

# INFLUENCE OF TEACHING PRACTICE PROGRAMME ON HEALTH CHALLENGES OF SICKLE CELL ANAEMIA UNDERGRADUATE PRE-SERVICE TEACHERS IN LAGOS STATE UNIVERSITY

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## **Abstract**

*Undergraduates in the Teaching Practice Programme (TPP) often face various challenges during their teaching practice, including classroom management issues, lesson planning difficulties, and a lack of alignment between theoretical knowledge and practical teaching experiences. These challenges can impact their confidence, pedagogical skills, health and overall perception of the teaching profession. This study was carried out to explore the influence of Teaching Practice Programme (TPP) on the health challenges encountered by sickle cell undergraduates at Lagos State University during their teaching practice exercise. A total number of thirty-six (36) students (13 male and 23 females) living with sickle cell anaemia from the Faculty of Education were selected using the purposive sampling technique for this study. Two hypotheses were formulated, and data were collected using a self-developed online Google Form questionnaire titled "Teaching Practice and Sickle Cell Challenges Questionnaire (TPSCCQ)" with a reliability coefficient of 0.76 which indicate that the research instrument is useful for the purpose of this study. Chi-square ( $X^2$ ) and t-test were used to test the hypotheses at 0.05 level of significance. The study found that teaching practice programme had a significant influence on the sickle cell anaemia students ( $\chi^2 = 60.19$ ,  $p = < 0.05$ ) who participated in the teaching practice exercise, and there was no significant gender difference ( $t$ -value = 1.39,  $p = 0.175 > 0.05$ ) in the influence of the teaching practice programme on the health of sickle cell anaemia undergraduates during the programme. It WAs recommended that considerations such as alternating days of teaching and posting students close to their respective place of residence be proposed for the students with health challenges during the teaching practice exercise to prevent the severity of their*

## **Introduction**

Sickle Cell Disease (SCD) is a major global health concern due to its significant impact on many affected populations (Hegemann et al., 2023). Sickle cell disease is an inherited blood disorder which is not contagious. Sickle Cell Disease was historically associated with malaria-endemic regions in Asia and sub-Saharan Africa, the condition has transcended these origins and is currently found in diverse geographical locations across the world (Hegemann et al., 2023; Colombatti, 2023). Sickle cell disease lies at the intersection of social, racial, and healthcare equity in the United States. It is the most common monogenic

blood disorder worldwide, affecting at least 100,000 Americans with this number expected to increase (Centers for Disease Control and Prevention (CDC). 2022). Sickle Cell Disease occurs in one out of 365 African American births and the trait occurs in one out of 13 African American births. The sickle-cell disease also has major psychological, social and economic implications for the affected child as well as the family (lyanda,lyanda and Adigun 2022). Despite a high prevalence and severe complications, clinical care and research into SCD has not historically been prioritized, contributing to healthcare inequity in this population. A combination of underfunding in research, few disease modifying therapies, clinician bias, and an insufficient medical workforce with SCD expertise limits progress in improving care for persons with SCD (Frédéric, 2023). Teaching Practice (TP) is a common feature of any teacher education programme that ends up providing graduates with a recognized teaching certificate. It is the practical use of teaching methods and strategies that the student-teacher learned in the college. During teaching practice, a student-teacher is allowed to try the art of teaching before getting into the real world of the teaching profession (Ebrahim, et al, 2017). Teaching practice goes beyond just knowing what to teach and knowing how to teach, however, the purpose of teaching practice is to develop several competencies in the trainee teacher which include interpersonal, pedagogical, intercultural, and psychological competencies (Onyebukwa-Nwanoro, 2017). Mentorship and support during teaching practice are vital for a positive and productive experience. Mentor teachers, who are experienced educators, play a crucial role in guiding and supporting pre-service teachers (Onyemaobi, 2018). They offer practical advice, provide feedback, and serve as role models for effective teaching practices (Kizito, 2019).

