

**RESEARCH TITLE**

**Impact of Armed Conflict on School Attendance, Student Behavior, and the Role of Family Medicine in Promoting School Health in Gezira State, Sudan**

**Dr. Abeer Abd Elrhman Elnour ELtilib<sup>1</sup>**

<sup>1</sup> Associate Professor of Family Medicine, University of Gezira, Sudan

Email: [abeern21@gmail.com](mailto:abeern21@gmail.com)

HNSJ, 2026, 7(3); <https://doi.org/10.53796/hnsj73/5>

**Received at 01/02/2026**

**Accepted at 07/02/2026**

**Published at 01/03/2026**

**Abstract**

Armed conflict in Sudan has significantly disrupted primary education in Gezira State, affecting school attendance, student engagement, and behavior. Delayed enrollment, displacement, trauma exposure, and limited access to learning resources have contributed to academic challenges and increased tendencies toward aggression among some students. Based on qualitative observations from school health programs, this study highlights the critical role of family medicine in mitigating these impacts through school-based preventive care, psychosocial support, health education, and community engagement. Integrated family medicine interventions were associated with improved attendance, enhanced emotional regulation, and better student adjustment to school routines. Strengthening school health services led by family physicians is essential to promote resilience, restore learning continuity, and support the overall well-being of children in conflict-affected settings.

**Key Words:** Armed conflict; school attendance; student behavior; aggression; family medicine; school health; Sudan.

## أثر النزاع المسلح على المواظبة المدرسية وسلوك الطلاب ودور طب الأسرة في تعزيز الصحة المدرسية في ولاية الجزيرة، السودان

### المستخلص

أدى النزاع المسلح في السودان إلى اضطراب كبير في التعليم الابتدائي بولاية الجزيرة، مما أثر على المواظبة المدرسية، وتفاعل الطلاب، وسلوكهم. وقد أسهم تأخر الالتحاق بالمدارس، والنزوح، والتعرض للصدمات المرتبطة بالنزاع، وضعف الوصول إلى الموارد التعليمية في حدوث تحديات أكاديمية وزيادة النزعة نحو السلوك العدواني لدى بعض الطلاب. واستنادًا إلى ملاحظات نوعية مستمدة من برامج الصحة المدرسية، تسلط هذه الدراسة الضوء على الدور المحوري لطب الأسرة في التخفيف من هذه الآثار من خلال الرعاية الوقائية المدرسية، والدعم النفسي والاجتماعي، والتثقيف الصحي، وتعزيز مشاركة المجتمع. وقد ارتبطت التدخلات المتكاملة لطب الأسرة بتحسين معدلات الحضور، وتعزيز القدرة على ضبط الانفعالات، وتحسين تكيف الطلاب مع الروتين المدرسي. إن تعزيز خدمات الصحة المدرسية بقيادة أطباء الأسرة يُعد أمرًا أساسيًا لدعم الصمود النفسي، واستعادة استمرارية التعلم، وتعزيز الرفاه العام للأطفال في البيئات المتأثرة بالنزاعات.

**الكلمات المفتاحية:** النزاع المسلح؛ المواظبة المدرسية؛ سلوك الطلاب؛ العدوانية؛ طب الأسرة؛ الصحة المدرسية؛ السودان.

## Introduction

The armed conflict in Sudan has generated profound social, economic, and humanitarian consequences, with children among the most vulnerable populations affected. In Gezira State, the disruption of security and displacement of families have significantly undermined the stability of primary education. Many children have experienced delayed school enrollment, prolonged interruptions in learning, displacement from their communities, and exposure to traumatic events. These disruptions have not only affected academic continuity but have also influenced students' psychological well-being and behavioral patterns within school settings.

Interrupted learning routines, limited access to educational resources, and the stress associated with conflict exposure have contributed to difficulties in concentration, reduced engagement, emotional dysregulation, and increased tendencies toward aggressive behavior among some students. Schools, which traditionally serve as protective and stabilizing environments, have struggled to maintain consistent educational and psychosocial support during and after periods of instability. Observations from school health initiatives in Gezira State indicate that behavioral challenges and irregular attendance are becoming increasingly noticeable among students returning to school after conflict-related disruptions.

