

# Psychosocial Burden and its Determinants among Caregivers of Children with Colostomy at a National Referral Hospital in Kenya

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## Abstract

Surgical practice of colostomy in children often requires follow-up and care. Length of therapy, daily care requirements and disease process brings about profound impact on caregivers' psycho-social well-being, however, little is known with regards to the degree of burden among primary caregivers of osteomized children in. This cross-sectional analytical study constituting a sample of 60 obtained through census approach purposed to determine the degree of psychosocial burden of colostomy care among caregivers of children with colostomy at a National referral hospital in Kenya. Zarit Burden Interview scale (ZBI) was adopted to measure caregiver burden and SPSS version 25.0 applied for analysis of data. Descriptive analysis employed frequencies, percentages and cross tabulation. Chi-square test of association was used for inferential statistics and logistic regression analysis was utilized to model for predictors of psychosocial burden. Ethical approval was granted by KNH Research and Ethics committee. Findings showed that majority 59(95%) of the caregivers reported being burdened while providing colostomy care with 30(52.7%) experiencing moderate to severe level of psychosocial burden scored using ZBI. Utilizing logistic regression model, monthly household income (OR 0.06, 95% CI 0.004-0.94) and caregiver support systems (OR 0.01, 95% CI: 0.02-0.025) were significant predictors of psychosocial burden among the cares. There was clear evidence of psychosocial burden among the carers of osteomized children with financial strain domain being extremely affected. Stakeholders need to consider increasing health funding allocation for stoma management in children through universal health coverage. Additionally, there is need to strengthen as well as familiarize primary carers of osteomized children of the existing psychosocial intervention programs.

**Key words:** Psychosocial burden, Caregivers, Children, Colostomy, Nairobi Kenya

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## I. Introduction

Caregiver burden is the distress informal caregivers undergo as a consequence of care provision and is influenced by attributes of care recipient, the individual caregiver and the environment<sup>1</sup>. Although colostomy construction in children may be temporary, caregivers perform a great responsibility in that, managing stomas is complex, challenging and a lengthy process<sup>2,3,4</sup>. Therefore, it can be overwhelming to some carers impacting on their everyday lives with several physical, psychological as well as social impairments and burnout<sup>5,6</sup>. Burdened caregivers oftentimes experience a decline in their caregiving capabilities which could impact negatively on those receiving their care<sup>1</sup>. Burden among caregivers of osteomized children can therefore result in poor colostomy care and as such prolong the therapy schedule. Inadequate colostomy care could come about as a result of significant losses to follow-up, late hospital presentations of affected children with already established complications and inadequate health seeking behaviors hence increasing health care cost not only to the caregiver but to the health care system as well<sup>7,8,9</sup>.

The first step in addressing caregiver burden is to measure the degree of psychosocial burden using standardized tools<sup>8</sup>. This will guide in stating the needs of the caregivers, addressing those needs beforehand and planning appropriate nursing interventions to alleviate the care burden hence mitigate its impact on the child as well as on the entire family dynamic. A considerable proportion of carers of osteomized children have been found to have endured psychosocial disturbances<sup>5,10,11,12</sup>. In literature however, few studies have examined the degree of psychosocial burden and its predictors among carers of children with colostomy<sup>5,13</sup>.

Global estimate of Ano-rectal malformation (ARM) mainly the reason for colostomy creation in children is one out of 5000 live births<sup>14,15,16</sup>. In Africa, accurate data on ARM incidence is difficult due to absence of proper records in most countries hence data available are found within the hospitals. Estimates from South Africa indicate ARM incidence range of 1.79/10000 live births to 3.26/10000 live births<sup>17</sup>. In Kenya, 35 to 50 colostomy surgeries performed annually are due to ARM alone<sup>18</sup>. Anecdotal evidence indicates significant losses to follow-up, lengthy periods of waiting before definitive surgery, inadequate health seeking behaviors, poor communication, inaccessibility to health care and perceived social isolation,<sup>7,13</sup>.

Implications of caregiver psychosocial burden on the entire family dynamic and the healthcare system therefore merits intellectual attention and resources. In low resource settings like Kenya however, little is known in this area, few policies and programs have been put in place to address the implementation of support interventions for primary carers of osteomized children globally, regionally as well as locally. Additionally, little emphasis has been put on the carers psycho-social health potentially impacting on quality of care hence compromising the standards of care provided to the affected children. In the light of this, the research was interested to obtain data on the degree of psychosocial burden and its determinants among primary caregivers of children with colostomy, moreover the research was intended to also find out the impact of social support systems in alleviating caregiver burden.

