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Factors associated with mental health problems among caregivers of under-five-year-old children in Kilifi county hospital in Kenya

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Abstract

The challenges of caring for young infants with diarrhea might significantly affect caregivers' mental health. It has been discovered that caregivers experience high levels of physical and mental stress, which raises psychological discomfort, anxiety, and depressive symptoms. This condition's severity increases significantly when healthcare and resources are limited. The factors associated with mental health of parents of children under five who were admitted to Kilifi County Hospital with diarrhea infections was investigated in this study. A cross-sectional study was carried out in a hospital, and 202 caregivers were systematically sampled using Fischer's formula and consecutive sampling procedure. They were surveyed using structured questionnaires, such as the GAD-7 for anxiety and the PHQ-9 for depression. The findings showed that elements related to the household showed statistically significant relationships with greater levels of stress ($\beta = 2.02$, $p < 0.01$), anxiety ($\beta = 0.9$, $p = 0.02$), and depression ($\beta = 2.02$, $p < 0.01$) when the number of rooms increased. Lower levels of stress ($\beta = -4.55$, $p = 0.03$), anxiety ($\beta = -4.02$, $p = 0.01$), and depression ($\beta = -5.3$, $p < 0.01$) were also substantially correlated with hand washing behaviors, higher family size and higher scores for stress ($\beta = 1.67$, $p < 0.01$), anxiety ($\beta = 0.71$, $p < 0.01$), and depression ($\beta = 1.14$, $p < 0.01$). Educational attainment: fathers with secondary education showed greater stress ratings ($\beta = 2.97$, $p = 0.01$), while women with secondary education had higher depression levels ($\beta = 2.66$, $p < 0.01$). In order to reduce the incidence of diarrhea, the study suggested that primary healthcare be improved by encouraging breastfeeding and rotavirus vaccinations. Additionally, it suggested using psychological assistance to treat high levels of anxiety and despair among caregivers in OPD settings.

Keywords: Diarrhea; Caregivers; Mental health; Psychological discomfort; Anxiety; Depressive symptoms

1. Introduction

Caregivers are constantly on guard and nervous when children are taken to the hospital with diarrhea illnesses. Their responsibilities include monitoring the child's overall health, ensuring they receive the necessary prescription medications, and making sure they are receiving adequate food and drink (Liheluka et al., 2024). It can be quite taxing to have to deal with multiple healthcare systems and see the distressing image of a child in agony (Wayne, 2017). Caregivers often suffer from physical exhaustion and compromised personal well-being after attempting to juggle these responsibilities with other household chores (Lindt et al., 2020). Mental health problems within the household are equally apparent (Omwenga & Mwangi, 2024). The household's mental health issues are equally noticeable. The emotional burden of caring for a sick child in the home often falls on caregivers in addition to looking after other children (Omwenga & Mwangi, 2024). 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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Severe weather events and the effects of climate change only make the already complicated problem worse. Because faeces contaminate water sources during floods, diarrhea disease is more prone to spread during these events (Omwenga & Kathure, 2024). The risk is further increased by the limited supply of clean water during droughts (Levy et al., 2018). Cholera and other diarrhea diseases may spread as a result of the destruction of sanitary infrastructure caused by heavy rains. Droughts can also worsen the already severe food and water shortage situation, making children more vulnerable and placing additional strain on caregivers (Okaka & Odhiambo, 2018; Melese et al., 2019).

One important aspect that can have a big influence on caregivers' mental health is the expense of caring for a sick child. Financial hardships can occur when one is unable to work or must pay for medical expenses, which can then affect the mental and emotional health of those who provide care. In underprivileged communities, where people have difficulty accessing social support networks and healthcare, the financial strain is more noticeable (Schulz et al., 2011). Because of the regrettable cycle of poverty and ill health, those who provide care experience increased stress and financial difficulties (Juma et al., 2025).

Coping strategies are essential because a number of factors have been connected to depression in parents of children who suffer diarrhea diseases (Anika et al., 2025). Because caregivers from low-income homes experience more financial stress, lack social support, and have difficulty accessing healthcare services, socioeconomic status is an important factor. These traits increase the likelihood of developing depression (Kulsum et al., 2021). Overcrowding and a lack of basic amenities like clean water and sanitary facilities are examples of inadequate living conditions that have been found to increase the risk of depression in parents of children with diarrhea illnesses (Alemayehu et al., 2020; Shumet et al., 2021).