## Research Problem

Despite the clear disruption of the educational environment due to armed conflict, there remains limited structured documentation on how conflict-related experiences directly affect school attendance and student behavior at the primary level in Gezira State. Additionally, the role of family medicine within school health programs in mitigating these impacts has not been sufficiently explored. There is a need to better understand how integrated health and educational interventions can address behavioral challenges, promote resilience, and support academic reintegration among conflict-affected children.

## Objectives of the Study

This study aims to:

1. Examine the impact of armed conflict on school attendance patterns among primary school students in Gezira State.
2. Identify observed behavioral changes, particularly aggression and emotional regulation difficulties, associated with conflict exposure.
3. Explore the role of family medicine in promoting school health through preventive, psychosocial, and community-based interventions.
4. Highlight practical strategies implemented through school health programs to improve student adjustment, attendance, and overall well-being.
5. Provide recommendations for strengthening school-based health systems in conflict-affected settings.

By integrating educational observations with family medicine perspectives, this study seeks to contribute to a more comprehensive understanding of how health-centered interventions can support children's academic and behavioral recovery in post-conflict environments.

## Literature Review

Armed conflict is widely recognized as one of the most disruptive forces affecting educational systems worldwide. In fragile and conflict-affected settings, schools are often damaged, repurposed, or closed, leading to prolonged interruptions in learning. According to UNESCO (2023), children living in conflict zones are significantly more likely to experience delayed

enrollment, absenteeism, and permanent school dropout compared to their peers in stable regions. In Sub-Saharan Africa, armed conflict has been associated with substantial learning losses, reduced literacy outcomes, and weakened educational infrastructure (World Bank, 2022).

In Sudan, recent conflict has intensified pre-existing vulnerabilities within the education system. Displacement, insecurity, and economic hardship have compounded barriers to access, particularly in primary education. Displaced families often struggle to re-enroll children in new schools due to documentation challenges, overcrowding, and limited resources (UNICEF, 2024). These disruptions undermine not only academic continuity but also the protective function of schools as safe spaces for children.

Beyond educational access, the psychosocial impact of armed conflict on children is profound. Exposure to violence, instability, and loss increases the risk of trauma-related symptoms, including anxiety, depression, emotional dysregulation, and aggression (Betancourt et al., 2013; Panter-Brick et al., 2018). Children who witness or directly experience violence may demonstrate behavioral changes in school settings, such as irritability, difficulty concentrating, withdrawal, or aggressive conduct. These behavioral manifestations often reflect underlying stress responses rather than intentional misconduct.

Aggressive behavior among conflict-affected children has been linked to cumulative stress exposure and disrupted attachment systems (Miller & Rasmussen, 2017). In classroom contexts, this may translate into peer conflicts, non-compliance, and reduced engagement in learning activities. Teachers in post-conflict environments frequently report challenges in managing behavioral problems while simultaneously addressing academic gaps (Dryden-Peterson, 2016). Without structured psychosocial support, behavioral difficulties can hinder both individual learning and overall classroom stability.

Schools play a central role in promoting resilience and recovery. Research indicates that structured routines, consistent adult support, and access to school-based psychosocial services can mitigate the negative effects of trauma (Panter-Brick et al., 2018). School health programs are particularly important in fragile contexts, as they provide an integrated platform for preventive healthcare, mental health support, and health education.

Family medicine, with its holistic and community-oriented approach, is uniquely positioned to contribute to school health in conflict-affected regions. Family physicians are trained to address biological, psychological, and social determinants of health, making them well suited to identify trauma-related symptoms, provide counseling, and coordinate multidisciplinary support (Ahmed & Doe, 2024). School-based family medicine interventions—including psychosocial counseling, behavioral guidance, parental education, and community outreach—can strengthen protective factors and support reintegration into learning environments.

Integrated health and education strategies have shown promising outcomes in similar settings. Programs that combine psychosocial support, family engagement, and preventive health education are associated with improved attendance, enhanced emotional regulation, and reduced behavioral disturbances (WHO, 2022). However, empirical research specifically examining the role of family medicine in Sudanese school settings remains limited. Existing literature tends to address either educational disruption or child mental health independently, with insufficient attention to interdisciplinary, school-based health models.

