Personalized Learning Plans: Catering to Individual Needs in Sickle Cell Disease Education

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Abstract

Personalized Learning Plans (PLPs) have emerged as a crucial educational strategy for addressing the diverse needs of students, particularly those affected by chronic health conditions like Sickle Cell Disease (SCD). This review explores the significance of PLPs in SCD education, highlighting their role in accommodating the unique challenges faced by students with SCD and promoting their academic success, social integration, and overall well-being. PLPs in SCD education encompass a range of personalized accommodations, modifications, and support services designed to address the physical, academic, and psychosocial needs of students with SCD. These may include provisions for extended time on assignments or tests, access to medical accommodations such as rest breaks or hydration stations, and collaboration with healthcare providers to coordinate care and support services. Furthermore, PLPs play a crucial role in fostering a supportive and inclusive school culture that values diversity, equity, and inclusion. By promoting empathy, understanding, and accommodation for students with SCD, PLPs contribute to the creation of learning environments where all students feel valued, respected, and included. Additionally, PLPs facilitate collaboration between educators, parents, healthcare providers, and other stakeholders to ensure that students with SCD receive comprehensive support and resources to succeed academically, socially, and emotionally. Through their personalized approach, PLPs enhance the Citation: Obeagu EI, Tukur M, Asuma MN. Personalized Learning Plans: Catering to Individual Needs in Sickle Cell Disease Education. Elite Journal of Nursing and Health Science, 2024; 2(5) 23-29

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educational experience of students with SCD and contribute to their overall well-being and success.

Keywords: Personalized Learning Plans, Sickle Cell Disease Education, Individualized Education, Academic Success, Inclusive Education.

Introduction

Personalized Learning Plans (PLPs) have emerged as a pivotal educational tool, offering tailored strategies to accommodate the diverse needs of students across various learning contexts. In the realm of education, the recognition of individual differences and the importance of catering to diverse learning styles and needs have underscored the significance of personalized approaches. Particularly for students grappling with chronic health conditions like Sickle Cell Disease (SCD), which present multifaceted challenges, PLPs offer a framework to address their unique needs comprehensively. Students with SCD encounter a myriad of challenges that extend beyond the classroom, impacting their physical health, academic performance, and psychosocial well-being. The unpredictable nature of SCD symptoms, including vaso-occlusive crises, fatigue, and increased susceptibility to infections, presents formidable hurdles in maintaining consistent attendance, participation, and engagement in academic activities. Moreover, the chronicity of the condition necessitates regular medical appointments, hospitalizations, and adherence to complex treatment regimens, further disrupting educational continuity and hindering academic progress. In this context, PLPs offer a proactive and individualized approach to address the multifaceted needs of students with SCD, ensuring equitable access to educational opportunities and support services. 1-8

At the heart of PLPs in SCD education lies the principle of customization, wherein educational strategies are tailored to the unique needs, strengths, and challenges of each student. These personalized plans encompass a spectrum of accommodations, modifications, and support services aimed at mitigating barriers to learning and promoting academic success. Accommodations may include provisions for extended time on assignments or tests, access to assistive technology, and flexibility with attendance requirements to accommodate medical appointments or periods of illness. Moreover, modifications to curriculum delivery, assessment methods, and classroom environments can enhance accessibility and inclusivity for students with SCD, fostering a conducive learning environment where all students can thrive. In addition to addressing the academic needs of students with SCD, PLPs encompass a holistic approach that considers their physical and psychosocial well-being. Collaborative efforts between educators, healthcare providers, parents, and students themselves are pivotal in developing PLPs that encompass comprehensive support and resources. By incorporating medical accommodations, such as access to hydration stations or rest breaks, PLPs ensure that students with SCD can manage their condition effectively while engaging in educational activities. Furthermore, the psychosocial implications of SCD, including stigma, anxiety, and depression, necessitate interventions to promote mental health and emotional well-being within the educational setting. PLPs provide a framework to address

these needs through the provision of counseling services, peer support groups, and accommodations for emotional well-being. 9-16

Moreover, PLPs play a transformative role in fostering a culture of inclusivity and empowerment within educational institutions. By recognizing and accommodating the diverse needs of students with SCD, PLPs promote a sense of belonging, acceptance, and respect within the school community. Educators serve as advocates for students with SCD, championing their rights and ensuring that their voices are heard in educational decision-making processes. Through collaborative partnerships with healthcare providers, parents, and community stakeholders, educators can develop PLPs that are responsive to the evolving needs of students with SCD, fostering a supportive and inclusive learning environment that values diversity and equity.¹⁷

