

Understanding School Dropout through the Lens of Student Health: Investigating the Role of Mental and Physical Illnesses and Their Association with Aggressive and Antisocial Behaviors

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Abstract

Background: school dropout is worldwide challenges arises from many causes, personal and socio-environmental, and lead to numerous consequences. Personal causes include mental and physical illnesses. Mental illness includes both behavioural, mood and personality disorders including depression and autism. **Objectives:** To assess the association between mental and physical health outcomes and school dropout among primary and secondary students in Babylon, with emphasis on comparative patterns of aggression, stealing, lying, and hyperactivity. **Materials and Methods:** this is a cross-sectional study involving 56 students from Babylon, 28 of them were dropped out from their school visited Imam Al-Sadiq Hospital, and another 28 were a control group. A questionnaire was used to collect the required data by direct interview with participants parents. **Results:** most of cases group (26) have positive medical history, while 10 have positive psychiatric history. Dropped out students were found to be have more aggressive than the control group ($p=0.00003$), they have more lying ($p=0.00002$). Control children have higher stealing than those who dropped out, but non-significant. Hyperactivity shows no significant difference. **Conclusion:** there are significant association between school dropout and mental and somatic disorders. This indicates that students who experience health problems are more likely to leave school early and show higher aggression and a greater dishonest behaviour. Therefore, early detection of health problems and providing adequate support may reduce dropout rates and improve students' overall school adjustment.

Keyword: Dropout, Aggression, Stealing, Lying, Hyperactivity.

Introduction

School dropout continues to be one of the most commonly encountered challenges worldwide. It arises from many causes and can lead to numerous consequences [1]. The Center of disease control and prevention emphasised the strong dependence between education and overall wellbeing including both disease

associated mortality and morbidity [2]. Contributing factors can be grouped into two categories: personal and socio-environmental factors [3]. Personal causes include mental and physical illnesses that can disrupt a child education by diverting their focus from long-term educational and career goals toward medical and psychiatric care. Additionally, this

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often leads to children becoming disengaged from school and peers because of increased absenteeism [4]. Mental illness includes both behavioural, mood and personality disorders including depression and autism as examples [5,6]. Different medical illness also encountered as a limiting factors for childhood school completion such as anaemia that can result in reduced cognition and attention span thus culminating in loss of multiple school years [7]. Thrombocytopenia in children also has a significant impact on the child physical, psychological as well as educational life aspects because of the need for avoidance of any exhausting activities and dangerous sports [8]. Poorly controlled diabetes on the other hand also found to be strongly linked to school related problems including early leave that is explained by students need for extraordinary social and family care [9]. Somatic congenital disorders like cerebral palsy, celiac disease, congenital heart diseases, inflammatory bowel diseases, headache syndromes as well as certain developmental disorders involving both speech and language skills were also found to be related to higher school dropout rate throughout the world [10]. Student aggression was also found to be implicated as a major contributing factor for school dropout, they have difficulty in many school domains, how to interact with their peers and exposed more to discipline referrals and suspension [11]. Stealing was observed mostly in secondary school students and associated with another behavioural problem like addiction, lying and hopelessness leading to higher rates of school dropouts [12]. The present study investigates the association between mental and physical health outcomes and school dropout rates among primary and secondary students in Babylon, with particular emphasis on

comparative patterns of aggression, stealing, lying, and hyperactivity.

Materials and Methods

Study design and settings

This is a cross sectional study conducted in Babylon province over period between October 2024 to June 2025, involving 56 primary and secondary school students from Babylon province, 28 of them were dropped out from their school for different reasons and visited the psychiatric department of Imam Al-Sadiq Teaching Hospital, another 28 one were collected as a control group from relatives of the participants. A questionnaire was used to collect the data required from these participants by direct interview with their parents, after taking consent. The collected data include: age, sex, medical and psychiatric history. In additional, it was asses the Behavioural Problems Scale, which consist of 40 questions about aggression, lying, stealing and hyperactivity. These questions was answered by parents by never, sometimes, often or always, with score 1,2,3 and 4 for each one respectively. And classify the scores into mild, moderate or severe for each one the above parameters, with full details in the below reference [13].

Ethical approval

This study was approved by Hammurabi College of medicine, University of Babylon research ethics committee by document No.43 on Jan 21, 2025.

Statistical analysis

Comparison between the groups was done using ANOVA single factor test and T test analysis by SPSS version 26.

Results

In this cross sectional study 56 participants were included. Twenty eight of them were students

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who dropped out of their schools, and brought by their families to the hospital for evaluation for the causes of their dropout. They termed as cases group with mean age 13.03 ± 3.44 years, and another twenty eight control group with mean age 11.39 ± 3.68 years, their characteristics shown in table 1.

