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Mental health status among caregivers of under-five-year-old children admitted in Kilifi County Hospital, Kenya

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Abstract

The difficulties associated with caring for young children who have diarrhea infections can have a significant impact on the mental health of caregivers. The severity of this condition increases dramatically when healthcare and resources are scarce and caregivers have been found to endure high levels of physical and mental stress showing increase in psychological distress, anxiety and depressive symptoms. This study examined the mental health status of caregivers of children under the age five years who were admitted in Kilifi County Hospital due to diarrhea illnesses. A cross-sectional study was conducted in a hospital and structured questionnaires such as the GAD-7 for anxiety and the PHQ-9 for depression were used to survey 202 caregivers who were systematically sampled using the Fischer's formula and consecutive sampling technique. The result demonstrated that Comparing caregivers of children with diarrhea disorders to those of other diseases showed a higher median depression score of 14.5 (IQR: 6-18) but there was no significant difference in anxiety scores between caregivers of children with diarrhea diseases (median: 10, IQR: 4-14) compared to those with other diseases (median: 7, IQR: 3-13) ($p = 0.336$), with an overall median of 7 (IQR: 3-13). There were no appreciable differences in stress levels between caregivers of children with diarrhea disorders (median: 40, IQR: 37-45) compared to those with other illnesses (median: 41, IQR: 34-47), with an overall median of 40 (IQR: 35-46) ($p = 0.772$). The study recommended the improvement of primary healthcare by promoting breast feeding and rotavirus vaccinations to lower the prevalence of diarrhea and use psychological help to treat high levels of caregiver depression and anxiety in OPD settings.

Keywords: Diarrhea Infections; Mental Health; Caregivers; Healthcare; Depression; Anxiety; Stress

1. Introduction

When children are admitted in the hospital with diarrhea diseases, caregivers are on guard and anxious all the time. Among their duties are keeping a careful eye on the child's general health, making sure they get the prescription drugs they need and ensuring they are getting enough food and water (Liheluka, et al., 2024). The combination of having to navigate many healthcare systems and witnessing the upsetting sight of a child in pain can be quite demanding (Wayne, 2017). Once caregivers attempt to balance these obligations with other home duties, they frequently experience physical tiredness and impaired personal well-being (Lindt et al., 2020). The household's mental health issues are equally evident (Omwenga and Mwangi, 2024). The emotional burden of caring for a sick child in the home often falls on caregivers in addition to looking after other children. A study by Brehaut et al. (2009) found that trying to manage several things at once may cause a more noticeable deterioration in the mental health of those who are already experiencing difficulties. Taking care of a loved one at home can be made even more difficult by the additional weight of paying medical expenditures, which can increase emotions of helplessness and anxiety (Schulz et al., 2011).

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The financial strain of raising a sick child is a major issue that can have a serious negative effect on caregivers' mental health (Omwenga and Kathure, 2024). The inability to work or the need to pay for medical treatment might result in financial difficulties, which can then affect the mental and emotional health of caregivers. According to Schulz et al. (2011), the financial stress is especially noticeable in underprivileged areas where people have trouble accessing social support networks and healthcare. The tragic circle of poverty and ill health puts those who provide care under more stress and financial strain (Mokoro and Omwenga, 2025). Public health research has frequently neglected the mental health of caregivers, even though they play an essential role in maintaining their children's physical health, (Anika et al., 2025) but there is a notable gap in understanding the mental health challenges faced by caregivers of affected children.