The Significance of Personalized Learning Plans in Sickle Cell Disease Education

The significance of Personalized Learning Plans (PLPs) in Sickle Cell Disease (SCD) education cannot be overstated, as they offer a tailored approach to address the unique needs and challenges faced by students affected by this chronic condition. SCD presents a multitude of obstacles that can hinder academic success and overall well-being, including frequent pain episodes, fatigue, and complications requiring medical interventions. The unpredictable nature of SCD symptoms necessitates flexible and individualized educational strategies to ensure that students with SCD can access educational opportunities, participate fully in learning activities, and achieve their academic goals. PLPs provide a framework to accommodate these diverse needs and empower students with SCD to thrive academically, socially, and emotionally. Central to the significance of PLPs in SCD education is their ability to promote equity and inclusivity by addressing the specific needs of students with SCD. By tailoring educational strategies to the individual needs, strengths, and challenges of each student, PLPs ensure that all students have equitable access to educational opportunities and support services. This is particularly crucial for students with SCD, who may face barriers to learning due to their health condition. PLPs enable educators to provide targeted interventions, accommodations, and modifications that address the unique needs of students with SCD, fostering a learning environment where all students can succeed regardless of their health status. 18-25

Benefits of Personalized Learning Plans for Students with Sickle Cell Disease

Personalized Learning Plans (PLPs) offer numerous benefits for students with Sickle Cell Disease (SCD), addressing their diverse needs and fostering academic success, social integration, and overall well-being. One significant benefit is the provision of tailored accommodations and modifications that mitigate barriers to learning associated with SCD symptoms. For example, students with SCD may require extended time on assignments or tests to account for periods of pain or fatigue, access to assistive technology to facilitate learning, or flexibility with attendance requirements to accommodate medical appointments or hospitalizations. By providing personalized support, PLPs enable students with SCD to engage fully in educational activities and overcome obstacles that may otherwise hinder their academic progress. Moreover, PLPs empower Citation: Obeagu EI, Tukur M, Asuma MN. Personalized Learning Plans: Catering to Individual Needs in Sickle Cell Disease Education. Elite Journal of Nursing and Health Science, 2024; 2(5) 23-29

students with SCD to take an active role in their education and advocate for their needs within the school environment. By involving students in the development and implementation of their PLPs, educators promote self-awareness, self-advocacy, and self-determination, fostering a sense of ownership and agency over their learning journey. This empowerment is particularly valuable for students with SCD, who may face challenges related to their health condition and benefit from personalized strategies to navigate the educational system effectively. By promoting student autonomy and involvement in decision-making processes, PLPs enhance students' confidence, resilience, and sense of control over their educational experiences. 26-29

Furthermore, PLPs contribute to the creation of supportive and inclusive learning environments where students with SCD feel valued, understood, and included. By recognizing and accommodating the unique needs of students with SCD, PLPs foster a sense of belonging and acceptance within the school community. Educators play a crucial role in championing inclusivity and advocating for students with SCD, ensuring that their voices are heard and their needs are met. Additionally, PLPs promote empathy, understanding, and acceptance among peers, fostering positive attitudes and relationships that enhance social integration and emotional well-being for students with SCD. Additionally, PLPs facilitate collaboration between educators, healthcare providers, parents, and other stakeholders to develop comprehensive support plans that address the holistic needs of students with SCD. By fostering communication, coordination, and continuity of care across educational and healthcare settings, PLPs ensure that students with SCD receive holistic support and resources tailored to their individual needs. This collaborative approach enhances the effectiveness of support services and promotes positive outcomes for students with SCD, ultimately contributing to their academic success, social integration, and overall well-being.²⁹⁻³¹

Recommendations

Based on the significance and benefits of Personalized Learning Plans (PLPs) in Sickle Cell Disease (SCD) education, the following recommendations are proposed to enhance their implementation and effectiveness:

- 1. **Comprehensive Training for Educators:** Provide professional development opportunities for educators to enhance their understanding of SCD and the principles of personalized learning. Training should include strategies for developing and implementing PLPs, accommodating students with SCD in the classroom, and fostering inclusive and supportive learning environments.
- 2. **Collaborative Approach:** Encourage collaboration between educators, healthcare providers, parents, and students to develop PLPs that address the holistic needs of students with SCD. Foster open communication and coordination between stakeholders to ensure that PLPs are responsive to the evolving needs of students and promote continuity of care across educational and healthcare settings.
- 3. **Individualized Support Services:** Ensure access to individualized support services, such as counseling, peer support groups, and medical accommodations, to address the diverse