Table 1: The characteristics of the participants.

Parameter	Cases group No. 28	Control group No. 28	P value
Mean age	13.03 ± 3.44	11.39 ± 3.68	0.09
Male	17	13	0.4
Female	11	15	

We Evaluated the difference between these two groups in term of medical (anaemia, thrombocytopenia, diabetes congenital anomaly and developmental delay) and psychiatric (personality disorder, autism, anorexia, depression, anxiety, smoking, tattoos, domestic violence and suicidal attempts) history, both show significant results, as shown in table 2, figure 1 and 2.

Table 2: Medical and psychiatric history of participants.

Parameter	Cases group	Control group	P value
Positive medical history	26	1	0.00002
Negative medical history	2	27	
Positive psychiatric history	10	0	0.0002
Negative psychiatric history	18	28	

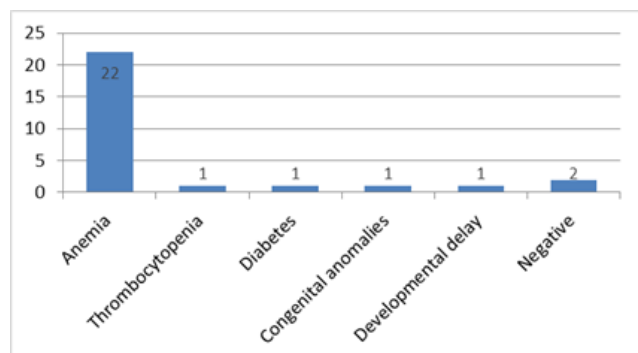


Figure 1: Past medical history of cases group.

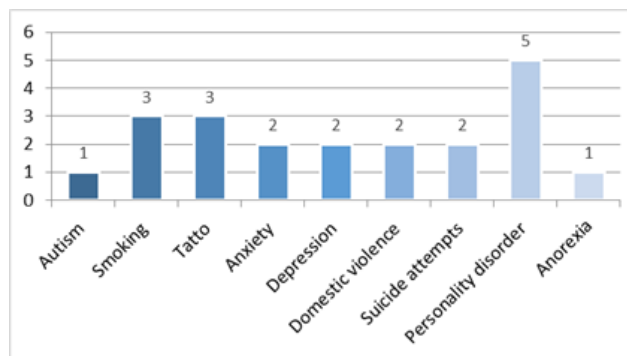


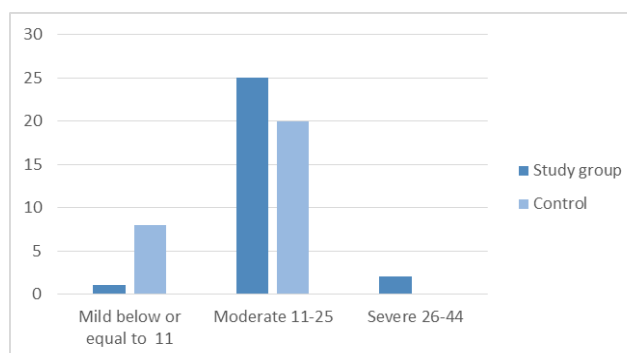
Figure 2: Past psychiatric history of cases group, the participant may have one or more of psychiatric problem.

The two groups also compared in term of aggression, lying, stealing and hyperactivity, with significant results in term of aggression and lying, as shown in table 3, figure 3-6.

Table 3: The characteristics of the participants, in term of aggression, lying, stealing and hyperactivity.

Term	Cases score	Control score	p value
Aggression	18 ± 5.02	13.32 ± 2	0.00003
Stealing	8.07 ± 2.46	8.75 ± 1.68	0.24
Lying	30.9 ± 6.82	23.57 ± 4.7	0.00002
Hyperactivity	12.35 ± 4.07	11.53 ± 5.54	0.53

With regard to aggression, both cases and control group were classified into three levels: mild moderate and severe. Those who were dropped out were found to be have more aggressive than the control group with $p=0.00003$, as shown in figure 3.



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Figure 3: Comparison between cases and control groups regarding aggression levels.

Stealing also categorised into mild, moderate and severe, although the number of control children have higher rate of stealing than those who dropped out, its sound non-significant, as in figure 4.