2. Literature Review

Depression among parents of children with diarrhea illnesses is influenced by the severity of the child's illness. Children with severe diarrhea illnesses have caregivers who are more stressed and uncertain, which makes them more prone to depression (Abba et al., 2019; Haque et al., 2019). A major contributor to depression in parents of children with diarrhea disorders is a lack of social support (M. Omwenga & Kayusi, 2024). Depression is more common in caregivers who do not receive practical and emotional support from friends, family, or medical professionals (Kulsum et al., 2021; Shumet et al., 2021). One of the main causes of concern among parents of children with diarrhea disorders is the severity of the illness. In contrast to individuals who care for children with mild or moderate diarrhea illness, caregivers of children with severe diarrhea disease are more likely to have elevated levels of anxiety (Okafor et al., 2022). The degree of physical discomfort, the amount of medical intervention required to manage the illness, and the potential for consequences are all closely proportional to how severe the illness is.

Perceived ability to manage the child's condition is another factor associated with anxiety in caregivers (Obeagu & Obeagu, 2024). Compared to caregivers who lack confidence, those who have a strong sense of confidence in their ability to manage the illness report feeling less anxious. Previous experiences caring for a sick child, the availability of resources and support, and the quality of information provided by medical professionals can all influence one's degree of confidence (Ju et al., 2021).

Another important factor that may affect the anxiety levels of caregivers is social support. Caretakers with strong social support networks typically have lower anxiety levels than those with weak social support networks (Zand et al., 2020). Family, friends, and the community can all provide social support, which can help caregivers both practically and emotionally. It has been discovered that the age and gender of the caregiver are related to anxiety. Ju et al. (2021) found that people over 35 and female caregivers have higher levels of anxiety than do male caregivers and people under 35. This could be explained by differences in coping strategies and social support networks, as well as differences in parenting responsibilities and chores (M. K. Omwenga et al., 2025). The financial situation of parents of children with diarrhea illnesses has also been identified as a cause for concern. In contrast to caregivers from high-income homes, those from low-income families are more likely to have heightened levels of anxiety (Gerogianni et al., 2019). This may be related to challenges in accessing resources and support, as well as heightened financial strains associated with caring responsibilities.

A common issue faced by caregivers of children with diarrhea diseases is caregiver role strain. Taking care of a sick child can be a physically and emotionally taxing task that causes a great deal of stress and strain on those who provide care (Mas'uda, 2022). Among caregivers of children with diarrhea diseases, a number of characteristics have been identified to be associated with caregiver role strain. One important factor contributing to caregivers' stress is the amount of time they spend giving care. Those who have been caregivers for a long time are more likely to feel role pressure. The

phenomena that long-term caregiving can lead to emotional and physical exhaustion may be the cause of this, which can affect the caregiver's general physical and mental well-being (Bucak et al., 2021).

The severity of the child's illness is another important factor that adds to the caregiver's stress. Caregivers of children with severe diarrhea illness are more likely to experience role strain than those of children with mild or moderate diarrhea illness, according to Bucak et al. (2021). The caregiver's perceived ability to manage the illness is another factor that contributes to caregiver role stress. Role strain is more likely to occur for caregivers who have less confidence in their ability to manage the illness (Falzarano et al., 2022; Gerogianni et al., 2019).

The causes of diarrhea in children under five years old include behavioural, environmental, and sociodemographic factors. According to a study done in India, the incidence of diarrhea declines with the mother's age. Compared to children born to mothers aged 15 to 24, children born to mothers aged 25 to 34 and 35 to 49 had a lower likelihood of experiencing diarrhea (Saha et al., 2022). Compared to children in the northeastern and southern regions, children living in the central and western regions were more likely to have diarrhea. (Saha and others, 2022).