## **II. Methods and Materials**

This cross-sectional analytical study, was carried out among primary caregivers of osteomized children at a National referral Hospital in Kenya from November 2021 to January 2022. Cumulatively, 60 primary caregivers of children with colostomy on follow up at the pediatric surgical outpatient clinic and those admitted at the pediatric surgical ward aged above 18 years participated in the study.

**Study design:** Cross-sectional analytical approach using quantitative approach

**Study location:** The study site was in a National referral Hospital in Kenya, one of the largest public teaching and referral hospitals for the Ministry of Health in the country.

**Study duration:** November 2021 to January 2022

**Sample size:** 60 primary caregivers

**Sample size calculation:** Slovin's formula, (Ansar et al., 2017),  $n = \frac{N}{1 + Ne^2}$   $n = \frac{57}{1 + 57 \times 0.05^2} = 50$  caregivers. The target population for this study selected using census approach was 50. However, 60 caregivers were available at the time of data collection and consented to the study hence they were included to participate.

**Subjects and selection method:** Primary caregivers of children with colostomy were drawn from pediatric surgical outpatient clinic and pediatric surgical ward at Kenyatta National Hospital selected through Census approach due to limited numbers of individuals for randomization.

### **Inclusion criteria:**

1. Primary caregivers of children with intestinal stoma
2. Aged 18 years and above

### **Exclusion criteria:**

1. Primary caregiver aged below 18 years
2. Having a child with colostomy who is critically ill
3. Providing care to another child with congenital malformation or chronic physical or mental disability or illness.
4. Inability to communicate in English or Kiswahili where no interpreter is available to assist in translation.

### **Procedure and methodology**

Researcher administered questionnaire containing closed ended and open-ended questions was utilized to obtain data following a written informed consent from the participants as well as affirmation of ethical considerations. A validated instrument, Zarit Burden Interview scale (ZBI) was adopted to aid measure the degree of caregiver burden. Pre-test involved 5 primary caregivers at Moi Teaching and Referral Hospital, Eldoret, Kenya, this assisted in reducing errors associated with measurement as well as in identifying areas with shortcomings. Analysis of quantitative data was done using SPSS version 25.0. Descriptive data was presented in pie charts, frequency tables and percentage distributions. Chi square test was used to determine statistically significant variables between dependent and each independent variable. All significant variables were further subjected to Multiple logistic regression (odds ratio (95%CI) and p value <0.05) to analyze for significant predictors of psychosocial burden defined by p value (<0.05). Open ended questions were categorized as themes and analyzed as frequencies. Ethical approval was granted by the Ethics and Research Committee

(ERC) at Kenyatta National Hospital(KNH, approval number P557/07/2021. Research permit was granted by the National Council for Science and technology (NACOSTI) under permit number NACOSTI/P/21/13620).

### III. Results

#### Demographic attributes of primary caregivers of children with colostomy

Of all the caregivers, (98.3%) were females. Majority (28.3%) were in the age group of 25 -29 years. Mean age was  $30.5\pm 8.9$  years with the youngest caregiver being 18 years and the oldest 69 years. Majority were either employed (41.7%) or self-employed (45%). Majority of the households (91.7%) had more than one child aged below 5years and (66.7%) had more than 4 members in a household. On the sources of income, majority (83.4%) earned  $\leq 10000$  Ksh. per month. Table 1 shows the findings.

**Table 1: Demographic Characteristics of the care givers (n=60)**

Variables	Frequency(n)	Percentage (%)	Mean/SD
<b>Gender</b>			
Female	59	98.3	
Male	1	1.7	
<b>Age (Yrs)</b>			30.5±8.9
≤20	4	6.7	
21-24	8	13.3	
25-29	17	28.3	
30-34	16	26.7	
≥35	15	25	
<b>Marital Status</b>			
Single	11	17.3	
Married	49	81.7	
<b>Education Level</b>			
None	5	8.3	
Primary	28	46.7	
Secondary	20	33.3	
Tertiary	7	11.7	
<b>Occupation</b>			
Unemployed	3	5	
Employed	25	41.7	
Casual	5	8.3	
Self-employed	27	45	
<b>Household Income</b>			
≤10000	50	83.4	
>10000-20000	4	6.6	
>20000	6	10	
<b>Children &lt;5yrs</b>			
None	5	8.3	
One	38	63.3	

Two	13	21.8
>3	4	6.6
<b>Family size</b>		
≤4 members	20	33.3
>4 members	40	66.7

**Social support systems available for caregivers of children with colostomy**

Majority of the caregivers (75%) reported that they received social support in taking care of the child and only (10%) were in a support group. Majority of the caregivers (90%) reported that their daily life had been affected either positively or negatively and (86.7%) experienced financial challenges while providing care as they were unable to afford the cost of care. Findings outlined in table 2.