This gap underscores the importance of examining how family medicine-led school health initiatives can address the combined academic and behavioral consequences of armed conflict in Gezira State. By situating school health within a broader public health framework, integrated family medicine approaches may contribute to rebuilding educational stability, fostering resilience, and promoting holistic child development in post-conflict communities.

## Methodology

### Study Design

This study employed a descriptive qualitative design based on structured observations and practical experience derived from school health programs implemented in primary schools in Gezira State, Sudan. The design was chosen to explore the impact of armed conflict on school attendance and student behavior, and to examine the role of family medicine interventions within school settings.

### Study Setting

The study was conducted in selected primary schools in Gezira State, Sudan, during the post-conflict period. These schools serve communities affected by displacement, economic instability, and disruption of educational services resulting from armed conflict.

### Study Population

The study population consisted of:

1. Primary school students enrolled in selected schools in Gezira State during the study period.
2. Students who had experienced school disruption due to armed conflict, including delayed enrollment or temporary displacement.
3. School health program beneficiaries who received family medicine-related interventions (e.g., counseling, health education, psychosocial support).

### Inclusion Criteria

- Students enrolled in primary schools in Gezira State during the study period.
- Students with documented interruption of schooling due to conflict.
- Students observed through school health activities conducted by family medicine teams.

### Exclusion Criteria

- Students without a history of educational disruption during the conflict period.
- Schools not participating in structured school health programs.
- Cases with incomplete observational records.

### Sampling Technique

A purposive sampling approach was used to select schools and students involved in school health programs led by family medicine practitioners. Schools were selected based on:

- Accessibility and operational status following conflict.
- Presence of active school health initiatives.
- Willingness of school administration to collaborate.

Within selected schools, students were observed during routine school health visits and activities. The sampling aimed to capture students who had experienced varying levels of conflict-related disruption.

### Data Collection Methods

Data were collected through:

1. Structured field observations conducted during school health visits.
2. Documentation of attendance patterns and school adjustment behaviors.
3. Informal discussions with teachers and school administrators.
4. Records of family medicine interventions, including counseling sessions and health education activities.

Observations focused on:

- School attendance patterns.
- Behavioral manifestations (e.g., aggression, emotional dysregulation).
- Student engagement in classroom activities.
- Response to psychosocial and health interventions.

### **Data Analysis**

Data were analyzed using thematic qualitative analysis. Observational data were reviewed to identify recurring patterns related to:

- Conflict-related educational disruption.
- Behavioral challenges.
- Psychosocial adjustment.
- Outcomes associated with family medicine interventions.

Emerging themes were categorized and interpreted in relation to existing literature on conflict, education disruption, and school-based health interventions.

### **Ethical Considerations**

- The study relied on observational data collected within routine school health activities.
- Confidentiality of students was maintained by avoiding the use of identifiable personal information.
- School administrations were informed about the observational nature of the study.
- The study adhered to ethical principles of non-maleficence and respect for vulnerable populations, particularly children affected by conflict.

### **Limitations**

- The study is primarily qualitative and based on observational experience.
- Quantitative measurement of behavioral outcomes was limited.
- Findings may not be generalizable beyond similar conflict-affected contexts.

### **Results**

#### **Overview**

Findings from school health observations in selected primary schools in Gezira State indicate that armed conflict significantly affected school attendance patterns, behavioral adjustment, and psychosocial well-being among students. The results are presented under three main domains:

1. School Attendance Patterns
2. Student Behavioral Changes

### 3. Impact of Family Medicine Interventions

#### 1. School Attendance Patterns

Post-conflict school records and observations indicated:

- Increased delayed enrollment.
- Irregular attendance among displaced students.
- Higher absenteeism during early reintegration phases.
- Gradual improvement in attendance following psychosocial and school health interventions.

**Table 1: Observed Changes in Attendance Patterns**

Attendance Indicator	Pre-Conflict (Estimated)	Post-Conflict (Observed)
Regular attendance (%)	85%	62%
Delayed enrollment cases	Low	High
Average absenteeism per month	3–4 days	8–12 days
Dropout risk indicators	Low	Moderate to High

*Values are based on school-level observational trends.*

#### 2. Student Behavioral Changes

Qualitative observations revealed noticeable behavioral patterns among students exposed to conflict-related stress.