- needs of students with SCD. Collaborate with healthcare providers to coordinate medical care and support services within the school environment, ensuring that students receive comprehensive support tailored to their individual needs.
- 4. **Flexible Learning Options:** Provide flexible learning options and accommodations to accommodate the fluctuating health needs of students with SCD. Offer alternative assessment methods, extended time on assignments or tests, and opportunities for remote or independent learning to accommodate periods of illness or hospitalization.
- 5. **Promotion of Self-Advocacy:** Empower students with SCD to advocate for their needs within the school environment and beyond. Provide opportunities for students to participate in the development of their PLPs, express their preferences and concerns, and take an active role in decision-making processes related to their education.
- 6. **Awareness and Sensitivity Training:** Raise awareness and promote sensitivity among educators, peers, and the broader school community about SCD and the challenges faced by students with the condition. Offer training sessions, workshops, and educational materials to dispel myths, reduce stigma, and foster empathy and understanding.
- 7. **Evaluation and Continuous Improvement:** Regularly evaluate the effectiveness of PLPs in meeting the needs of students with SCD and identify areas for improvement. Solicit feedback from students, parents, educators, and healthcare providers to assess the impact of PLPs on academic success, social integration, and overall well-being, and make necessary adjustments to enhance their effectiveness.

Conclusion

Personalized Learning Plans (PLPs) represent a powerful tool in addressing the unique needs of students with Sickle Cell Disease (SCD), fostering their academic success, social integration, and overall well-being. By providing tailored accommodations and modifications, PLPs enable students with SCD to overcome barriers to learning associated with their health condition, ensuring equitable access to educational opportunities and support services. Moreover, PLPs empower students with SCD to take an active role in their education, promoting self-awareness, self-advocacy, and self-determination. Furthermore, PLPs contribute to the creation of supportive and inclusive learning environments where students with SCD feel valued, understood, and included. By fostering collaboration between educators, healthcare providers, parents, and other stakeholders, PLPs ensure that students with SCD receive comprehensive support that addresses their holistic needs. This collaborative approach enhances the effectiveness of support services and promotes positive outcomes for students with SCD.

References

- 1. Ata F, Rahhal A, Malkawi L, Iqbal P, Khamees I, Alhiyari M, Yousaf Z, Qasim H, Alshurafa A, Sardar S, Javed S. Genotypic and phenotypic composition of sickle cell disease in the Arab population-a systematic review. Pharmacogenomics and Personalized Medicine. 2023:133-144.
- 2. Aneke JC, Okocha CE. Sickle cell disease genetic counseling and testing: A review. Archives of Medicine and Health Sciences. 2016;4(1):50-57.

- 3. Piel FB, Williams TN. Sickle cell anemia: history and epidemiology. Sickle Cell Anemia: From Basic Science to Clinical Practice. 2016:23-47.
- 4. Obeagu EI, Ochei KC, Nwachukwu BN, Nchuma BO. Sickle cell anaemia: a review. Scholars Journal of Applied Medical Sciences. 2015;3(6B):2244-2252.
- 5. Mansour AK, Yahia S, El-Ashry R, Alwakeel A, Darwish A, Alrjjal K. Sickle cell disease (SCD). Inherited Hemoglobin Disorders. 2015;35.
- 6. Yusuf HR, Lloyd-Puryear MA, Grant AM, Parker CS, Creary MS, Atrash HK. Sickle cell disease: the need for a public health agenda. American journal of preventive medicine. 2011;41(6):S376-383.
- 7. Williams-Gray B, Senreich E. Challenges and resilience in the lives of adults with sickle cell disease. Social Work in Public Health. 2015;30(1):88-105.
- 8. Pandarakutty S, Murali K, Arulappan J, Al Sabei SD. Health-related quality of life of children and adolescents with sickle cell disease in the Middle East and North Africa region: A systematic review. Sultan Qaboos University Medical Journal. 2020;20(4):e280.
- 9. Thomas VJ, Taylor LM. The psychosocial experience of people with sickle cell disease and its impact on quality of life: Qualitative findings from focus groups. British journal of health psychology. 2002;7(3):3453-63.
- 10. Obeagu EI. Erythropoeitin in Sickle Cell Anaemia: A Review. International Journal of Research Studies in Medical and Health Sciences. 2020;5(2):22-28.
- 11. Obeagu EI. Sickle Cell Anaemia: Haemolysis and Anemia. Int. J. Curr. Res. Chem. Pharm. Sci. 2018;5(10):20-21.
- 12. Obeagu EI, Muhimbura E, Kagenderezo BP, Uwakwe OS, Nakyeyune S, Obeagu GU. An Update on Interferon Gamma and C Reactive Proteins in Sickle Cell Anaemia Crisis. J Biomed Sci. 2022;11(10):84.
- 13. Obeagu EI, Bunu UO, Obeagu GU, Habimana JB. Antioxidants in the management of sickle cell anaemia: an area to be exploited for the wellbeing of the patients. International Research in Medical and Health Sciences. 2023;6(4):12-17.
- 14. Obeagu EI, Ogunnaya FU, Obeagu GU, Ndidi AC. Sickle cell anaemia: a gestational enigma. European Journal of Biomedical and Pharmaceutical Sciences. 2023;10((9): 72-75
- 15. Obeagu EI. An update on micro RNA in sickle cell disease. Int J Adv Res Biol Sci. 2018; 5:157-8.
- 16. Obeagu EI, Obeagu GU. Incorporating Sickle Cell Disease Curriculum in Schools: An Effective Approach. Elite Journal of Health Science. 2023;1(1):30-6.
- 17. STTI B, Ohene-Frempong K. Healthcare provision for sickle cell disease in Ghana: challenges for the African context. Diversity in Health and Social Care. 2008; 5:241-254.
- 18. Hinton D, Kirk S. Teachers' perspectives of supporting pupils with long-term health conditions in mainstream schools: a narrative review of the literature. Health & social care in the community. 2015;23(2):107-120.
- 19. Obeagu EI, Obeagu GU. From Awareness to Action: Encouraging Adolescent Engagement in Sickle Cell Disease Prevention. Elite Journal of Public Health. 2023;1(1):42-50.