**Table 2:** Social support systems of the caregivers (n=60)

Variables	Frequency(n)	Percentage (%)
<b>Supported to take care of the child</b>		
No	15	25
Yes	45	75
<b>Caregiver is in a Support group</b>		
No	54	90
Yes	6	10
<b>Caregiving role affects relationship with others</b>		
No	26	43.3
Yes	34	56.7
<b>Daily life is affected by caregiving</b>		
No	6	10
Yes	54	90
<b>Experiences financial challenges</b>		
No	8	13.3
Yes	52	86.7

**Level of psychosocial burden among caregivers of children with colostomy**

Level of psychosocial burden was measured using Zarit Burden Interview (ZBI) scale consisting of 22 items with a 5- point Likert scale of scores ranging from 0 (never) to 4 (nearly always). Higher scores indicate extreme burden. Mean score of each individual item was obtained by summing all the scores therein and then dividing by the total number of respondents. Scores of each individual item ranges from ‘0’ to 4. A score of zero ‘0’ indicates no burden at all while a score of 4 indicates extreme burden <sup>11</sup>. Table 3 outlines the scores of level of psychosocial burden per individual item of the ZBI tool.

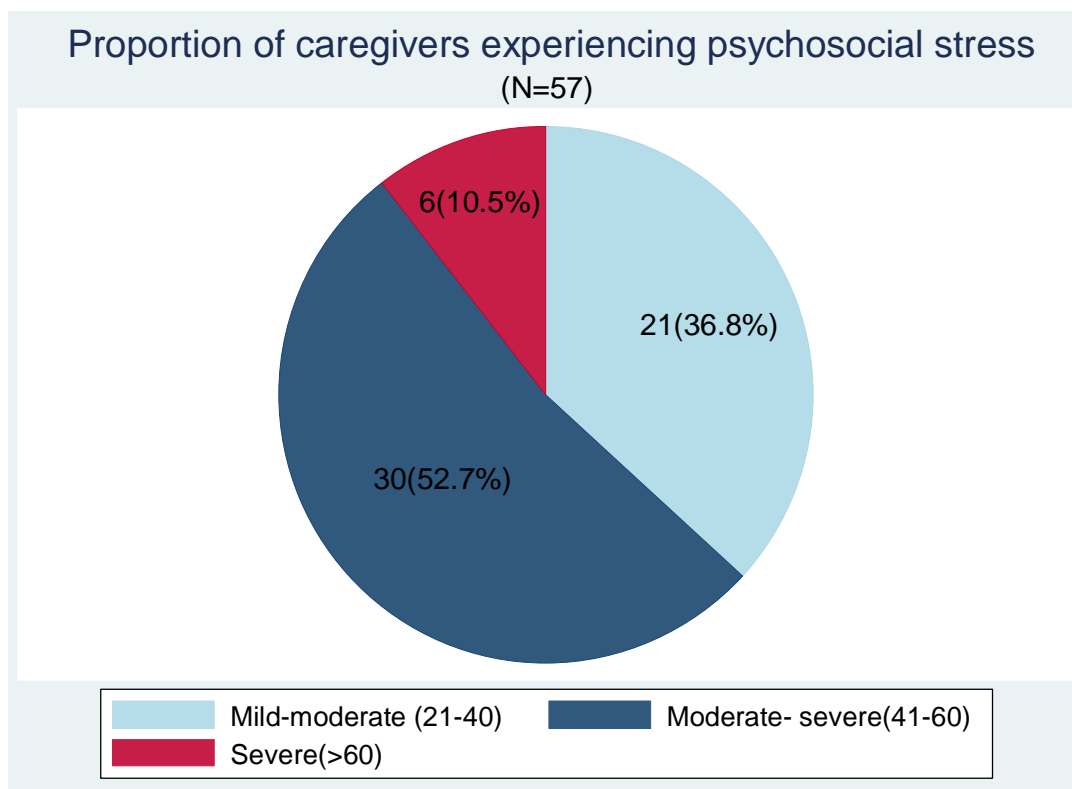
**Table 3:** Level of psychosocial burden as per individual item scores of ZBI scale (n=60)

