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Colostomy Acceptance among Caregivers of Children with Colostomy in Aminu Kano Teaching Hospital, Kano, Nigeria

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Abstract

Colostomy forms part of the management of many children with congenital and acquired disorders of the large bowel. Although the life-saving benefit of this procedure is well known medically, its impact on parents and caregivers of children with colostomy has not been fully evaluated in most developing countries. The aim of the study is to assess the acceptance of colostomy among caregivers of children with colostomy in AKTH Kano. Using a descriptive cross-sectional study in August 2021, this study assessed the acceptance of colostomy among 59 caregivers of children with colostomy attending Aminu Kano Teaching Hospital, Kano (AKTH). During the study period we recruited all consecutive caregivers who consented to the study. The majority (90%) of the caregivers were females with a mean age of 33.4 ± 9.4

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years. Most of the children 55% were females and the mean age of the children was 3.1 ± 3.0 years. The mean duration of colostomy before take down was 11.01 ± 5.51 months. The commonest type of colostomy care was the use of napkin strips and wrappers 88%. The average monthly cost of care was found to be ₦5000-₦10000 by the majority of the families up to 88%. The social acceptance was found to be 75%, and the overall psychological feeling after the procedure was good. The findings of this study showed that there is a positive social impact of care of colostomy among caregivers of children with colostomy in Aminu Kano Teaching Hospital, Kano.

Keywords: Colostomy, Acceptance, Children, Caregivers, Kano

INTRODUCTION

A colostomy is defined as the exteriorization of part of the colon to the anterior abdominal wall. It is considered one of the most common lifesaving emergency procedures done worldwide (Abebe *et al*., 2016). Colostomy forms part of the management of many children with congenital and acquired disorders of the large bowel. It is constructed to decompress an obstructed large bowel and to protect a future low bowel anastomosis (Ekenze *et al*., 2007). It is a common procedure performed in children, mostly for anorectal malformation and Hirschsprung's disease. Although the life-saving benefit of this procedure is well known medically, its impact on parents and caregivers of children with colostomy has not been fully evaluated in most developing countries. However, it is frequently assumed that acceptance of colostomy in developing nations is generally poor (Ameh *et al*., 2006). Many studies have indicated that colostomy formation and closure are associated with appreciable morbidity and mortality (Ekenze *et al*., 2007). Dealing with not only the reason for the colostomy, but the colostomy itself, can be devastating for some grown-up patients and their parents/caregivers.

Common problems include fear of leakage, depression, anxiety, and embarrassment caused by noises, gas and odor, and concerns about changes in appearance and need for increased privacy that can lead to feelings of social isolation (Berti-Hearn *et al*., 2019). Psychosocial barriers to self-care should be assessed and interventions used to help mitigate them (Berti-Hearn *et al*., 2019). Patient with colostomies and their caregivers should be educated on body image changes, as well as physical changes which can be very challenging for them with a new colostomy and that they will require encouragement and support. The ability to care for the stoma and output are the first steps in the patients and caregivers' rehabilitation (Berti-Hearn *et al*., 2019). Conclusive evidence that parents are not accepting colostomy is lacking. The stigmatisation and social isolation of children with a colostomy is due to their altered appearance, especially in a culture where parents wish to show off their babies to visiting friends and relations. The smell from the stoma is well known and can be disturbing; this is due to the uncontrolled nature of the effluent from the colon. Another aspect of colostomy management is the need to change the cloth napkin used as appliance frequently and the attendant cost implication to parents (Ekenze *et al*., 2007; Ameh *et al*., 2006). This study attempts to assess the acceptance of colostomy by caregivers of children with colostomy in Aminu Kano Teaching Hospital, Kano.

METHODOLOGY

Study site
This descriptive cross - sectional study was conducted at Aminu Kano Teaching Hospital, which is a tertiary health institution of Bayero University Kano (BUK) situated in the ancient city of Kano. The study population was constituted by the caregivers of children with colostomy presenting to Aminu Kano Teaching Hospital, Kano.

Sample size
Using a 95 level of precision, power of 80% and a prevalence from a previous study of 3.6% (Ayaz-alkaya *et al.,* 2019), the sample size was determined using the formula for minimum sample size determination.

Study population
Consecutive caregivers of children with colostomy presenting to Aminu Kano Teaching Hospital were recruited in to the study until the required sample size was attained. All caregivers of children with colostomy who presented to PSOPD who consented to the study were included whereas Caregivers of children with colostomy who presented to PSOPD and did not consent for the study were excluded. The study was conducted between January and August 2021.

Ethical approval
Ethical approval was obtained from the Aminu Kano Teaching Hospital Health Research Ethics Committee before carrying out the research. A consent form was administered to the respondents after the purpose of the research was explained to them. A written informed consent was sought from all participating caregivers. The Helsinki Declaration for research with human subjects was respected throughout the study. The respondents reserved their rights to withdraw from the study for whatever reasons without any penalty. All information gathered from the respondents was kept confidential.