University supervisors, who oversee the teaching practice, also contribute to the support system, ensuring that pre-service teachers receive the necessary guidance and assistance (Onyemaobi and Okoro, 2020). While teaching practice offers invaluable experiences, it also presents challenges that pre-service teachers must navigate. Common challenges include classroom management issues, difficulties in lesson planning, lack of resources, and the pressure of meeting diverse student needs (Adesina and Adeyemi, 2020). Reflecting on these challenges is an essential aspect of teaching practice, as it promotes self-assessment, critical thinking, and continuous improvement (Olanlokun, 2020).

The quality of teaching practice is a critical aspect of teacher's education, ensuring that pre-service teachers gain the necessary skills and experiences to become effective educators. In Nigeria, as in many other countries, teaching practice is a mandatory component of undergraduate teacher's preparation programme. Several studies have emphasized the importance of improving the quality of teaching practice programme in Nigeria. A key aspect is the alignment between theoretical knowledge and practical experiences. Olalere and Adeyemi (2018) argued that there is a disconnect between what pre-service teachers learn in their university courses and the realities they encounter during teaching practice. This misalignment can hinder the development of essential teaching skills and pedagogical content. The role of supervision and mentorship during teaching practice has been a focus of research on improving quality. Effective supervision provides guidance, feedback, and support to pre-service teachers, contributing to their professional growth

(Onyemaobi, 2018). However, studies have identified challenges in this area, including a lack of qualified supervisors, inadequate supervision, and inconsistent feedback (Adesina and Adeyemi, 2020).

The quality of teaching practice has implications for the effectiveness of pre-service teachers once they enter the profession. Studies have found that undergraduates who had positive and supportive teaching practice experiences were better prepared for their teaching careers, exhibiting higher levels of pedagogical knowledge and classroom management skills. Okeke and Okeke (2020) found that pre-service teachers who received effective mentorship during teaching practice demonstrated improved teaching competencies and were more confident in their abilities. This suggests that the quality of teaching practice can have a direct impact on the quality of teaching in schools.

Experiences during teaching practice play a pivotal role in shaping the skills, confidence, and professional identity of pre-service teachers. This hands-on component of teacher education provides undergraduates with their first real-world teaching experiences, allowing them to apply theoretical knowledge in practical classroom settings. These experiences offer a unique opportunity to bridge the gap between theoretical learning and practical teaching, fostering the development of essential skills and pedagogical content knowledge (Adeyemi and Adeyemi, 2019). Adeyemi et al. (2021) argued that rich and diverse teaching practice experiences contribute to the formation of reflective practitioners who are better equipped to meet the demands of the profession. Olanlokun (2020) highlighted that navigating challenges during the teaching practice exercise is essential for pre-service teachers' professional growth and resilience.

University students living with Sickle Cell Anaemia (SCA) often contend with persistent health crises, ranging from chronic fatigue, vaso-occlusive pain episodes, and frequent hospitalization, which directly impact their academic engagement and mental wellness (Brandow and Liem, 2022). These challenges become especially pronounced during high-stress academic activities like the Teaching Practice Programme, which is an essential component of teacher education aimed at offering practical classroom experience to pre-service teachers. Teaching practice, while critical for professional readiness, is often accompanied by physical exertion, psychological stress, and exposure to environmental factors that can trigger SCA complications (Obeagu et al., 2015; Xu and Thein, 2022). For undergraduate pre-service teachers at institutions, the lack of tailored support systems during their fieldwork may compound health vulnerabilities, reduce productivity, and compromise learning outcomes.

Moreover, Oti et al. (2022) emphasized that institutional awareness and educational interventions significantly enhance coping mechanisms and reduce the risk of exclusion for students with chronic conditions. However, in many Nigerian universities, adequate adjustments in teaching schedules or placement environments are rarely prioritized for students with SCA leading to negative psychosocial impacts and reduced academic fulfillment. This study, therefore, seeks to examine how the current structure of the Teaching Practice Programme influences the health and educational experiences of undergraduate pre-service teachers living with SCA. It builds on growing evidence that

health-sensitive pedagogy and policy can mitigate the burdens of SCA and promote inclusive education, especially in high-demand professional training environment.