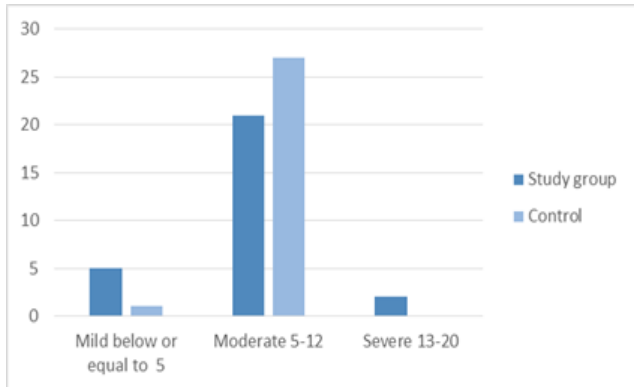


Figure 4: Comparison between cases and control groups regarding stealing levels.

Lying also classified into mild, moderate and severe, cases were found to be more lying than the control group with $p=0.00002$, as in figure 5.

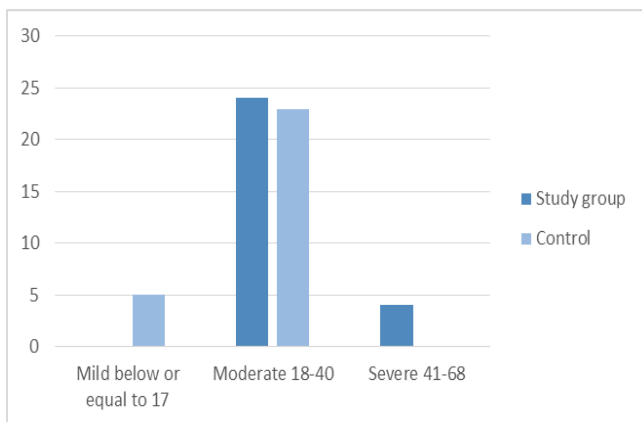


Figure 5: Comparison between cases and control groups regarding lying levels.

Hyperactivity also classified in mild moderate and severe with no significant difference, as in figure 6.

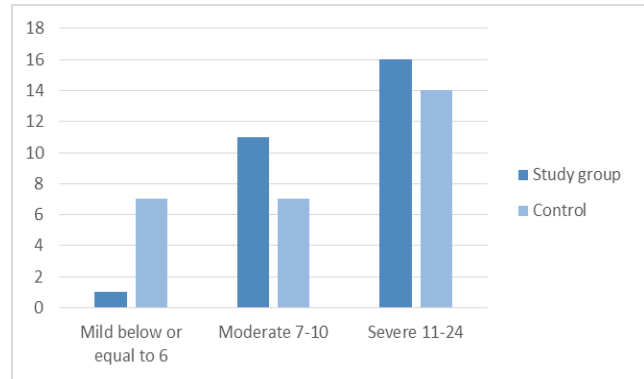


Figure 6: Comparison between cases and control groups regarding hyperactivity levels.

Discussion

School dropout remains a major global concern, with its connection to health problems being complex and multifactorial. This study demonstrates a significant association between various mental and somatic disorders and early school dropout among primary and secondary students in Babylon. It also shows there is a higher level of aggression against peers and a greater tendency toward roguish behaviours. Several studies reach similar findings and show strong correlation between school dropout and both mental and physical disorders. One study shows that individuals with lower levels of education are more prone for mental and physical health problems [14]. Another Danish study confirmed a higher dropout rate among males compared to females [15]. Students who frequently require medical care are also at greater risk of leaving school early, especially in lack of appropriate health support [4]. In Mexico, research on adolescents shows significant link between anemia and poor academic outcomes such as absenteeism and dropout [7]. However, an Indian study measuring hemoglobin levels in adolescents shows that anemia had little effects on school attendance [16]. Regarding thrombocytopenia, a Turkish study reported that children diagnosed with ITP experienced a lower

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quality of life, including reduced school attendance and achievement, primarily due to frequent hospitalizations [8]. A Portuguese study involving male students demonstrated a connection between school attendance, academic performance, and behavioral traits such as aggression [17]. Robest et al. supported this finding, though they noted that the correlation was more pronounced among boys than girls [18]. Concerning dishonest behaviors such as stealing, one study shows weak correlation between school dropout and law violations, attributing this to the limited number of studies examining these factors together [19]. Another study suggested that the impact of school dropout on criminal behavior becomes more evident when combined with other contributing factors [20]. Furthermore, Parviainen et al. observed that children who engaged in certain social misbehaviors, such as lying, were at greater risk of dropping out, emphasizing the need for targeted policies to mitigate these effects [21]. Finally, Fried et al. reported that dropout rates were higher among individuals with ADHD, attributing this to both social and IQ-related factors, with females being the most affected [22].

Conclusion

This study shows a significant association between early school dropout and both mental and somatic disorders among primary and secondary students in Babylon. The results indicate that students who have health problems are more likely to leave school early and also show higher levels of aggression toward peers and dishonest behaviors. These findings suggest these health issues play an important role in educational outcomes and social conduct. Therefore, early detection and providing adequate psychological and educational support

may reduce dropout rates and improve school performance.