Zarit Burden Interview item statements	Never 0	Rarely 1	Sometimes 2	Frequently 3	Always 4	Mean(SD)
1.Do you feel that your child asks for more help than he/she needs?	6	3	8	18	25	2.88±1.29
2.Do you feel that because of the time you spend with your child that you don't have enough time for yourself?	15	2	11	8	24	2.4±1.63
3.Do you feel stressed between caring for your child and trying to meet other responsibilities for your family or work?	7	2	17	6	28	2.77±1.38
4.Do you feel embarrassed over your child's illness?	30	3	6	9	12	1.5±1.67
5.Do you feel angry when you are around your child?	37	4	10	3	6	0.97±1.39
6.Do you feel that your child currently affects your relationships with other family members or friends in a negative way?	33	1	8	5	13	1.4±1.69
7.Are you afraid what the future holds for your child?	12	3	16	13	16	2.3±1.44
8.Do you feel your child is dependent on you?	1	0	10	10	39	3.47±0.88
9.Do you feel strained when you are around your child?	16	5	12	10	17	2.11±1.57
10.Do you feel your health has suffered because of	19	4	14	15	8	1.81±1.46

your involvement with your child?						
11.Do you feel that you don't have as much privacy as you would like because of your child?	17	3	21	9	10	1.87±1.41
12.Do you feel that your social life has suffered because you are caring for your child?	12	4	12	15	17	2.35±1.47
13.Do you feel uncomfortable about having friends over because of your child?	3	3	19	14	21	2.78±1.14
14.Do you feel that your child seems to expect you to take care of him/her as if you were the only one he/she could depend on?	3	3	19	14	21	2.77±1.41
15.Do you feel that you don't have enough money to take care of your child in addition to the rest of your expenses?	5	2	8	7	38	3.18±1.28
16.Do you feel that you will be unable to take care of your child much longer?	28	2	12	12	6	1.43±1.48
17.Do you feel you have lost control of your life since your child's illness?	15	5	18	10	12	1.98±1.44
18.Do you wish you could leave the care of your child to someone else?	39	2	15	3	1	0.75±1.09
19.Do you feel uncertain about what to do about your child?	11	6	28	10	5	1.88±1.16
20.Do you feel you should be doing more for your child?	8	2	21	21	8	2.32±1.18
21.Do you feel you could do a better job in caring for your child?	5	3	23	19	10	2.43±1.09
22.Overall, how burdened do you feel in caring for your child?	1	2	19	9	29	3.05±1.05

**proportion of Caregivers of children with colostomy experiencing burden**

The proportion of caregivers who reported being burdened while providing care to children with colostomy were (95%). Among them (36.8%) reported mild to moderate burden, (52.7%) reported moderate to severe burden and (10.5%) reported severe burden. Figure 1 shows the findings.



**Figure 1** proportion of respondents experiencing psychosocial burden utilizing ZBI scale.

**Caregiver demographic attributes and the level of psychosocial**

<sup>1</sup>Mapi Research Trust 2020

For this analysis, psychosocial burden was categorized into caregivers with burden (score 22-88) and those without burden (score  $\leq 21$ )<sup>20,21</sup>. Chi square ( $\chi^2$ ) test of association was done to identify independent variables that were statistically significant with the level of psychological burden. A variable found to be statistically significant was then used to fit a logistic model. Variables with a p value ( $<0.05$ ) were considered significant.

Caregivers whose monthly household income was below Kenya Shillings(Ksh)10000 were more likely to experience psychosocial burden in contrast to those whose monthly household income was higher than Ksh.10000, ( $p<0.05$ ). Family size was statistically significant ( $p=.007$ ), caregivers from households with more than four members were prone to experiencing psychosocial burden in contrast to those from households with fewer members, the finding is outlined in table 4.