Mohammed and Tamiru (2014) found that children in Ethiopia who are six to 23 months old are more likely to get diarrhea than infants who are five months or less. The transition from exclusive breastfeeding to the introduction of supplemental meals, combined with poor hand cleanliness by mothers and an inappropriate introduction of solid foods, increases the risk of diarrhea in children between the ages of 6 and 23 months. The study also discovered that the incidence of diarrhea illness was significantly influenced by the mother's educational attainment. Mohammed and Tamiru (2014) found that children with mums who had not received formal education were more susceptible to diarrhea than children with mothers who did.

3. Methodology

The study employed a cross-sectional study design to investigate the association between the mental health of caregivers of children under five who were admitted to Kilifi County Hospital in Kenya and diarrhea illness and other related diseases. The study population consisted of caregivers and the children under their care who were under five years old. The sample size was determined using Fischer's approach, and the sequential sampling technique was applied (Arikpo et al., 2018).

A pilot study was conducted before the actual data collection to test the validity, reliability, and sustainability of the study instruments. Based in a setting similar to the primary study, the pilot study helped enhance the study's instruments and data gathering techniques (Juma et al., 2025). The Malindi Sub-County Hospital conducted a pilot study with 20 caregivers to improve the instruments. They developed and followed standard operating procedures to ensure a consistent data collection strategy across all research sites. Extensive instructions were given on how to maintain the privacy and confidentiality of study participants, administer the research instruments, and collect and handle the data.

The frequency of diarrhea and associated factors were ascertained through the use of a structured survey. The questionnaire consisted of 43 questions about the child and caregiver's history of vaccinations, as well as risk factors related to water, sanitation, and hygiene. The questionnaire was distributed to the subjects on the ward. They were asked if their children had diarrhea, along with details about the child's age and sex, the caregiver's age, occupation, number of rooms, and family size.

The questionnaire also asked about the child's water source, waste disposal, hygiene practices, and history of vaccinations. Using the data collected from the survey, the prevalence of diarrhea and the factors associated with it were ascertained. Bivariable logistic regression was used in the analysis to identify the determinants linked to diarrhea disease, and a generalized linear model (GLM) with Gaussian family and identity link was used to identify the factors associated with caregivers' mental health problems (Kayusi et al., 2025). Starting with a complete model, a reverse stepwise selection procedure was used to identify the pertinent elements in the multivariable analysis. Statistical significance was established at a p value of 0.05.

4. Results

The findings of the bivariable study of the variables linked to mental health issues in parents of children under five, with an emphasis on stress, anxiety, and depression, are shown in *Table 1*. For every participant characteristic, beta coefficients (β) are presented together with their respective p-values and 95% confidence ranges. Depression scores were significantly higher among caregivers of children with diarrhea illnesses ($\beta = 2.29$, $p = 0.03$). Participants from the

Ward showed significantly lower depression ($\beta = -5.03, p < 0.01$) and anxiety ($\beta = -2.65, p < 0.01$) scores than those from the OPD, indicating a significant difference across research sites. Younger children were related with higher caregiver distress, as seen by the inverse relationship between age and anxiety ($\beta = 0.07, p = 0.01$) and depression ($\beta = -0.09, p = 0.01$) scores. Interestingly, higher depression scores were associated with the caregiver's age ($\beta = 0.26, p = 0.01$). Religion was a factor; Islam was linked to lower anxiety ($\beta = -2.58, p = 0.03$) and depression ($\beta = 3.05, p = 0.04$) scores than Christianity. Stress was significantly positively correlated with the "Others" category ($\beta = 12.26, p = 0.03$). Lower stress ratings were associated with living in an urban area ($\beta = -2.48, p = 0.03$).

Table 1 Bi-variable analysis of Factors associated with mental health problems among caregivers of under five children