Limitations

1. The small sample size
2. The limited cases received in the psychology clinic.

References

- [1] Vaughn MG, Salas-Wright CP, Maynard BR. Dropping out of school and chronic disease in the United States. *Z Gesundheitswiss.* 2014;22(3):265–270.
- [2] Lansford JE, Dodge KA, Pettit GS, Bates JE. A public health perspective on school dropout and adult outcomes: a prospective study of risk and protective factors from age 5 to 27 years. *J Adolesc Health.* 2016;58(6): 652–658.
- [3] Tong Y, Wang S, Cao L, Zhu D, Wang F, Xie F, et al. School dropouts related to mental disorders: a systematic review and meta-analysis. *Asian J Psychiatr.* 2023;85: 103622.
- [4] Mikkonen J, Moustgaard H, Remes H, Martikainen P. The population impact of childhood health conditions on dropout from upper-secondary education. *J Pediatr.* 2018; 196:283–290.
- [5] Rahbari M, Hajnaghizadeh F, Damari B, Adhami B. Dropout and social determinants of health: policy for the prevention of school dropout, a qualitative study of the causes and interventions. *Int J Prev Med.* 2014;5:1396–1404.
- [6] Alshammary AAM, Aljibori QN, Al-Jabory MA. Clinical and demographic characteristics of autistic children in Al-Hilla city. *Med J Babylon.* 2024;21(1):195–199.
- [7] Mosiño A, Villagómez-Estrada KP, Prieto-Patrón A. Association between school

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- performance and anemia in adolescents in Mexico. *Int J Environ Res Public Health*. 2020;17(5):1466.
- [8] Özbay T, Hilkey Karapinar T. An evaluation on the quality of life in children with immune thrombocytopenia. *Forbes J Med*. 2024;5(3):186–192.
- [9] Nouira S, Ach T, Ammar A, Ach M, Sabbagh G, Ezzi O, et al. Prevalence and factors associated with school failure in children with type 1 diabetes. *Pediatr Endocrinol Diabetes Metab*. 2024;30(1):3-7.
- [10] Long SS. Childhood mental health conditions have substantial impact on educational dropout. *J Pediatr*. 2018;196:1-2.
- [11] Orozco SR. Aggressive students and high school dropout: an event history analysis [dissertation]. New York: Columbia University; 2016.
- [12] Grant JE, Potenza MN, Krishnan-Sarin S, Cavallo DA, Desai RA. Stealing among high school students: prevalence and clinical correlates. *J Am Acad Psychiatry Law*. 2011;39(1):44–52.
- [13] Ara E. Behavioural Problems Scale (BPS): construction and validation. 2018.
- [14] Freudenberg N, Ruglis J. Reframing school dropout as a public health issue. *Prev Chronic Dis*. 2007;4(4):A107.
- [15] Hjorth CF, Bilgrav L, Frandsen LS, Overgaard C, Torp-Pedersen C, Nielsen B, et al. Mental health and school dropout across educational levels and genders: a 4.8-year follow-up study. *BMC Public Health*. 2016;16:976.
- [16] De Neve JW, Karlsson O, Rai RK, Subramanian SV, Fink G, Canning D, et al. Relationship between adolescent anemia and school attendance observed during a nationally representative survey in India. *Commun Med*. 2024;4:112.
- [17] Saraiva A, Pereira B, Zamith-Cruz J. School dropout, problem behaviour and poor academic achievement: a longitudinal view of Portuguese male offenders. *Emot Behav Difficulties*. 2011;16(4):419–436.
- [18] Robst J, Weinberg C. Childhood behavioral problems and dropping out of school. *East Econ J*. 2010;36:523–540.
- [19] Drapela L. Does dropping out of high school cause deviant behavior? An analysis of the National Education Longitudinal Study. *Deviant Behav*. 2004;26:47–62.
- [20] Rud I, van Klaveren C, Groot W, van den Brink HM. What drives the relationship between early criminal involvement and school dropout? *J Quant Criminol*. 2018;34:139–166.
- [21] Parviainen M, Aunola K, Torppa M, Poikkeus AM, Vasalampi K. Symptoms of psychological ill-being and school dropout intentions among upper secondary education students: a person-centered approach. *Learn Individ Differ*. 2020;80:101853.
- [22] Fried R, Petty C, Faraone SV, Hyder LL, Day H, Biederman J. Is ADHD a risk factor for high school dropout? A controlled study. *J Atten Disord*. 2016;20(5):383–389.