Data analysis
Data collection was done using an interviewer-administered, semi-structured, pre-tested questionnaire. Three (3) Medical doctors were trained and assisted in administering the questionnaire together with the researcher. Data analysis was done using IBM-compatible computer software IBM Corp. That is the IBM SPSS Statistics for Windows, Version 21.0. Armonk, New York.

Measurement of colostomy acceptance
The 5 parameters on the questionnaire for acceptance were graded on a Likert-like score, each parameter scored out of 20% as (Good-10, Fair-7, and Poor-3) and the totals were added, ≥50% were considered good. χ^2 -test or Fisher's exact test was used to test associations between categorical variables. In all tests of associations, statistical significance was set at $p < 0.05$ for statistical analysis.

RESULTS

The mean age of the respondents was found to be 33.4 years with a standard deviation of 9.4 years, i.e. (mean age ± SD is 33.4 ± 9.4). The mean age of the children was 3.1 years with a standard deviation of 3.0 years i.e (3.1 ± 3.0). Most of the caregivers 53 (89.8%) were females. Majority of the children with colostomy were constituted by females up to 33 (55.9%). This gives a male-to-female ratio of 1: 1.4 for the children. The majority of caregivers were from Kano 33 (55.9%), followed by Jigawa 15 (25.4%). The remainder was from Gombe, Kaduna, Katsina and Yobe. All the caregivers 59 (100%) were Muslims by religion. Most of the respondents were married 52 (88.1%), with 3 (5.1%) divorced and only 4 (6.8%) widows. Majority of the marriages were non-consanguineous 49 (83.1%). The mean number of children of the respondents per family was 5 children with a standard deviation of 3 children i.e (5.0± 3.0). The occupation of most of the caregivers was found to be petty trading at home 26 (44.1%). Other prominent occupations include main trading 22 (37.3%), civil service 6 (10.2%) and farming 5 (8.5%). The majority of the children were yet to be enrolled in school 44 (74.6%), with 7 (11.9%) children enrolled in nursery school and 8 (13.6%) in primary school. The majority of the colostomies were divided sigmoid colostomies 57 (96.6%) with the remaining 2 (3.4%) being loop colostomies. The commonest indication for colostomy among the children was found to be anorectal malformation 47 (79.7%), followed by Hirschsprung's disease 11 (18.6%) and only 1 (1.7%) due to trauma. The majority of the caregivers used napkin strip and wrapper for the colostomy care dressing 52 (88.1%). Only 7 (11.9%) used Pampers and none of the caregivers used a conventional colostomy bag. The type of barrier cream for skin protection mostly used was petroleum jelly 55 (93.2%) with the remaining 4 (6.8%) using zinc oxide cream. The mean duration of colostomy from creation to closure was 11.0 months with a standard deviation of 5.5 months.

Acceptance of Colostomy by Caregivers

The majority of the caregivers had a good perception of the physical image of the child despite the stoma (18%). The feeling of stigmatization was 12%. Most of the caregivers were not concerned at all by the odour from the colostomy (14%) as they frequently cleaned and changed the dressing. The majority of the caregivers had a good attitude towards colostomy (18%). ; and most of the respondents believed that their children's social activities remained good despite colostomy (13%). This is summarised in Table 1 with an overall 75% acceptance:

Table 1 Summary of the level of acceptance of colostomy

PARAMETER	SCORE (%)
Perception of the physical image of a child	18
Feeling of stigmatization	12
Odour from stoma	14
Attitude towards colostomy (shameful or not)	18
Child's social activity	13
Total	**75**

The majority of the caregivers 55 (93.2%) were not aware of colostomy support groups and all of the respondents did not know about the availability of such support groups and were not linked to such groups

Determinants of Social Acceptance Of Colostomy

Table 2 The relationship between Gender and Acceptance

	Acceptance		
Type of Care	**Good**	**Poor**	**Total**
Males	4	2	6
Females	40	13	53
Total	44	15	**59**

$\chi^2 = 60.22$ p-Value < 0.01

Table 3 The relationship between Type of care and Acceptance

	Acceptance		
Type of Care	**Good**	**Poor**	**Total**
Pampers	5	2	7
Napkin Strip	20	9	29
Piece of cloth	19	4	23
Total	44	15	**59**

$\chi^2 = 1.301$ p-Value = 0.522

Table 4 The relationship between Occupation and Acceptance

	Acceptance		
Occupation	**Good**	**Poor**	**Total**
Traders	15	7	22
C/Servant	5	1	6
Farmers	4	1	5
House wives	20	6	26
Total	44	15	**59**