Participant characteristics		Depression		Anxiety		Stress	
		Beta Coefficient β (95%CI)	P-value	Beta Coefficient β (95%CI)	P-value	Beta Coefficient β (95%CI)	P-value
Diarrhea Status	Other Disease	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Diarrheal Disease	2.29(0.254.32)	0.03	0.89(-0.732.52)	0.28	0.32(-2.032.67)	0.79
Study Site	OPD	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Ward	-5.03(-7.21--2.86)	<0.01	-2.65(-4.42--0.87)	<0.01	-1.11(-3.71-1.5)	0.41
Age of the child [median(IQR)]		-0.09(-0.16--0.03)	0.01	-0.07(-0.12--0.02)	0.01	0.01(-0.07-0.09)	0.78
Sex of the child	Female	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Male	1.1(-0.863.06)	0.27	0.48(-1.072.04)	0.54	1.44(-0.793.67)	0.2
Age of the Care giver [median(IQR)]		0.26(0.06-0.46)	0.01	0.06(-0.11-0.22)	0.5	0.1(-0.14-0.33)	0.41
Religion	Christianity	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Islam	-3.05(-5.96--0.14)	0.04	-2.58(-4.88--0.28)	0.03	-0.43(-3.74-2.88)	0.8
	Others	-0.01(-9.84-9.82)	1	-1.39(-9.17-6.39)	0.73	12.26(1.06-23.45)	0.03
Residence	Rural	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Urban	-1.16(-3.12-0.8)	0.25	-0.61(-2.16-0.94)	0.44	-2.48(-4.69--0.27)	0.03
Number of rooms [median(IQR)]		2.02(1.1-2.94)	<0.01	0.9(0.15-1.65)	0.02	2.02(0.96-3.08)	<0.01
Family size [median(IQR)]		1.09(0.51-1.67)	<0.01	0.66(0.2-1.13)	0.01	1.78(1.14-2.42)	<0.01
Total number of children [median(IQR)]		0.06(-0.16-0.28)	0.6	0.01(-0.17-0.18)	0.92	0.23(-0.02-0.48)	0.07
Children under 5 years [median(IQR)]		2.28(0.93-3.62)	<0.01	1.67(0.6-2.74)	<0.01	2.37(0.83-3.91)	<0.01
Father		0(Reference)	.	0(Reference)	.	0(Reference)	.

Relationship to household head	Grandparent	-0.16(-7.13-6.81)	0.96	-1.33(-6.89-4.23)	0.64	-1.38(-9.256.49)	0.73
	Mother	3.75(-1.579.08)	0.17	1.23(-3.025.48)	0.57	-3.8(-9.812.22)	0.22
	Other relative	-0.71(-11.8-10.37)	0.9	-1.5(-10.35-7.35)	0.74	11.29(-1.23-23.8)	0.08
Maternal education	Informal	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Primary	2.5(-1.266.25)	0.19	2.33(-0.675.33)	0.13	0.91(-3.375.18)	0.68
	Secondary	-1.07(-5-2.86)	0.59	0.33(-2.81-3.47)	0.84	-1.35(-5.83-3.13)	0.55
	Post-secondary	-0.34(-5.05-4.36)	0.89	-0.36(-4.12-3.39)	0.85	-5.42(-10.78-0.06)	0.05
Maternal education	Informal	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Primary	-1.22(-5.463.02)	0.57	1.8(-1.615.21)	0.3	4.66(-0.129.44)	0.06
	Secondary	-3.91(-7.96-0.14)	0.06	0.84(-2.42-4.1)	0.61	1.09(-3.48-5.67)	0.64
	Post-secondary	-2.27(-6.75-2.21)	0.32	0.82(-2.78-4.43)	0.65	-0.7(-5.76-4.35)	0.79
Source of drinking Water	Other sources	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Tap	3.22(1.295.15)	<0.01	1.51(-0.043.07)	0.06	-0.35(-2.611.91)	0.76
Water treatment	No	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Yes	2.58(0.664.51)	0.01	1.58(0.043.12)	0.04	0.77(-1.463.01)	0.5
Hand washing	No	0(Reference)	.	0(Reference) -	.	0(Reference)	.
	Yes	-5.3(-8.86-1.75)	<0.01	4.02(-6.85-1.2)	0.01	-4.55(-8.64-0.46)	0.03
Soap use for handwashing	Yes	0(Reference)	.	0(Reference)	.	0(Reference)	.
	No	1.97(-0.214.14)	0.08	2.26(0.553.97)	0.01	1.73(-0.754.22)	0.17
Latrine/ toilet present	No	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Yes	3(-0.97-6.98)	0.14	1.45(-1.724.61)	0.37	-4.19(-8.710.32)	0.07
Vaccination up to date	No	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Yes	-4.28(-12.363.8)	0.3	-2.32(-8.744.09)	0.48	-2.73(-11.976.5)	0.56
Rotavirus vaccine	No	0(Reference)	.	0(Reference)	.	0(Reference)	.
	Yes	0.8(-7.318.9)	0.85	3.09(-3.329.5)	0.34	-6.46(-15.652.74)	0.17