2. Literature review

Depression is a serious psychiatric disorder characterized by long-lasting feelings of sadness, hopelessness, and a loss of interest in things. It affects people of all ages and makes a significant contribution to the global burden of disease (Omwenga et al., 2025). Those caring for young children who are hospitalized with diarrhea disorders may be at a higher risk of experiencing depression due to the stress and demands of caregiving (Mekuriaw et al., 2025). Several studies have examined the prevalence of depression among individuals caring for children hospitalized with diarrhea disorders. In a study conducted in Nigeria, Okoromah *et al*. (2012) found that a significant portion of caregivers, specifically 46.1%, experienced symptoms of depression. The study involved 200 caregivers of children aged 2 months to 5 years who were hospitalized for diarrhea. The prevalence of depression was evaluated using the PHQ-9 screening tool. In a study conducted in Brazil by Lima *et al*. (2012), it was found that 35.4% of mothers with hospitalized children suffering from diarrhea experienced symptoms of depression. The study involved 142 women who were caring for children between the ages of 0 and 5 years. The prevalence of depression was evaluated using the Beck Depression Inventory-II (BDI-II) screening tool. In a recent study conducted in low- and middle-income countries, Rahman *et al*. (2019) conducted a thorough review and meta-analysis of existing research. Their research uncovered a wide range of rates of depression among caregivers of children with diarrhea, from 15% to 59%. The study included 16 different research studies that examined the psychological well-being of caregivers of children with diarrhea. Various screening instruments, including the PHQ-9, BDI-II, and the Center for Epidemiologic Studies Depression Scale (CES-D), were used to assess the prevalence of depression.

Anxiety is a psychiatric condition characterized by an overwhelming and enduring state of concern, nervousness, and unease (Omwenga and Kathure, 2024). This is a common mental health disorder that affects a substantial number of primary caregivers of young children who are hospitalized with diarrhea illnesses. This could be attributed to the stress and concern associated with caring for a sick child. A recent study conducted in India found that a significant number of caretakers of children hospitalized with diarrhea disorders experienced anxiety, with a prevalence rate of 57.8% (Kaur *et al*., 2019). The increased occurrence of anxiety can be attributed to factors such as low socio-economic status, poor sanitation, and hygiene, which are common factors associated with diarrhea diseases. The study also found a significant link between the caregivers' level of education and anxiety. Individuals with a more advanced educational background experienced a reduced occurrence of anxiety among caregivers. A study conducted in Nigeria revealed that the prevalence of anxiety among caregivers of children hospitalized with diarrhea disorders was 29.8% (Okoromah *et al*., 2012). The study attributed the higher occurrence of anxiety to the caregivers' lack of social support, excessive medical costs, and poor-quality healthcare services. These variables can pose a significant challenge for primary caregivers who are already experiencing stress due to their child's condition. After conducting a thorough investigation and analyzing the data from various studies conducted in low- and middle-income countries, it was found that the prevalence of anxiety among caregivers of children with diarrhea ranged from 14% to 66% (Rahman *et al*., 2019). The study highlighted the need for further exploration into the prevalence of anxiety among caregivers of children with diarrhea, particularly in low- and middle-income countries where the occurrence of diarrhea illnesses is significant.

It is common to observe caregiver role strain in primary caregivers of young children who are hospitalized for diarrhea illnesses (Bekui *et al*., 2023). Dealing with caregiving responsibilities can be overwhelming and result in physical, emotional, and psychological stress. In addition, caregivers may experience feelings of isolation, financial strain, and disruptions to their daily routines. A study conducted in Nigeria revealed that a significant percentage of caregivers of children hospitalized with diarrhea illnesses reported experiencing strain in their caregiving role (Okoromah *et al*., 2012). The study revealed that caregivers experienced high levels of stress, anxiety, and depression, which were associated with the demands of caregiving, financial constraints, and the need to balance caregiving responsibilities with other commitments. Similarly, a study conducted in Brazil found that 80.6% of mothers of hospitalized infants with diarrhea experienced caregiver stress (Lima *et al*., 2012).

3. Methodology

The study used a cross-sectional study design to examine the relationship between diarrhea disease and other related conditions and the mental health of caregivers of children under five who were admitted to Kilifi County Hospital in Kenya. Caregivers and their children under their supervision who were younger than five years old made up the study population for this study. Fischer's method was used to calculate the sample size, and the sequential sampling procedure was used (Arikpo et al., 2018).

