Original Article

A Study on the efficiency of the team led by stoma specialist nurses in the treatment of enterostomy

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Abstract

Background: There are many surgical prerequisites where the primary anastomosis is not suitable, therefore, neonatal enterostomy or infant enterostomies are required. Stoma reversal is incorporated to help patients benefit from the treatment; however, there are many complications associated with the reversal of enterostomies. No informed consent has been received yet as this is still to be researched.

Objective: To analyze the efficiency of the team led by the stoma specialist nurses after neonatal enterostomy in improving the treatment of neonates after enterostomy.

Methods: 80 cases of neonatal intestinal fistula patients were divided into observation and control groups according to time sequence, with 40 cases per group. Patients in the control group were given routine nursing care, while patients in the observation group were given a nursing intervention by a team led by specialist enterostomy nurses. The complications and average hospitalization days of neonatal intestinal fistula patients in two groups were compared—along with family members scores, satisfaction surveys before discharge, and nurses' knowledge mastery.

Results: Complications, hospitalization time, knowledge level of nurses, scores of family members' pre-discharge assessment, and satisfaction surveys in the observation group were better than those in the control group ($P < 0.05$).

Conclusion: This research has found that the team led by specialist stoma nurses can improve the nursing level of enterostomy and reduce the incidence of complications and hospitalization time of neonatal enterostomy. It has also been found that they can improve the quality of life of children and overall family satisfaction. [*Ethiop. J. Health Dev.* 2021; 35(4): 380-389]

Keywords: Specialized nurses; Enterostomy of newborn; Complications; Knowledge level of family members and nurses

Introduction

Neonatal enterostomy is a standard surgical method for critical acute abdomen cases in NICU(1). It can achieve optimum results in treating congenital anorectal malformation, intestinal necrosis complicated with shock, and/or severe abdominal infection (2). The purpose of the operation is to place the intestines in the abdomen to resolve the intestinal obstruction of the patients and to restore the intestinal patency and blood supply of the patients as soon as possible. The neonatal enterostomy is usually temporary and the patient can be discharged soon after the operation. Fistula closure is performed around 3-6 months after the procedure. Enterostomy is a kind of stimulation to normal tissue, coupled with the characteristics of dealing with newborns, which include; limited cooperation, delicate skin, and poor resistance, the complications of enterostomy are significantly higher than those of adults (3). Complications associated with enterostomy include; peri-stomy dermatitis, colostomy infection, enterostomy bleeding, prolapse, colostomy retraction, malnutrition, and so on, which are caused by pocket leakage and seriously affect the quality of life, time spent in hospital, growth, and development of children. The struggle associated with nursing is a great challenge to both nursing staff and family members. The total incidence of complications was 11%-16% abroad and 16.3%-53.8%

in China (4). A specialist nurse is a kind of expert clinical nurse, which refers to having professional nursing skills in a specific nursing field, which can improve the professional level of the whole nursing team. In recent years, China attaches importance to the

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training of specialist nurses for colostomy, which plays an essential role in speeding up the specialization of nursing and improving the treatment quality of neonatal enterostomy. Therefore, this study selected newborns with enterostomy in order to analyze the influence of the nursing team (led by specialist nurses) on neonatal enterostomy. It is aimed at encouraging future specialist nurses to lead the enterostomy nursing team. The details of the study are as follows.

Materials and Methods

General data: Eighty newborns were hospitalized in Zhujiang Hospital due to enterostomy from January 2016 to January 2019 and were selected by convenient sampling for inclusion in the study. According to the hospitalization order, the enterostomy patients hospitalized from January 2016 to July 2017 were taken as the control group, and the patients from August 2017 to January 2019 were selected as the observation group.

Selection principle: The principles for the selection of the subjects in this study were as follows: (1) All the children underwent enterostomy; (2) The children had no severe diseases that affected the results of the study; (3) The family members of the children could communicate with the medical staff ; (4) The family members of the children understood the content of this study and volunteered to participate.

Screening principle: The principles of screening in this study were as follows: (1) The children were had other serious diseases; (2) The children had no parents or other people who could take care of the children for a long time; (3) The complications of the children were severe; (4) The family members of the children had low compliance with the research and the diagnosis, treatment, and nursing. The children had limited communication with medical staff.