**Table 4:** Relationship between Caregivers demographic attributes of and the level of psychosocial burden

Variable	No burden	Burden	$\chi^2$ value	p value
<b>Age</b>			$\chi^2 (2) 2.0323$	0.323
<24	3(37.5)	9(17.3)		
25-34	4(50)	29(55.8)		
>35	1(12.5)	14(26.9)		
<b>Education level</b>			$\chi^2 (1) 0.0932$	0.76
Primary level and below	4(50)	29(55.8)		
Secondary level and above	4(50)	23(44.2)		
<b>Marital status</b>			$\chi^2 (1) 0.02098$	0.647
Single	1(12.5)	10(19.2)		
Married	7(87.5)	42(80.8)		
<b>Income</b>			$\chi^2 (1) 13.9615$	<b>0.000</b>
$\leq 10000$	3(37.5)	47(90.4)		
$>10000$	5(62.5)	5(9.6)		
<b>Occupation</b>			$\chi^2 (2) 0.6346$	0.728
Unemployed	0	3(5.7)		
Formal employment	4(50)	21(40.4)		
Informal employment	4(50)	28(53.9)		
<b>Family size</b>			$\chi^2 (1) 7.2115$	<b>0.007</b>
$\leq 4$ members	6(75)	14(27)		
$>4$ members	2(25)	38(73)		
<b>Children under 5</b>			$\chi^2 (1) 0.2098$	<b>0.647</b>
None	1(12.5)	4(7.7)		
$\leq 1$	7(87.5)	48(92.3)		

**Caregivers’ social support systems and the level of psychosocial burden**

Caregiver support group ( $p=0.002$ ) was statistically significant. Caregivers who received social support through support groups were unlikely to experience psychosocial burden in contrast to those who did not. Affected daily life was statistically significant ( $p=0.041$ ). Caregivers whose daily lives were affected either positively or negatively by their caregiving role were more prone to experiencing psychosocial burden in contrast to those whose daily lives were not affected. Experiencing financial challenges was statistically significant ( $p=0.01$ ). Caregivers with insufficient finances were more likely to experience psychosocial burden, findings outlined in table 5.

**Table 5:** Relationship between Social support systems and the psychosocial burden

Variable	No burden	Burden	$\chi^2$ value	p value
<b>Caregiver in a support Group</b>			$\chi^2 (1) 10.0524$	<b>0.002</b>
No	5(62.5)	49(94.2)		
Yes	3(37.5)	3(5.8)		
<b>Caregiving role affected Relationships</b>			$\chi^2 (1) 2.1518$	0.142
No	5(62.5)	18(34.6)		
Yes	3(37.5)	34(65.4)		

<b>Daily life affected by Caregiving</b>			□ 2 (1) 4.0214	<b>0.041</b>
No	2(28.6)	4(5.9)		
Yes	5(71.4)	48(94.1)		
<b>Financial challenges Experienced</b>			□ 2 (1) 5.8165	<b>0.016</b>
No	3(37.5)	5(9.6)		
Yes	5(62.5)	47(90.4)		

**Predictors of psychosocial burden among caregivers of children with colostomy**

Binary logistic regression model was used to model for significant factors affecting psychosocial burden. P value of <0.05 was considered a significant factor.

Monthly household income (p=0.025) was a significant predictor of psychosocial burden among caregivers of children with colostomy. Caregivers with poor monthly income were prone to experiencing psychosocial burden. Caregiver being in a support group (p=0.005) was also a significant predictor of psychosocial burden among carers of osteomized children. This indicates that support groups were useful in alleviating psychosocial burden amongst the caregivers, findings outlined in table 6.

**Table 6** Predictors for psychosocial burden among the caregivers

Characteristic	No burden N=8	Burden N=52	COR(95%CI)	P Value	AOR(95% CI)	P value
<b>House hold income</b>						
<=10000	3(37.5)	47(90.4)	1(Ref.)		1(Ref.)	
>10000	5(62.5)	5(9.6)	0.06(0.01-0.35)	<b>0.002</b>	0.06(0.004-0.94)	<b>0.025</b>
<b>Family size</b>						
≤4 members	6(75)	14(27)	1(Ref.)		1(Ref.)	
>4 members	2(25)	38(73)	8.14(1.47-45.2)	<b>0.016</b>	5.94(0.36-99.4)	0.215
<b>Caregiver in a support group</b>						
No	5(62.5)	49(96.1)	1(Ref.)		1(Ref.)	
Yes	3(37.5)	3(3.9)	0.07(0.009,0.51)	<b>0.009</b>	0.01(0.002-0.25)	<b>0.005</b>
<b>Daily life affected by caregiving</b>						
No	2(28.6)	4(7.7)	1(Ref.)		1(Ref.)	
Yes	5(71.4)	48(92.3)	6.4(0.86,47.8)	<b>0.041</b>	13.2(0.53-32.8)	0.116
<b>Financial challenges experienced</b>						
No	5(62.5)	5(9.6)	1(Ref.)		1(Ref.)	
Yes	3(37.5)	47(90.4)	7.05(1.21,40.9)	<b>0.029</b>	8.9(0.51-15.4)	0.131