Among caregivers of children under five, a number of important household-related characteristics showed statistically significant correlations with stress, anxiety, and depression. Higher levels of stress ($\beta = 2.02, p < 0.01$), anxiety ($\beta = 0.9, p = 0.02$), and depression ($\beta = 2.02, p < 0.01$) were linked to more rooms. Similarly, there were noteworthy correlations between higher family size and increased levels of stress ($\beta = 1.78, p < 0.01$), anxiety ($\beta = 0.66, p = 0.01$), and depression ($\beta = 1.09, p < 0.01$). There was a marginal correlation between the total number of children and stress ($\beta = 0.23, p = 0.07$), but no significant correlation with depression ($\beta = 0.06, p = 0.6$). Significantly, having children younger than five years was linked to higher ratings for stress ($\beta = 2.37, p < 0.01$), anxiety ($\beta = 1.67, p < 0.01$), and depression ($\beta = 2.28, p < 0.01$). Additionally, a variety of connections were found for parameters connected to healthcare and the environment. There was a statistically significant correlation between the drinking water source and depression, with tap water being linked to greater levels of depression ($\beta = 3.22, p < 0.01$). Significant correlations were seen between water treatment and higher anxiety ($\beta = 1.58, p = 0.04$) and depression ($\beta = 2.58, p = 0.01$) ratings.

Hand washing habits were substantially linked to lower ratings for stress ($\beta = -4.55, p = 0.03$), anxiety ($\beta = -4.02, p = 0.01$), and depression ($\beta = -5.3, p < 0.01$). On the other hand, there was a slight correlation between higher anxiety levels and not using soap to wash your hands ($\beta = 2.26, p = 0.01$). Higher stress levels were marginally significantly associated with the existence of a latrine/toilet ($\beta = -4.19, p = 0.07$). Furthermore, there were no statistically significant correlations found between vaccination status including being current and having received the rotavirus vaccine and stress, anxiety, or depression.

The results of the multivariable analysis are displayed in Table 2 and indicate characteristics that are independently linked to mental health outcomes for caregivers of children under five. The ward's caregivers scored considerably lower on anxiety ($\beta = -2.77, p < 0.01$) and depression ($\beta = -4.55, p < 0.01$) than the OPD's. Higher anxiety ($\beta = -0.06, p = 0.03$) and depression ($\beta = -0.08, p = 0.01$) scores were linked to a child's decreasing age, but lower stress ratings ($\beta = -0.27, p = 0.03$) were linked to a caregiver's increasing age. A variety of parameters at the household level were significant predictors; greater stress levels were positively correlated with the number of rooms ($\beta = 1.53, p = 0.01$). Significant correlations were seen between higher family size and higher scores for stress ($\beta = 1.67, p < 0.01$), anxiety ($\beta = 0.71, p < 0.01$), and depression ($\beta = 1.14, p < 0.01$). Significantly higher stress levels were reported by caregivers with unknown links to the head of the household ($\beta = 15.7, p < 0.01$).

Table 2 Multivariable analysis of Factors associated with mental health problems among caregivers of under five children

Participant characteristics		Depression		Anxiety		Stress	
		Beta Coefficient β (95%CI)	P-value	Beta Coefficient β (95%CI)	P-value	Beta Coefficient β (95%CI)	P-value
Study Site	OPD	0(Reference)		0(Reference)		†	
	Ward	-4.55(-6.61--2.49)	<0.01	-2.77(-4.48--1.06)	<0.01	†	
Age of the child		-0.08(-0.14--0.02)	0.01	-0.06(-0.11-0)	0.03	†	
Age of the Care giver [median(IQR)]		†		†		-0.27(-0.51--0.03)	0.03
Number of rooms [median(IQR)]		†		†		1.53(0.46-2.61)	0.01
Family size [median(IQR)]		1.14(0.61-1.67)	<0.01	0.71(0.26-1.16)	<0.01	1.67(0.97-2.37)	<0.01
	Other relative	†		†		15.7(5.67-25.74)	<0.01
Maternal education	Informal					†	
	Primary	†		†		†	