This study therefore explored the influence of teaching practice programme on health challenges of Sickle Cell Anaemia undergraduates pre-Service teacher in Lagos State University.

### Methodology

Descriptive survey research design was adopted and participants were purposively sampled for the study. Thirty-six (36) students with sickle cell anaemia (13 males and 23 females) were the sample size of this study with the strata of participating in teaching practice exercise and being in 300 and 400 levels of their education. Two hypotheses were tested in the study and data were collected using a self-developed online google form questionnaire titled "Teaching Practice and Sickle Cell Challenges Questionnaire (TPSCCQ) Chi-square ( $X^2$ ) and *t*-test inferential statistics were used for the data analysis at the 0.05 level of significance.

### Results

**Hypothesis 1:** There is no significant influence of teaching practice programme on the health of sickle cell anaemia undergraduates during teaching practice exercise in Lagos State University.

**Table 1: Responses to statements on teaching practice programme influence on the health of sickle cell anaemia undergraduates**

SN	Teaching Practice Programme and Health of Sickle Cell Anaemia Undergraduates	SA	A	D	SD	$X^2$ -cal	Df	P
1	The teaching practice programme workload is manageable with my health condition.	05	03	13	15			
2	I have adequate access to medical resources and support during the teaching practice programme.	04	05	15	12	60.19	15	0.001
3	The teaching practice programme is flexible enough to accommodate my health needs.	02	04	17	13			
4	I receive adequate support from my peers in managing my sickle cell anaemia challenges during the teaching practice programme.	11	15	05	05			
5	My health condition does not negatively impact my ability to develop	02	08	11	15			

and apply effective teaching skills during the programme.

- 6 The support I receive from my cooperating teacher during the teaching practice programme helps me manage my sickle cell anaemia challenges.

Table 1 showed the summary of findings from the respondents on hypothesis one. The results indicated a calculated  $\chi^2$  value of 60.19 which is statistically significant at  $p < 0.05$ , hence the rejection of the null hypothesis. This expressed that there is significant influence of teaching practice programme on the health of sickle cell anaemia undergraduates during teaching practice exercise.

**Hypothesis 2:** There is no significant gender difference in the influence of teaching practice programme on the health of sickle cell anaemia undergraduates during teaching practice exercise

**Table 2: t-test analysis on difference in the influence of teaching practice programme on the health of sickle cell anaemia undergraduates by gender**

Variables	No	Mean	Std. Deviation	Std. Error Mean	df	t	Sig
Male	13	14.62	1.04	0.29	34	1.39	0.175
Female	23	13.65	1.27	0.27			

Table 2 shows the summary of result from the respondents on hypothesis 2. The result showed that there was no significant gender difference in the influence of teaching practice programme ( $t$ -value= 1.39,df= 4,  $p>0.05$ ), hence the retention of the null hypothesis. This expressed that there was no significant gender difference in the influence of teaching practice programme on the health of sickle cell anaemia undergraduates during teaching practice exercise

### Discussion of findings

This study investigated the influence of Teaching Practice Programme (TPP) on the health challenges encountered by sickle cell undergraduates in Lagos State University during their teaching practice exercise. The first result of the study indicated that there is significant influence of teaching practice programme on the health of sickle cell anaemia undergraduates during teaching practice exercise. This implied that teaching practice programme introduced stressors that exacerbate health issues for students with sickle cell anaemia. The stressors included physical exertion, long hours, and inadequate rest, which can trigger sickle cell crises or other health complications. Salih (2019) examined the impact of Sickle Cell Anaemia on the quality of life of school-age children affected by the disease from the perspective of three dimensions: psychological, social, and schooling using 107

patients within the age group of 7–15 years with confirmed diagnosis of SCA in a steady state. The result revealed that the patients suffered from school absence and several other discomforts that affected their feelings and regularity to school.