- 20. Jones PC, Schmitt AJ, Nayyar A, Brandon Conaway R, Eyler K, Franklin K, Hodge C. Confronting racial inequity in health and education: Supporting students with sickle cell disease. Psychology in the Schools. 2024;61(3):1181-1194.
- 21. Ritsher JE, Coursey RD, Farrell EW, Rudolph B, Larson GL, Sweeny S, Hough EE, Arorian K. Oyserman, D., Mowbray, CT, & Zemencuk, JK (1994). Resources and supports for mothers with severe mental-illness. Health & Social Work, 19 (2), 132-142. Rieder, RO (1973). Offspring of schizophrenic parents-review. Journal of Nervous and Mental Disease, 157 (3), 179–190. Encyclopedia of Primary Prevention and Health Promotion. 2003;19(2):292.
- 22. Wakefield EO. Perceived racism and stigma among youths with sickle cell disease: An exploratory study. University of Hartford; 2014.
- 23. Almquist J, Valovich McLeod TC, Cavanna A, Jenkinson D, Lincoln AE, Loud K, Peterson BC, Portwood C, Reynolds J, Woods TS. Summary statement: appropriate medical care for the secondary school-aged athlete. Journal of athletic training. 2008;43(4):416-427.
- 24. Dyson SM, Atkin K, Culley LA, Dyson SE, Evans H. Sickle cell, habitual dys-positions and fragile dispositions: young people with sickle cell at school. Sociology of Health & Illness. 2011;33(3):465-483.
- 25. Choudhry MI. Complex students: Understanding how to best supports students with a comorbid developmental or physical health need. 2021.
- 26. Frynas JG. The false developmental promise of corporate social responsibility: Evidence from multinational oil companies. International affairs. 2005;81(3):581-598.
- 27. Obeagu EI, Obeagu GU. Addressing Myths and Stigmas: Breaking Barriers in Adolescent Sickle Cell Disease Education. Elite Journal of Health Science. 2024;2(2):7-15.
- 28. Obeagu EI, Obeagu GU. Culturally Tailored Education: A Key to Adolescent Sickle Cell Disease Prevention. Elite Journal of Public Health. 2024;2(3):52-62.
- 29. Reich J, Cantrell MA, Smeltzer SC. An integrative review: The evolution of provider knowledge, attitudes, perceptions and perceived barriers to caring for patients with sickle cell disease 1970–Now. Journal of Pediatric Hematology/Oncology Nursing. 2023;40(1):43-64.
- 30. Lucena J, Schneider J. Engineers, development, and engineering education: From national to sustainable community development. European Journal of Engineering Education. 2008;33(3):247-257.
- 31. Sandel M, Faugno E, Mingo A, Cannon J, Byrd K, Garcia DA, Collier S, McClure E, Jarrett RB. Neighborhood-level interventions to improve childhood opportunity and lift children out of poverty. Academic pediatrics. 2016;16(3): S128-135.