**IV. Discussion**

Findings showed that most caregivers (98.3%) were females. This finding compares with <sup>1,5,8</sup> studies that majority of caregivers of children with colostomy are females. In the period from pregnancy to the age of 3 years, mothers are always present in a child’s life and hence render nurturing care not only during this period but extend throughout middle childhood and into adolescent, <sup>25</sup>. Additionally, women have been raised to carry out the duty of caregiving by themselves whereas men have been raised to delegate, <sup>34</sup>. This finding therefore indicates that women are more likely to provide care to children with colostomy.

Majority (80%) of caregivers were aged above 25 years, these compares with other studies<sup>23,24</sup>. Middle aged adult females perform an important function in childhood colostomy care and are therefore more likely to experience caregiver burden in relation to stoma care. On the other hand, <sup>8</sup> study reported that most of the parents were aged below 25 years which is not in agreement with the current study, these findings may be attributed to the persistence of social norms that encourage early marriages in the region resulting in backlash in the form of social alienation of those who do not adhere to the norm, <sup>26</sup>. These findings therefore indicate that carers of osteomized children are more presumably females from both ends of age spectrum ranging from young adults to middle age. In the current study, majority (81.7%) were spouses, this compares with <sup>5,23</sup> studies possibly due to the existence of some form of marriage within different societies and cultures.

On education, most caregivers had lower than primary level, this compares with other studies<sup>5,23</sup>. Barriers to schooling is attributed to multiple factors such as situational (life circumstances), dispositional

(personal attitudes) and institutional (structural conditions) factors,<sup>27</sup>. On the other hand,<sup>24</sup> studies found out that majority of the caregivers had completed secondary education which is not in agreement with the current study. This is because Government policies to promote education among women varies across countries,<sup>28</sup>. This study therefore indicates that carers of osteomized children possess varied educational achievements

On the sources of income, majority (83.4%) of the caregivers reported low income levels of less than kshs. 10000 per month. This compares with studies by<sup>23</sup> whereby majority of the caregivers reported poor income levels, caregivers often give up on permanent jobs so as to care for their loved ones which effects negatively on their income,<sup>35</sup>. However,<sup>5</sup> found out that majority of the families had sufficient income which is not in agreement with the current study, this is because caregivers were not required to pay for medical services as this was provided for free by the government. Caregiver income level influences on their caregiving experiences as those with low-income levels are more likely to experience financial strain in meeting the cost of care particularly where they may be required to meet the cost care.

With regards to social support systems, findings of this study showed that most (75%) of the caregivers received support in caregiving from their family members. These compares with other studies which have confirmed family as source of support to caregivers of children with colostomy,<sup>5,10,23</sup>. Family is perceived as a source of well-being for the quality of life not only for children with colostomy but also for their caregivers, it is considered an important component for the promotion of a positive self-concept and a satisfactory level of self-esteem regardless of the presence of a stoma,<sup>31</sup>. The findings indicate the importance of strong family relationships among caregivers of children with colostomy. Regarding involvement of the caregivers in support groups, findings of this study showed that majority (90%) of the caregivers did not belong to any support group. This is possibly because none was aware of the existence of any community organization/program in place to support caregivers of children with colostomy. This compares with a study in Iraqi which confirmed that majority of caregivers of children with colostomy did not belong to a support group as there was no community organization to provide any kind of support for such families in the country,<sup>5</sup>. On the other hand,<sup>32</sup> study found out that majority of the caregivers of children with special needs listed support group as the most utilized and beneficial strategy in dealing with their children's' disability which is not in agreement with the current study. This is possibly because of the availability and utilization of support groups and programs by the caregivers which enabled them to better cope with the difficulties related to care of a child with special needs. These indicates that support groups are useful initiatives for caregivers of children with colostomy.