Intervention methods

Control group: The routine nursing operation was performed for newborns with enterostomy in the control group. Nurses paid close attention to the changes in children's condition, and did an exceptional job of nursing after enterostomy, which obtaining routine health education and adopting other measures, such as, Peripheral dermatitis, Lateral leakage of fistulectomy fluid, Colostomy bleeding, Separation of skin and mucosa, Colostomy prolapse, Peristomal hernia and Colostomy retraction.

Observation group: Based on the control group, specialist nurses led by specialist nurses carried out enterostomy nursing for the children. The specific operation contents were as follows.

Set up a research group: Among the original NICU enterostomy nursing unit, a nurse capable of carrying out the necessary requirements for this research with an intermediate professional title was sent systematic training. Nurses obtained the title of "International Colostomy." The capabilities of the research group members included one head nurse with the title of deputy senior nurse, 12 middle-level head nurses, 19 nurses, and eight training nurses who had worked for five years.

Train and assess the nursing staff: In the observation group, the wound stoma specialist nurses led the daily tasks of the team. Before the implementation, the stoma specialist nurses trained and assessed the members of the group. The assessment content included both the theory of enterostomy and the practical operations. The assessment standard could be entered into the colostomy nursing group, and the job description included not only nursing patients but also family members (5). Specialist nurses observed enterostomy patients daily and carried out heuristic teaching and responded to various practical problems. This was done in order to guide the on-the-spot practice of improper nursing so that nurses could fully master the knowledge of colostomy nursing. When the team members cared for complex stories, specialist nurses were also invited to consult, and the nursing doctor's orders were issued at the bedside after the on-the-spot guidance. When there was no timely on-site consultation in case of holidays or particular circumstances, enterostomy could be transmitted to the Kone neonatal enterostomy nursing WeChat group for advice. The remote picture and text or video could be discussed and studied through communication equipment. It was more convenient for the members of the whole enterostomy group to master the nursing skills of enterostomy. Every month, the department quality control meeting was used to extend the session

for another hour to study. Everyone would express their own views, share their experiences and difficulties of enterostomy, discuss and record it, thereby promoting continuous quality improvement.

The nursing staff fully mastered the skills of neonatal enterostomy pocket replacement: There was no sphincter control, defecation was irregular, the unconscious flexion and extension of neonatal limbs were frequent, and the skin in the abdominal position was uneven, therefore indicating that the necessary skills had been mastered adequately. Improper adhesion of the pocket could cause leakagethis was further hindered by the delicate nature of new born skin and the stool from the stoma which stimulated the skin around the stoma, thereby requiring higher technical requirements for pocket replacement than adults. Due to the nature of extravasation and its ability to cause irritant dermatitis and other complications (6). This group adopted to use a one-piece recreational care for children to make pockets, paid attention to keeping warm when changed pockets, avoided taking them within 30 minutes after breastfeeding to prevent vomiting caused by restlessness during replacement. A pacifier was used to soothe and keep the children quiet if necessary. Firstly, the stoma site needs to be exposed The operator measured the base size of the stoma with a ruler, cut the pocket chassis according to the shape and size so that the gap between the edge of the stoma and the chassis opening was 2-3 mm, the chassis was smooth to the touch. To prevent colostomy bleeding caused by friction injury of enterostomy, the stoma and its surrounding skin was cleaned with regular saline cotton balls. The use of chemical and drug-containing products to clean the stoma were minimized. Then 3M skin protective film was sprayed evenly on the skin around the stoma, the pocket opening was placed on the left or right side of the body according to the direction of stool coming out of the stoma, then the pocket was pasted from the inside to the outside with the stoma as the center, and then covered the chassis with the palm of your hand for about 3~5min. A small opening less than 0.5cm could be made at the top of the pocket for those with a large amount of defecation, sparse, and gas accumulation. A disposable anal tube was inserted, which connected the harmful pressure drainage bottle, and drained the dilute stool and gas. This method was not suitable for those with thick stool. When the anal bag was filled with gas or the bag's contents exceeded 1/3, the gas and stool should be discharged so that the bag would not be loosened and the replacement frequency would be reduced

(7). Newborn skin is tender, frequent replacement of pockets can cause mechanical damage to the skin. Pocket chassis provided there is no leakage, no dermatitis and other abnormalities could be replaced once every 3-5 days.