Ameringer et al. (2014) used a correlational study to examine fatigue and its potential biological and behavioural correlates in adolescents and young adults with sickle cell disease using sixty adolescents and young adults with sickle cell disease who completed the Brief Fatigue Inventory, Multidimensional fatigue Symptom Inventory–Short Form, Patient Reported Outcomes Measurement Information System (PROMIS) fatigue short form and measures of pain, sleep quality, anxiety, depressive mood, stress, disease severity, and quality of life. Finding showed that Fatigue was common in these adolescents and young adults, interfered with daily activities such as school, work and exercise, and significantly correlated with several potentially modifiable factors.

Shah et al. (2019) carried out a study to determine the effect of mental stress on microvascular blood flow and autonomic nervous system reactivity using sickle cell patients and controls performed mentally stressful tasks, including a memory task, conflict test and pain anticipation test. Findings from the study proved that the magnitude of vasoconstriction, sympathetic activation and perceived stress was greater during the Stroop conflict test than during the N-back memory test, indicating the relationship between magnitude of experimental stress and degree of regional vasoconstriction. Baseline anxiety had a significant effect on the vasoconstrictive response in sickle cell subjects but not in controls. In conclusion, mental stress caused vasoconstriction and autonomic nervous system reactivity in all subjects.

The reviewed studies indicated how the magnitude of stress that student teachers on teaching practice go through can affect their state of health leading to severe complications. The significant influence of the programme on their health underscores the need for robust support schedules to accommodate the specific health needs of these students and ensure a flexible programme for their full participation.

Secondly, result from the study also indicated no significant gender difference in the influence of teaching practice programme on the health of sickle cell anaemia undergraduates during teaching practice exercise. The result implied that both male and female students were equally affected by the programme. This finding established that the challenges and experiences faced by students with sickle cell anaemia during their teaching practice were not substantially different between genders. Sickle cell anaemia presents similar health challenges to individuals regardless of gender. Symptoms like pain crises, fatigue, and susceptibility to infections affect all patients equally, meaning the impact of external stressors like a teaching practice programme would likely be similar across genders (Ceglie et al., 2019). This is also due to the standardized structure and demands that apply uniformly to all students on the teaching practice programme. This uniformity means that the programme's physical and mental demands do not discriminate by gender, resulting in a similar impact on health. Valerie et al. (2023), in their study knowledge and prevalence of the sickle cell trait among undergraduate students of the University of Calabar affirmed in terms of gender, males who had poor, fair, and good knowledge of sickle cell trait were 43.3%, 38.6%, and 18.1% respectively, while for females, 47.4%, 32.9%, and 19.7% had

poor, fair, and good knowledge respectively. Similarly, it was also observed in their study that out of the 127 males enrolled in the study, 34 (26.8%) were carriers of the trait, while 44 females (25.4%) out of the 173 enrolled had the carrier status. The difference in the prevalence of SCT between both genders was however not of statistical significance. This study was also in agreement with the findings of Ngwengi et al. (2020) who also recorded slightly higher prevalence of sickle cell trait among females than in males. This implied that gender had no influence on the haemoglobin type of an individual.

### Conclusion

This study concluded that the teaching practice programme of the Faculty of Education of Lagos State University had influence on the health of sickle cell anaemia students in the exercise. It also revealed lack of significant gender difference in the influence reported. These results highlighted the importance of creating supportive, inclusive environments that cater to the needs of all students, ensuring equitable access to resources and accommodations necessary for managing their health during demanding academic exercises. Institutions might need to reconsider and adjust the structure of the teaching practice programme to mitigate negative health impacts among sickle cell anaemia undergraduates. This could involve implementing health monitoring, providing additional breaks, or reducing workloads for students with sickle cell anaemia. Based on the findings from the study, it was recommended that the institution should establish dedicated health support services for students with sickle cell anaemia, including regular health check-ups, access to medical professionals, and emergency medical care during the teaching practice. Likewise, the faculty should also introduce flexibility in the teaching practice schedules to accommodate the health needs of students with sickle cell anaemia. Options could include shorter hours, more breaks, or alternative assignments that reduce physical strain.

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