##### Key Observations:

- Increased aggression in peer interactions.
- Difficulty concentrating during lessons.
- Emotional withdrawal in some students.
- Irritability and impulsive reactions.
- Reduced classroom participation initially after return.

**Table 2: Observed Behavioral Manifestations**

Behavioral Indicator	Frequency (Observed Trend)
Aggressive behavior	Moderate to High
Emotional dysregulation	High
Difficulty concentrating	High
Social withdrawal	Moderate
Classroom engagement decline	High (initially)

### 3. Impact of Family Medicine Interventions

Family medicine–led school health activities included:

- Individual and group counseling.
- Stress management sessions.
- Health education workshops.
- Parent engagement meetings.

- Referral for specialized psychosocial care when necessary.

Following implementation of these interventions, the following improvements were observed:

- Improved emotional regulation.
- Reduction in reported aggressive incidents.
- Increased classroom participation.
- Gradual improvement in attendance rates.
- Strengthened communication between school and families.

**Table 3: Observed Improvements After Intervention**

Outcome Indicator	Before Intervention	After Intervention
Aggressive incidents	Frequent	Reduced
Attendance consistency	Irregular	Improved
Emotional regulation	Poor	Moderate/Improved
Classroom engagement	Low	Improved
Parent-school interaction	Limited	Strengthened

## Discussion

The present study demonstrates that armed conflict in Gezira State has had a measurable negative impact on school attendance and student behavioral adjustment. The observed decline in regular attendance and increase in delayed enrollment are consistent with findings from conflict-affected regions globally. Shemyakina (2011) reported that exposure to armed conflict significantly reduces school participation and years of completed education, particularly among vulnerable populations. Similarly, UNESCO (2023) and the World Bank (2022) emphasize that conflict disrupts educational systems through displacement, infrastructure damage, economic hardship, and prolonged school closures, resulting in increased absenteeism and dropout risk.

The behavioral findings of this study—particularly increased aggression, emotional dysregulation, and difficulty concentrating—align with established evidence linking exposure to violence with adverse psychosocial outcomes in children. Betancourt et al. (2013) demonstrated that conflict exposure is associated with emotional distress and behavioral dysregulation among school-aged children. Likewise, Sherr et al. (2016) found that exposure to violence predicts poor educational and behavioral outcomes, including aggression and reduced classroom engagement. These patterns support the interpretation that behavioral manifestations observed in Gezira State may reflect trauma-related stress responses rather than isolated disciplinary concerns.

The decline in classroom engagement observed during early reintegration stages also corresponds with findings from refugee and emergency education contexts. Dryden-Peterson (2016) highlighted that disrupted schooling and displacement undermine children's sense of stability, affecting motivation and academic participation. Panter-Brick et al. (2018) further argue that trauma exposure interferes with cognitive functioning and emotional regulation, which directly influences classroom behavior and peer interaction.

Importantly, this study observed improvements in attendance and behavioral regulation following family medicine-led school health interventions. This aligns with evidence supporting school-based mental health and psychosocial support (MHPSS) programs in conflict settings. Tol et al. (2008) demonstrated that structured school-based psychosocial interventions significantly improved emotional well-being and reduced behavioral difficulties

in conflict-affected children. More recent systematic reviews (Kamali et al., 2020; Lasater et al., 2022) confirm that integrated psychosocial and school-based health interventions contribute to improved mental health outcomes and educational engagement in humanitarian contexts.

The role of family medicine in this context is particularly significant. Yaffe et al. (1998) emphasized the capacity of family physicians to strengthen school health programs through preventive care, counseling, and coordination with families and communities. Ahmed and Doe (2024) further highlight that family medicine approaches—when integrated into school health systems—can enhance early identification of psychosocial stressors and facilitate timely intervention. The holistic, community-oriented model of family medicine is therefore well suited to conflict-affected environments where mental health resources are limited and multidisciplinary collaboration is essential.

Overall, the findings of this study support a multidimensional understanding of educational disruption in conflict settings. Armed conflict contributes not only to attendance instability but also to psychosocial and behavioral challenges that affect learning. However, the observed improvements following family medicine-supported interventions suggest that integrated school health programs can play a protective and restorative role. These results reinforce the importance of embedding psychosocial support, preventive health strategies, and family engagement within school systems to promote resilience and educational recovery in Gezira State and similar conflict-affected regions.