The researcher tested the study instruments' sustainability, validity, and reliability in a pilot study prior to the actual data collection. The study's tools and data collection methods were improved with the help of the pilot study which was carried out in a comparable environment to the primary study (Juma et al., 2025). The tools were refined through pilot research with 20 caregivers at Malindi Sub-County Hospital. To guarantee a uniform data collection approach throughout all research locations, standard operating procedures were created and adhered to. Comprehensive guidelines were provided on how to administer the research tools, gather and manage the data, and protect the confidentiality and privacy of study participants.

A structured survey was employed to determine the frequency of diarrhea and related variables. 43 questions on the child, caregiver, water, sanitation, and hygiene risk factors, as well as the child's and caregiver's immunization history were included in the questionnaire. In the ward, the subjects were given the questionnaire. In addition to providing information about the child's age and sex, the caregiver's age, occupation, number of rooms and family size, caregiver were asked if their children experienced diarrhea.

Furthermore, questions about the child's immunization history, hygiene habits, water source, and waste disposal were also included in the questionnaire. The prevalence of diarrhea and the factors that are linked to it were determined using the information gathered from the survey. In the analysis, the determinants were linked to diarrhea disease and identified using bivariable logistic regression, and the mental health status of caregivers was identified using a generalized linear model (GLM) with Gaussian family and identity link (Kayusi et al., 2025). To determine the relevant components in the multivariable analyses, a backwards stepwise selection method was employed, beginning with a full model. At a p value of 0.05, statistical significance was established.

4. Results

Table 1 and figure 1 presents an evaluation of the mental health status among caregivers of under-five years old children, with a focus on specific domains such as depression, anxiety, and stress. The median scores (IQR) are reported for the overall caregiver population and are further stratified based on whether their children experienced diarrhea diseases or other diseases. In terms of depression, caregivers overall had a median score of eight (IQR: 4-17). Notably, caregivers of children with diarrhea diseases exhibited a higher median depression score of 14.5 (IQR: 6-18) compared to those caring for children with other diseases, and this difference was statistically significant ($p = 0.033$). In contrast, anxiety scores, with an overall median of 7 (IQR: 3-13), did not significantly differ between caregivers of children with diarrhea diseases (median: 10, IQR: 4-14) and those with other diseases (median: 7, IQR: 3-13) ($p = 0.336$). Similarly, stress levels with an overall median of 40 (IQR: 35-46), showed no significant variations between caregivers of children with diarrhea diseases (median: 40, IQR: 37-45) and those with other diseases (median: 41, IQR: 34-47) ($p = 0.772$).

Table 1 Mental Health Status Among Caregivers of Under Five Children

Mental Health Status	Overall	Diarrhea Diseases	Other Diseases	P-Values
	Median (IQR)	Median (IQR)	Median (IQR)	
Depression	8(4-17)	14.5(6-18)	7(4-17)	0.033
Anxiety	7(3-13)	10(4-14)	7(3-13)	0.336
Stress	40(35-46)	40(37-45)	41(34-47)	0.772