$\chi^2 = 0.270$ p-Value = 0.603

Table 5 The relationship between Duration colostomy before closure and Acceptance

Duration of colostomy before closure	**Acceptance**		
	Good	**Poor**	**Total**
< 12 months	13	6	19
≥ 12 months	31	9	40
Total	44	15	**59**

$\chi^2 = 2.126$ p-Value = 0.088

DISCUSSION

Before a colostomy is performed, parents and caregivers of the children should be educated on the need for the colostomy and the after-care. This explanation should be given by the managing team. The temporary nature of the colostomy should also always be emphasized. Following the colostomy, the parents and caregivers should again be further counselled and educated on the care of the colostomy by a paediatric-trained healthcare provider with experience in stoma care. There should be an opportunity created for the parents or caregivers to discuss freely with parents of other children with colostomies and to talk with those whose children had had their colostomy closed following the completion of treatment (Ameh *et al*., 2006; Berti-Hearn *et al*., 2019). Studies conducted in Zaria and in Kano reported using a strip of cloth napkin to cover the stoma, after

lubrication with a bland ointment (Ameh *et al.*. 2006 and Anyanwu *et.al.,* 2013). The bland ointment (petroleum jelly or zinc oxide) is also applied on the peri-colostomy skin. A strap of cloth tied at the back supports the napkin. A study developed in England evaluated the acceptance of the stoma and the social interaction in 51 individuals, providing strong evidence of self-efficacy in care with the stoma, acceptance of the condition, interpersonal relationship, and the location of the stoma with adaptation. The study concluded that there is a need to address psychosocial concerns, focusing on negative thoughts and encouraging social interactions (Silva et al., 2017).

In our current study we found that the majority of the caregivers had a good perception about the physical image of the child despite the stoma. This is similarly reported in the literature (Ameh *et al*., 2006; Osinowo *et al*., 2018; Theo *et al*., 2016; Murphy *et al*., 2018; Knowles *et al*., 2016). Most of the caregivers were not concerned at all by the odour from the colostomy as they frequently cleaned and changed the dressing. This is also shown in a report by (Knowles *et.al*, 2016; Murphy *et al*., 2018). The majority of the caregivers were shown to have good attitude towards colostomy care. Most of the respondents believed that their children's social activities remained good despite colostomy as previously reported (Ameh *et al*., 2006; Theo *et al*., 2016; Murphy *et al*., 2018). This gives overall good acceptance of the colostomy among the caregivers, which was similar to the reports by (Ameh *et.al.* 2006; Anyanwu *et.al.,* 2013). The majority of the caregivers in this study were found to have no awareness of colostomy support groups and all were found not to have known about the availability of such support groups and/or linkage to such groups. These findings were contrary to those reported by previous studies; these studies reported most of their respondents were well aware of ostomate support groups and knew about their availability and the majority was linked to such groups (Theo *et al*., 2016; Seng *et al*., 2013; Summers *et al*., 2018). These kinds of groups usually encourage more acceptance of colostomy and other social and psychological adaptations. The reason for this variability is not unconnected to the fact that such support groups are not available in our study environment.

In contrast to what was reported in the literature, colostomy negatively affects patients' physical, psychological, social, and sexual adaptation (Silva *et al*., 2017). This study has found a high level of acceptance of colostomy among caregivers of children with colostomy. This high acceptance of colostomy among the caregivers demonstrated in this study in contrast to the reports in other parts of the country and the world at large may be explained by the difference in the socio-cultural and socio-economic backgrounds of the respondents. This study has demonstrated a statistically significant association between the gender of the respondents and acceptance of colostomy (p-Value < 0.01). This significant association could be explained by the fact that most of the respondents were females and in the local culture of the study area, it is the role of the mother to keep the child. However, there was no statistically significant association between colostomy acceptance and type of care of colostomy (p-Value = 0.50), this could be due to the fact that whichever type of colostomy care adopted, provided it is adequately instituted, the outcome may be similar, colostomy acceptance and cost of care of colostomy (p-Value = 0.67), colostomy acceptance and occupation of respondents (p-Value = 0.60) and colostomy acceptance with duration of colostomy before closure (p-Value = 0.088).

CONCLUSION

This study suggests that there is a high level of acceptance of colostomy among caregivers of children with colostomy with a statistically significant association between gender and acceptance, and colostomy care does not significantly result in social burden among the caregivers of children with colostomy in Aminu Kano Teaching Hospital, Kano.

Although this research has demonstrated a high level of acceptance of colostomy among caregivers of children with colostomy, the following recommendations were made to further increase colostomy acceptance. These include:

- Preoperative and postoperative education and counselling programs for the caregivers.
- Reductions in the length of time between creation of colostomy and take down.
- Training and/or employment of stoma therapists and specialists.
- Creation of colostomy support groups and easy linkage to these groups provided.

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