Prevention of complications of enterostomy: The incidence of complications of enterostomy in newborns was very high, and fecal leakage dermatitis accounted for 22% of the skin complications around enterostomy. When the skin around the colostomy appeared flushed, or had edema, and/or erosion, after using a normal saline cotton ball to clean the stoma and the surrounding skin, a thin layer of colostomy powder was applied. To remove the excess colostomy powder, 3M of skin protective film was sprayed, pausing for about 20 seconds to be dry, and then repeated, the powder and filmed spraying procedure was done twice in order to achieve the effect of strict protection. Stoma skincare powder belongs to a hydrocolloid skin protective agent, promoting the healing of dermatitis and erosion.

If the skin around the stoma was sunken, it was filled with anti-leakage cream, the pocket chassis was cut and the anal bag was pasted, the replacement time was indicated, and the pocket was changed once every 2 to 3 days, and the pocket was also changed at any time if there was leakage (8). The incidence of intestinal prolapse is the highest, and some studies have pointed out that the incidence was as high as 38.2%. This is a frequent occurance in colostomy, and the number of exposed intestines had increased, along with a prolapse which could be as long as 20 cm. This might be linked to increased abdominal pressure caused by large incisions, postoperative abdominal distention, diarrhea, pain, cough, or restless crying (9). Attention should be given to relieve the uncomfortable factors of the child, such as keeping the stool unobstructed to reduce abdominal distension, feeding, etc., those who are fasting should give a pacifier, if necessary, according to the doctor's advice, sedation

should be an option. Reducing crying and coughing in children was required in order to decrease abdominal pressure and intestinal prolapse (10). It should be closely observed if intestinal prolapse could be restored by itself. If the intestine could not be rearranged, the intestinal blood circulation was appalling, with symptoms such as blackening, purplish and other abnormalities, and as such the doctor was informed.

Implement family-centered bedside care: Neonatal enterostomy is mainly temporary, and it is generally selected to close the stoma in the second stage 3~6 months after the operation. The problems brought by enterostomy to the parents of children with complications become apparent after discharge.

Therefore, based on the implementation of the control group, the observation group provided a 10-hour day transition ward 1~3 days before discharge and signed an informed consent form for accompanying children (11). One-on-one practical operation training was given to parents by members of the ostomy specialist nursing team, including demonstrating the use and replacement skills of ostomy bags and ostomy nursing products, cleaning and observing the skin around ostomy, understanding ostomy, explaining the normal state and common complications of ostomy, guiding parents to pay attention to feeding and daily care, observing the defecation amount, character and color of abdominal ostomy, etc. When encountering difficulties or problems, medical staff would give timely guidance and help and assess parents until parents could take care of children independently (12,13). At the same time, the successful cases of ostomy nursing were introduced to parents so that they were able to build their confidence and harness their skills , and to enable their families to acquire professional nursing knowledge and eliminate their worries before the newborn was discharged from the hospital. While accompanying children's families, the responsible nurses used the enterostomy family assessment table designed by the department to assess them. The family members also filled out the satisfaction questionnaire to understand the shortcomings in nursing and thereby enabling continuous quality improvement (14).

Observation indicators

(1) Incidence of complications of enterostomy, length of stay, and replacement time of ostomy bag; (2) The degree of mastery of stoma care and the satisfaction of family members; (3) Nurses' mastery level and skill score of enterostomy nursing knowledge.

Statistical analysis

In this study, SPSS20.0 software was used for statistical analysis of the research data. The expression of measurement data was mean ± standard deviation ($\bar{x} \pm s$), and the test method was a t-test; The presentation of counting data was [n(%)], and the test method was the chi-square test. Logistic regression analysis was used for multivariate analysis, and the value of test level α was 0.05, $P< 0.05$ which indicated a statistically significant difference.

Results

Comparison of general clinical data between two groups: There was no significant difference in available data such as sex, gestational age at birth, birth weight, different intestinal diseases, and different stoma positions ($P> 0.05$). Still, they were comparable, as shown in **Table 1**.