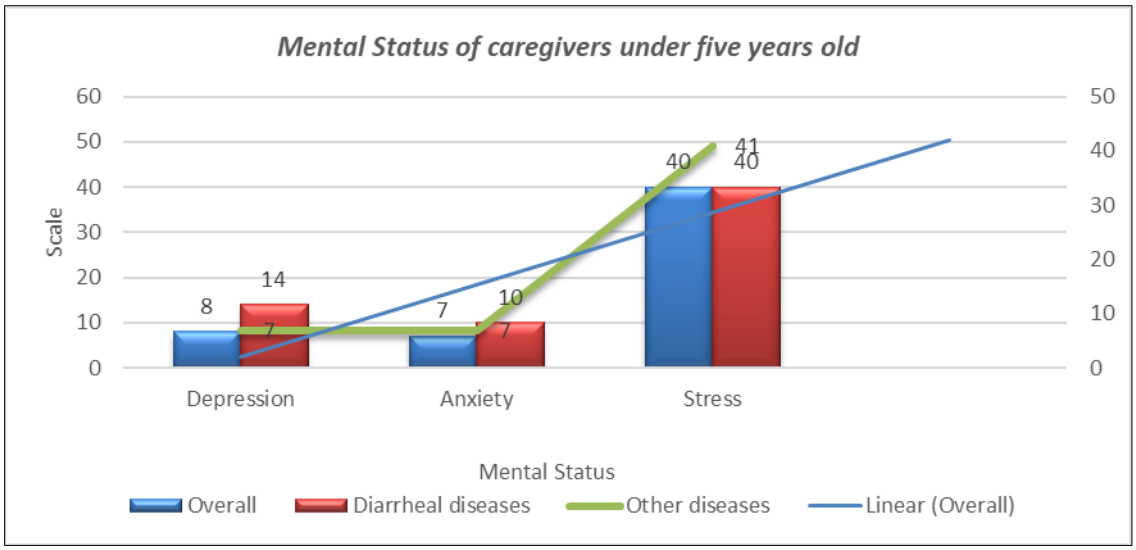

Figure 1 Mental Status Among Caregivers

Figure 2 below presents median scores on the Patient Health Questionnaire-9 (PHQ-9) across various participant characteristics. Participants from the OPD exhibited a median PHQ-9 score of 13, whereas those from the Ward had a lower median score of 5. sex differences were apparent, with female participants having a median score of 7, while males had a slightly higher median of 10. Religious affiliations also showed variations, with Christianity associated with a median score of 9.5, Islam with 6.5, None with 2, and other religions with 19. Furthermore, participants residing in rural areas had a median PHQ-9 score of 10, while their urban counterparts scored slightly lower at 7. Education level among female caregivers played a role, as those with no formal education scored 7, while those with primary education had a higher median of 14. Among male caregivers, the highest median PHQ-9 score was observed in those with no formal education (15), followed by primary education (14), secondary education (6), and post-secondary education (9.5).