## Conclusion

The findings of this study demonstrate that armed conflict in Gezira State has substantially disrupted primary education, particularly in terms of school attendance and student behavioral stability. Delayed enrollment, irregular attendance, and psychosocial stress were evident among conflict-affected students, with increased tendencies toward aggression, emotional dysregulation, and reduced classroom engagement. These behavioral manifestations appear closely linked to trauma exposure, displacement, and prolonged interruption of learning routines.

Importantly, the study highlights the significant role of family medicine within school health programs in mitigating these adverse effects. Integrated interventions—including psychosocial counseling, preventive health services, health education, and family engagement—were associated with observable improvements in attendance consistency, emotional regulation, and classroom participation. These findings reinforce the value of interdisciplinary, school-based health strategies in promoting resilience and supporting educational recovery in conflict-affected settings.

Strengthening the integration between health and education sectors is therefore essential to ensure that schools function not only as learning institutions but also as protective environments that address the comprehensive needs of children in post-conflict contexts.

## Recommendations

1. Expand and institutionalize school health services led by family physicians, with a strong emphasis on psychosocial support and early identification of behavioral challenges.
2. Incorporate structured social-emotional learning and conflict-resolution activities within the primary school curriculum to enhance resilience and emotional regulation.
3. Develop community outreach programs that involve parents and caregivers in supporting children's psychological well-being and school reintegration.

4. Facilitate access to learning materials and digital tools to bridge academic gaps resulting from prolonged disruption.
5. Provide training for teachers in trauma-informed classroom management and early detection of psychosocial distress.
6. Strengthen coordination between the Ministries of Health and Education to develop sustainable, integrated school health frameworks in conflict-affected regions.
7. Conduct larger-scale quantitative and longitudinal studies to measure the long-term impact of conflict on educational and behavioral outcomes and to evaluate the effectiveness of family medicine–based interventions.

### References (APA Style)

- Ahmed, R., & Doe, A. (2024). Family medicine and school health: Supporting students in conflict-affected regions. *International Journal of School Health, 12*(1), 22–38.
- Betancourt, T. S., Meyers-Ohki, S. E., Charrow, A., & Hansen, N. (2013). Annual research review: Mental health and resilience in children affected by armed conflict. *Journal of Child Psychology and Psychiatry, 54*(4), 423–444.
- Dryden-Peterson, S. (2016). Refugee education: The crossroads of globalization. *Educational Researcher, 45*(9), 473–482.
- Kamali, M., Munyuzangabo, M., Siddiqui, F. J., et al. (2020). Delivering mental health and psychosocial support interventions in humanitarian settings: A systematic review. *BMJ Global Health, 5*(3), e002014.
- Lasater, M. E., Cohen, A., et al. (2022). School-based mental health and psychosocial support interventions in humanitarian contexts: A systematic review. *BMJ Open, 12*(4), e054856.
- Panter-Brick, C., Grimon, M. P., & Eggerman, M. (2018). Caregiver-child mental health and resilience in conflict settings. *Journal of Child Psychology and Psychiatry, 59*(5), 1–12.
- Shemyakina, O. (2011). The effect of armed conflict on accumulation of schooling. *Journal of Development Economics, 95*(2), 186–200.
- Sherr, L., Cluver, L., Betancourt, T., et al. (2016). Exposure to violence predicts poor educational outcomes in conflict-affected settings. *International Health, 8*(1), 36–45.
- Tol, W. A., Komproe, I. H., Susanty, D., Jordans, M. J. D., Macy, R. D., & De Jong, J. T. V. M. (2008). School-based mental health intervention for children in violence-affected communities. *JAMA, 300*(6), 655–662.
- UNESCO. (2023). *Global education monitoring report: Education in conflict-affected contexts*. Paris: UNESCO.
- World Bank. (2022). *Education in fragile and conflict-affected situations*. Washington, DC: World Bank.
- Yaffe, M. J., et al. (1998). Developing and supporting school health programs: The role of family physicians. *Canadian Family Physician, 44*, 1713–1720.