Table 1**. Comparison of general data of neonates with enterostomy between two groups**

Projects	**Observation group（*n*=40）**	**Control group（*n*=40）**	χ^2/t	***P***
Gender			4.611	0.101
male	22	19		
female	18	21		
Birth gestational age（W）	**33±2**	**34±3**	**1.754**	**0.648**
birth weight（kg）	**2.86±0.23**	**3.01±0.31**	**2.458**	**0.644**
Day age （d）	14.04±2.86	14.28±2.72	0.385	0.678
Disease condition				
Anal atresia	12	10	4.367	0.087
NEC	16	17	4.441	0.094
Intestinal obstruction	5	8	3.957	0.073
Intestinal perforation	7	5	4.014	0.078
Fistulostomy site				
Ileum	20	18	2.147	0.065
Jejunum	1	2	2.541	0.067
Transverse colon	15	14	2.545	0.067
Sigmoid colon	4	6	2.149	0.065

Table 2. Comparison of the incidence of enterostomy complications, pocket replacement time, hospital stay, and family satisfaction between the two groups [n (%)]

Group	Peripheral dermatitis	Lateral leakage of fistulectomy fluid	Colostomy bleeding	Separation of skin and mucosa	Colostomy prolapse	Peristomal hernia	Colostomy retraction	Total incidence rate
Observation group（*n*=40）	3	0	2	0	2	0	1	8（20.00）
Control group（*n*=40）	6	0	3	0	3	1	2	15（37.50）
χ2								5.457
P								0.018

Group	Frequency of pocket replacement					Hospitalization time（d）	Family satisfaction			
	1/d	2/d	Many times /d	Once every two days	Once from 3 to 5 days		Dissatisfied	General satisfaction	Satisfied	Total satisfaction
Observation group（*n*=40）	8	4	3	15	10	25.78±4.22	1	4	35	35（87. 5）
Control group（*n*=40）	9	**6**	**6**	12	7	30.5±6.78	3	10	27	27（67. 5）
χ^2/t						3.738				24.242
P						0.034				0.013

Comparison of the incidence of complications between the two groups

The incidence of complications was 20.00% in the observation group and 37.50% in the routine group. The results showed that the incidence of difficulties in the observation group was lower, the frequency of pocket replacement was less, and hospitalization duration was shorter ($P < 0.05$). The difference was statistically significant (**Table 2**).

Comparison of the evaluation scores of the family members of the two groups before discharge: Forty questionnaires were assessed in each group, and the recovery rate was 100%. The family members of the observation group had a better grasp of the dietary guidelines of enterostomy, the skills of pocket replacement, the purpose of enterostomy and the prevention of complications, and the scores before discharge was significantly higher than the control group ($P< 0.05$), as shown in **Table 3**.

Table 3. **Comparison of pre-discharge evaluation scores of family members of observation group and control group in neonatal enterostomy nursing ($\bar{x} \pm s$, scores)**

Assessment project	Observation group （*n*=40）	Control group (*n*=40)	*t*	*p*
Parents knew the purpose of enterostomy and the methods of skincare of enterostomy	99.53±8.31	90.01±9.22	4.851	0.012
Parents knew the dietary principles of children with enterostomy	98.94±3.28	89.47±9.31	6.068	0.028
Parents knew the activity principles of children with enterostomy	91.99±9.47	83.04±8.97	4.339	0.032
Parents knew the types and management of complications after enterostomy	85.67±9.28	78.35±4.35	4.517	0.013
Parents could correctly carry out bathing, dressing, and recumbent placement of colostomy children	97.74±9.74	89.55±5.38	4.6551	0.021
Parents could make, install, unload pockets and dump feces	98.64±9.48	89.88±4.31	5.320	0.022
Parents could infer intestinal function by observing the characteristics of feces.	90.36±9.41	82.32±4.21	4.933	0.024
Parents could carry out anal dilation training for children with enterostomy	96.36±8.88	85.36±6.21	6.420	0.021
Parents could share their experiences with other enterostomy families	97.87±9.34	89.68±7.25	4.381	0.016
The skills of parents to relieve their anxiety	91.68±8.67	86.97±5.34	2.925	0.031

Assessment results of nursing staff before and after training: The scores of theoretical knowledge and skills of nurses before and after colostomy team training were analyzed. The results showed that the scores of enterostomy nursing theory and skills were higher after specialty-led team training. The difference was statistically significant ($P < 0.05$), as shown in **Table 4**.

Table 4. **Comparison of assessment results of nurses before and after training (n=40, $\bar{x} \pm s$, scores)**

Group	n	Theoretical achievement	Skill achievement
before training	40	（88.14±1.23）	（96.15±2.31）
after training	40	（76.35±1.11）	（81.64±1.42）
t		45.006	33.844
P		0.012	0.020

Discussion

A child's enterostomy is a major disturbance of normality and typically results in significant psychological distress for both the child and the parents.