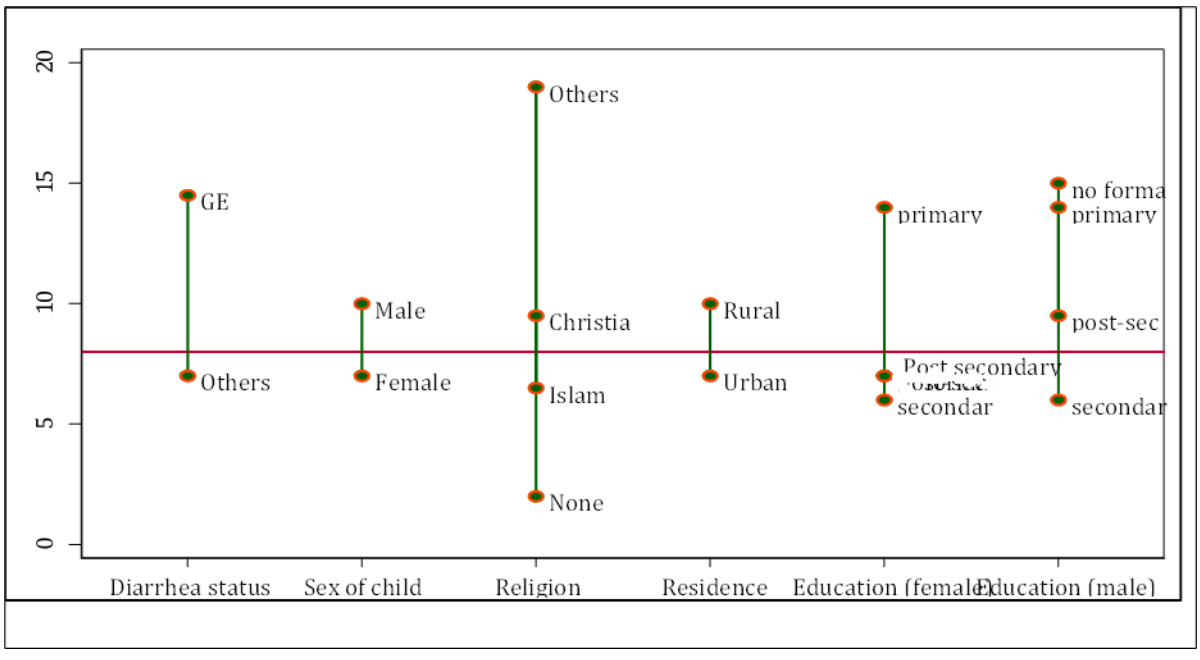

Figure 2 Median scores on the Patient Health Questionnaire-9 (PHQ-9) across various participant characteristics

5. Discussion

Caregivers of children with diarrhea illness exhibited significantly higher depression scores compared to others is a significant concern. This study found a median depression score of 14.5 (IQR: 6-18) among caregivers, aligning with

Okoromah *et al.* (2012) who reported 46.1% prevalence in Nigeria, and higher than Lima *et al.* (2012) at 35.4% in Brazil. The elevated scores in Kilifi may reflect the compounded stress of resource scarcity and frequent child hospitalizations, consistent with Rahman *et al.* (2019) findings of 15%-59% prevalence in low-income settings This aligns with research highlighting the emotional burden on caregivers of sick children. Previous studies have reported significant emotional burden on caregivers of sick children, with factors such as financial difficulties, child symptoms, and the nature of the illness contributing to this burden (Bekui *et al*., 2023; Carmassi *et al*., 2021; Ozdemir Koyu and Tas Arslan, 2021). This burden can lead to psychological distress, reduced quality of life, and disruptions in the caregiver's lifestyle and relationships (Ravyts and Dzierzewski, 2024). Diarrhea illness specifically. can be a physically and emotionally draining experience for both the child and the caregiver. Caregivers often face sleep deprivation, worry about their child's health, and disruptions to their daily routines. The child might experience frequent vomiting, diarrhea, and dehydration, requiring constant attention and care. This can lead to feelings of helplessness, frustration, and exhaustion in caregivers.

Younger age was a significant predictor of diarrhea illnesses in the current investigation. The fact that younger age has been identified as a risk factor supports what is already known about how vulnerable youngsters with underdeveloped immune systems are (WHO, 2020). Due to their immature immune systems, infants and toddlers are more vulnerable to bacterial, viral, and parasitic infections that can result in diarrhea (Omwenga, 2025). This highlights how crucial early treatments and childhood vaccination programmes are in preventing diarrhea illnesses in this age group.

This study found a link between childhood diarrhea and caregiver mental status. The impact size points to an indirect influence, even while older caregivers had a somewhat higher risk (AOR 1.09) of having children with diarrhea. Larger social networks with young children or possible socioeconomic status confounding could be the cause of this. The number of children under five was more clearly associated with a significant increase in risk (AOR 1.64). This probably reflects the difficulties in maintaining regular hygiene habits with several little children as well as the increased transmission in crowded households.

6. Conclusion

This study examined the frequency of diarrhea illnesses in children under five admitted to Kilifi County Hospital in Kenya, as well as the impact these illnesses had on the mental health of those who cared for them. Younger age and higher family size are significant predictors of diarrhea disease burden in this population, according to the data. The study demonstrated the need for integrated health interventions by confirming a high frequency of diarrhea infections (34.7%) and elevated depression scores (14.5) among caregivers, which were influenced by characteristics such as bigger family sizes and younger child ages.