On impact of care provision on caregivers' financial aspect, findings showed that most (86.7%) carers faced financial challenges in providing care to a child with colostomy. This compares with other studies which confirmed that majority of caregivers were concerned about not having enough income to make ends meet, this could possibly be as a result of low monthly household income by most of the families,<sup>8,10,34</sup>. Conversely,<sup>5</sup> study found out that majority of the caregivers had sufficient monthly household finances which is not in agreement with the current study. This was so because according to the study findings, caregivers were not required to meet the cost of care as it was provided for free by the government. Additionally, the participants in the study received adequate financial support from their spouses in meeting their household needs. This indicate that the cost of care is an impediment in accessing medical treatment hence caregivers experiencing financial strain may be unable to meet the cost of treatment for their children and therefore predisposing them to caregiver burden.

To evaluate cumulative risk of psychosocial burden among the carers of osteomized children, ZBI global scoring approach was utilized. Findings of the current study revealed that majority (95.0%) of the caregivers reported being burdened while providing colostomy care with most (52.7%) suffering from moderate to severe burden (ZBI score). These compares with other studies who found out that most caregivers experience moderate to severe level of overall burden in regards to stoma care<sup>5,8</sup>. Having a young one suffering from a chronic disease or with a congenital anomaly warranting surgery impacts heavily on the caregiver and family at large, dealing with the illness, lengthy therapy schedule and the need for follow-up care could be more distressing to careres of osteomized children than the disease alone<sup>8</sup>. This indicates that although various aspects of caregivers lives may be affected differently, caregivers of children with colostomy are at risk of encountering moderate to severe levels of burden evaluated using ZBI tool.

Chi-square test of association was utilized to find out statistically significant demographic attributes of psychosocial burden among the caregivers. Findings of the current study revealed that house hold income, family size, caregiver being in a support group, affected daily life and experiencing financial challenges were statistically significant variables ( $p < 0.05$ ). Analysis revealed that caregivers whose monthly household income was above Ksh.10000 were unlikely to experience psychosocial burden in contrast to those monthly income was below Ksh.10000 ( $p < 0.05$ ). These compares with other studies that caregivers with good income can afford excellent treatment for their children making them less prone to experiencing stress related to caregiving<sup>6</sup>. Family size ( $P = 0.007$ ) was statistically significant, caregivers from households with more than four members were likely to experience psychosocial burden in contrast to those from households with fewer members. These



compares with findings of other studies <sup>6,23</sup>, this could be attributed to increased pressure load of care on the caregiver.

On social support systems, analysis of this study showed that caregiver being in a support group (P=0.00) was statistically significant, those who received social support through support groups were unlikely to experience psychosocial burden compared to those who did not. These compares with other studies that social support provide emotional support, information and incentives hence assist to determine caregiver adjustment as well as aid to improve their ability to cope with challenges of caregiving <sup>6,32,33</sup> indicating that support groups are helpful in alleviating caregiver burden. Further, current study analysis showed that affected relationships was a statistically significant variable, (P=0.04) of psychosocial burden. These compares with other studies that caregivers' relationships can be affected either positively or negatively <sup>5,6,8,33</sup>, those whose relationships are negatively affected are at risk of experiencing psychosocial burden. The analysis also revealed that caregivers experiencing financial challenges was a statistically significant variable (p=0.01) of psychosocial burden. Similar to other studies that caregivers with insufficient finances cannot afford cost of care therefore predisposing them to psychosocial burden <sup>6</sup>.

## V. Conclusion

The study concludes that, carers of osteomized children encounter moderate to severe level of psychosocial burden (scored using ZBI tool) with financial aspect being extremely affected.

Socio-demographic variable of average monthly household income was a significant predictor of caregiver burden. Caregivers who were at risk of experiencing psychosocial burden were more likely to have a monthly household income below Kshs.10000.

Caregivers support systems was also a significant predictor of psychosocial burden. Caregivers who received social support through support group were unlikely to experience psychosocial burden compared to those who did not.

## VI. Recommendation

This study therefore recommends that;

1 stakeholders need to consider increasing health care funding allocation for the management of osteomized children through the universal health coverage.

2 There is need to strengthen as well as familiarize the caregivers of children with colostomy of the existing psychosocial intervention programs.

3 There is need to also consider establishment of a support group program for the caregivers of children with colostomy to enable them better cope with challenges of caregiving.

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### Disclosure of conflict of interest

The authors declare no competing interests

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