	Secondary	2.66(0.93-4.38)	<0.01	†		†	
	Post-secondary	†		†		†	
Paternal education	Informal	†		†		0(Reference)	
	Primary	†		†		†	
	Secondary	†		†		2.97(0.7-5.25)	0.01
	Post-secondary	†		†		†	
Source of drinking Water	Other sources	0(Reference)				†	
	Tap	2.4(0.62-4.18)	0.01	†		†	
Latrine/ toilet present	No	†		0(Reference)		†	
	Yes	†		1.7(0.03-3.38)	0.05	†	

† variable removed from the model

Another factor was educational attainment: fathers with secondary education showed greater stress ratings ($\beta = 2.97$, $p = 0.01$), while women with secondary education had higher depression levels ($\beta = 2.66$, $p < 0.01$). A significant correlation was found between the drinking water source and depression levels, with tap water being associated with higher scores ($\beta = 2.4$, $p = 0.01$). Additionally, greater stress levels were linked to the lack of a latrine or toilet ($\beta = 1.7$, $p < 0.05$).

5. Discussion

Mental health outcomes were associated with caregiver age, family size, and study location, supporting the findings of Kulsum et al. (2021) regarding socio-economic stress and Shumet et al. (2021) regarding insufficient support as risk factors. Compared to outpatient stresses highlighted by Okafor et al. (2022), ward caregivers reported lower anxiety ($\beta = -2.77$, $p < 0.01$) than OPD, perhaps because they received more prompt medical treatment. This study found that greater carer despair and anxiety levels were associated with younger hospitalized children. The higher care needs connected to younger. Younger children may need more frequent feeding help, diaper changes, and emotional support, which can cause caregiver stress and fatigue. Furthermore, carer worry and concern of consequences may be heightened by the severity of illness in younger children. Because they are less able to express their demands and discomfort, infants and toddlers can be especially difficult for those who care for them. The mental health of caregivers is influenced by a variety of circumstances. Both Chang et al. (2010) and Butterworth et al. (2010) discovered that family conflict and social support are important, with the latter also emphasizing the value of emotional and physical assistance. Given that caring for a spouse or children can lead to increased stress and negative effects on mental health, the relationship between the caregiver and the care recipient is particularly important (Penning & Wu, 2016; Marks et al., 2008).

Furthermore, caregiver worry and concern of consequences may be heightened by the severity of illness in younger children. Because they are less able to express their demands and discomfort, infants and toddlers can be especially difficult for those who care for them. The mental health of caregivers is influenced by a variety of circumstances. Both Chang et al. (2010) and Butterworth et al. (2010) discovered that family conflict and social support are important, with the latter also emphasizing the value of emotional and physical assistance. Given that caring for a spouse or children can lead to increased stress and negative effects on mental health, the relationship between the caregiver and the care recipient is particularly important (Penning & Wu, 2016; Marks et al., 2008).

Physical and mental health have been found to be influenced by gender, age, and family circumstances (Neri et al., 2012), and adolescent service utilization has been associated to caregiver qualities such education level and access to sanitary facilities (Burnett-Zeigler & Lyons, 2010). Young people's usage of services is also influenced by the attitudes and experiences of caregivers (Gronholm et al., 2015). Furthermore, young adult caregivers report higher levels of anxiety and sadness, according to Greene et al. (2017).

6. Conclusion

This study looked at the prevalence of diarrhea diseases in children under five who were admitted to Kenya's Kilifi County Hospital and the effects these illnesses had on the caregivers' mental health. The data indicate that the burden of diarrhea disease in this population is significantly predicted by younger age and larger family size. By demonstrating a high prevalence of diarrhea illnesses (34.7%) and elevated depression scores (14.5) among caregivers, which were influenced by variables like larger family sizes and younger child ages, the study illustrated the need for integrated health interventions.

Recommendations

- Enhance primary healthcare by encouraging breastfeeding and offering rotavirus vaccinations in light of the 34.7% prevalence of diarrhea.
- Use psychosocial help to address high caregiver depression levels (median 14.5) in OPD settings.
- Examine how hospitalization of a child affects long-term caregivers' mental health.

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.

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