Recommendations

- Given the 34.7% prevalence of diarrhea, improve primary healthcare by promoting breastfeeding and providing rotavirus vaccines.
- In OPD settings, use psychosocial support to address high levels of carer depression (median 14.5).
- Investigate the effects of child hospitalization on the mental health of long-term caregivers.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

[1] Anika, A. A. A. A. A., Omwenga 1, M. K. O. 1 M. K., Chebet, E. C. E., Mogaka, S. M. M. S. M., and Moracha, E. N. M. E. N. (2025). Test anxiety and academic achievement in junior secondary schools in Kitutu Chache north sub-county, Kisii, Kenya: A correlation study. International Journal of Science and Research Archive, 15. https://doi.org/10.30574/ijsra.2025.15.2.1373

[2] Arikpo D, Edet ES, Chibuzor MT, Odey F, Caldwell DM. (2018). Educational interventions for improving primary caregiver complementary feeding practices for children aged 24 months and under. Cochrane Database Syst Rev. 2018 May 18;5(5):CD011768. doi: 10.1002/14651858.CD011768.pub2. PMID: 29775501; PMCID: PMC6494551.

[3] Bekui, B. A. A., Ohene, L. A., Badzi, C., Ampomah, M. O., and Aziato, L. (2023). Physical and socioeconomic burden of caregiving on family caregivers of children with cancer at a tertiary Hospital in Ghana. Nursing Open, 10(2), 915–925. https://doi.org/10.1002/nop2.1359

[4] Brehaut, J. C., Kohen, D. E., Garner, R. E., Miller, A. R., Lach, L. M., Klassen, A. F., and Rosenbaum, P. L. (2009). Health among caregivers of children with health problems: Findings From a canadian population-based study. American Journal of Public Health, 99(7), 1254–1262. https://doi.org/10.2105/AJPH.2007.129817

[5] Carmassi, C., Dell'Oste, V., Foghi, C., Bertelloni, C. A., Conti, E., Calderoni, S., Battini, R., and Dell'Osso, L. (2021). Post-traumatic stress reactions in caregivers of children and adolescents/young adults with severe diseases: A systematic review of risk and protective factors. International Journal of Environmental Research and Public Health, 18(1), 189. https://www.mdpi.com/1660-4601/18/1/189

[6] Juma, L., Chavula, P., Kayusi, F., Omwenga, M. K., Mishra, R., and Mwewa, T. (2025). AI in Dissertation Examination: Opportunities for Undergraduates and Postgraduates in Zambia, Rwanda, and Kenya. LatIA, 3. https://doi.org/10.62486/latia2025329

[7] Kathure, M. J., and Omwenga, K, M. (2024). A Study on Causes of Stress among Teachers and its Effect on the Academic Performance at Schools in Nairobi, Kenya. Asian Journal of Advanced Research and Reports, 18(12), 272–284. https://doi.org/10.9734/ajarr/2024/v18i12824

[8] Kaur, H., Kumar, P., and Kaur, H. (2019). Prevalence of anxiety and depression among primary caregivers of children hospitalized with diarrheal diseases: A cross-sectional study from North India. Indian Journal of Child Health, 6(1), 11-15. https://www.indianjournals.com/ijor.aspx?target=ijor:ijchandvolume=6andissue=1andarticle=003

[9] Kayusi, F., Vallejo, R. G., Juma, L., Omwenga, M. K., and Chavula, P. (2025). A Bibliometric Analysis of Segment Anything (SA) Research: Global Trends, Key Contributors, and Thematic Insights. Babylonian Journal of Machine Learning, 2025, 27–41. https://doi.org/10.58496/BJML/2025/003

[10] Liheluka EA, Bali T, Lyimo E, Dekker D, Gibore NS. (2024). Caretaker's Knowledge, Attitudes, and Practices Regarding the Causes, Treatments, and Risks of Diarrhea Among Under-Five Children in North-Eastern Tanzania: A Cross-Sectional Study. Glob Pediatr Health. 2024 Oct 9; 11:2333794X241288524. doi: 10.1177/2333794X241288524. PMID: 39391800; PMCID: PMC11465295.

