. 200-205. DOI: https://doi.org/10.35988/sm-hs.2024.079

Roberts, A. (2023). The biopsychosocial model: Its use and abuse. *Medicine, Health Care and Philosophy*, 26(3), 367-384.

Silim, H., Wamithi, S., Riang'a, R. M., & Migowa, A. (2025). Experiences among parents caring for children with juvenile idiopathic arthritis at a tertiary referral hospital in Kenya. *Frontiers in Pediatrics*, 13, 1443529.

Yalamanchili, P., Lee, L. Y., Bushnell, G., Mannion, M. L., Dave, C. V., & Horton, D. B. (2025). Trends in New Use of Disease□Modifying Antirheumatic Drugs for Juvenile Idiopathic Arthritis Among Commercially Insured Children in the United States from 2001 to 2022. *Arthritis & Rheumatology*, 77(4), 468-476.

Zhang, X., Hu, W., Xiao, Q. (2021). Influences of medical crowdfunding website design features on trust and intention to donate: controlled laboratory experiment. *Journal of medical Internet research*, 23(5), e25554.

PRINTO. Information on Paediatric Rheumatic Diseases. IRCCS Istituto G. Gaslini, Università di Genova. Paediatric Rheumatology European Society (PRES). Reumatologia e Malattie Autoinfiammatorie, EULAR Centre of Excellence in Rheumatology 2008-2028. (https://www.printo.it/pediatric-rheumatology/)

JAR Juvenile Arthritis Research. Project (https://www.jarproject.org/home)

Vaikų artrito asociacija (https://vaikuartritas.lt/#about)