[11] Lima, M. C. M., Oliveira, S. B., Silva, M. S. S., and Araújo, I. S. (2012). Caregiver burden of mothers of hospitalized children with diarrhoea. Journal of Clinical Nursing, 21(21-22), 3172-3181. https://doi.org/10.1111/j.1365-2702.2012.04181.x

[12] Lindt, N., van Berkel, J., and Mulder, B. C. (2020). Determinants of overburdening among informal carers: A systematic review. BMC Geriatrics, 20(1), 304. https://doi.org/10.1186/s12877-020-01708-3

[13] Mekuriaw BY, Getnet B, Seid E, Teferi T, Alemwork A, Aschale M, Tsega A. (2025). Prevalence and associated factors of psychological distress among caregivers of children with malnutrition: a cross-sectional study. BMC Public Health. 2025 Feb 7;25(1):505. doi: 10.1186/s12889-025-21692-w. PMID: 39920695; PMCID: PMC11806561.

[14] Mokoro, A., and Omwenga, M. K. (2025). Influence of personality traits and family income on farmers' psychological distress on agriculture: The significance of educational background. Magna Scientia Advanced Research and Reviews, 14(1), 022–032. https://doi.org/10.30574/msarr.2025.14.1.0065

[15] Okoromah, C. A., Lesi, F. E. A., Ogunniyi, S. O., and Taylor, R. (2012). Caregiver burden of children with diarrhoea admitted to hospital in a developing country. Archives of Disease in Childhood, 97(11), 967-972. https://doi.org/10.1136/archdischild-2011-300775

[16] Omwenga, K. M. (2025). (PDF) Influence of Drug Substance on Conduct Disorders Among Children at Manga Institution, Kisii, Kenya. (n.d.). Retrieved June 9, 2025, from https://www.researchgate.net/publication/392408097_Influence_of_Drug_Substance_on_Conduct_Disorders_Among_Children_at_Manga_Institution_Kisii_Kenya

[17] Omwenga, M. K., Juma, L., Kayusi, F., and Vallejo, R. G. (2025). Antisocial behavior that influences academic performance of students in an educational environment in Kenya. Actas Iberoamericanas En Ciencias Sociales, 3(1), 83–97. https://doi.org/10.69821/AICIS.v3i1.79

[18] Omwenga, M., and W, M. S. (2024). The Influence of Sociodemographic Factors on Anti-social Behavior among Children: A Case of Bobaracho Area, Nyaribari Chache, Kenya. Archives of Current Research International, 24(11), 375–385. https://doi.org/10.9734/acri/2024/v24i11979

[19] Ozdemir Koyu, H., and Tas Arslan, F. (2021). The effect of physical and psychosocial symptoms on caregiver burden of parents of children with cancer. European Journal of Cancer Care, 30(6). https://doi.org/10.1111/ecc.13513

[20] Rahman, A., Husain, M. O., Khan, S., and Sikander, S. (2019). Caregiver mental health in the context of caring for children with diarrhoea in low- and middle-income countries: A systematic review and meta-analysis. PLoS One, 14(8), e0220677. https://doi.org/10.1371/journal.pone.0220677

[21] Ravyts, S. G., and Dzierzewski, J. M. (2024). Sleep Disturbance, Mental Health Symptoms, and Quality of Life: A Structural Equation Model Assessing Aspects of Caregiver Burden. Clinical Gerontologist, 47(3), 484–493. https://doi.org/10.1080/07317115.2020.1783042

[22] Schulz, J., Henderson, S., Sugden, D., and Barnett, A. (2011). Structural validity of the movement ABC-2 tests: Factor structure comparisons across three age groups. Research in Developmental Disabilities, 32, 1361–1369. https://doi.org/10.1016/j.ridd.2011.01.032

[23] Wayne, G. (2017, April 6). Caregiver Role Strain Nursing Care Plan. Nurseslabs. https://nurseslabs.com/caregiver-role-strain/

[24] World Health Organization. (2020, November 20). Children's immature immune systems threatened by increasing 'superbugs. https://www.who.int/news-room/commentaries/detail/children-s-immature-immune-systems-threatened-by-increasing-superbugs