Coupled with the characteristics of a new born, which include: , low degree of cooperation, delicate skin, and poor resistance of newborns, nursing difficulties and complications of enterostomy are significantly higher than those of adults. In addition, another significant reason for this phenomenon is that the professional level of colostomy nursing is not sufficient. The specialist nurses of enterostomy should refer to the systematic study of enterostomy, have solid theoretical knowledge and practical professional skills in enterostomy, obtain the specialist nursing qualification certificate, and be an expert in enterostomy. The specialist nurses of enterostomy need to have nursing practice, nursing management, nursing education, and be up to date with scientific research, etc. The nursing intervention of colostomy specialist nurses has made noticeable nursing progress in many fields. Still, given the particularity of neonatal enterostomy nursing, the development of neonatal enterostomy specialist nurses alone can not meet the social needs of neonatal enterostomy. The entire nursing team must be trained to improve the nursing level of neonatal enterostomy. This study confirmed that, compared with the group joined by non-specialist nurses, the team led by enterostomy specialist nurses showed outstanding advantages in the incidence of complications, length of hospital stay, pocket replacement time, family members' mastery of colostomy nursing and family satisfaction, nurses' mastery of enterostomy nursing knowledge and skill scores. Therefore, in clinical practice, nursing should be expanded as much as possible, undivided attention should be given to the advantages of various abilities of specialist nurses, and adequate space and time should be provided for skills development. The most fundamental thing is to promote the level of enterostomy in the whole nursing team,. to encourage the further development of neonatal enterostomy (15). When the group develops, the work pressure and workload of specialist nurses were reduced accordingly. However, the exertion of the advantages of the nursing team guided by enterostomy specialist nurses and the expansion of their work also needs more practical and influential support and guidance, such as the exploration of the content of the work mode, which sometimes occupy the nurses' spare time in order to be implemented. The hospitals need to be monitored, especially with regards to accom-modating family members and the establishment of a unique enterostomy assessment mechanism, along with the refinement of the specialist direction, etc.

This study analyzed the team's application led by specialist nurses in neonatal enterostomy nursing and improved the professional knowledge level of on-the-job nurses by accompanying family members through specialist nurse training. The total incidence of complications was 20.00% in the observation and 37.5% in the routine group. The total incidence of difficulties in the observation group was lower than that in the routine group. The frequency of pocket replacement was less, and the hospital stay was shorter ($P< 0.05$). The difference was statistically significant. This is related to the more professional and scientific training mode of team enterostomy nursing-led by specialist nurses, according to clinical practice, regular nursing rounds, and nursing consultation when nursing difficulties are encountered. This training could even be conducted during holidays, through online training using computers or phones, theoretical lectures, on-site drills, and other forms of training that were more conducive to nurses' mastery of knowledge. The competency level of enterostomy nursing post in the whole team was improved. The nurses' knowledge of disease control was significantly higher than that before training through the examination ($P< 0.05$), and this difference was significant (see **Table 4)**. The nursing team led by specialist nurses also provided training and personalized bedside operation guidance to parents, which directly affected parents' nursing enterostomy. As seen in **Table 3**, the scores of family members in the observation group and the control group before discharge were compared. The score in the observation group was higher than that in the control group ($P< 0.05$), and this difference was statistically significant. This was also related to the team's full consideration of the concept of family-centered humanized care in the study (16). In the case of a relative shortage of NICU beds, we still tried to provide bedside care for family members before discharge and reduce the incidence of

complications and readmission after colostomy through on-site one-to-one guidance. In the traditional nursing model, the health education for the family members of children with enterostomy was only carried out before discharge. The family members did not have a good grasp of the knowledge of disease and care. After release, the family members often increased colostomy complications and readmission rates because of an inability to replicate the teachings and the conditions from the hospital at home. The team led by colostomy specialist nurses allowed family members to participate in the care process early, providing them with more learning and operation opportunities and laying the foundation for the smooth transition of children from the hospital to family (17-18). As a result, the satisfaction of the children's families increased significantly, from 67.5% to 87.5%, improving the quality of service and reducing the contradiction between doctors and patients.

Conclusion

Through the construction of the stoma nursing team, the stoma specialist nurses carried out theoretical and practical training. They assessed for team members, took group rounds, nursing consultation, made consultation and guidance by using the information platform, and providing family members with family-centered bedside care. It could significantly reduce the incidence of complications during hospitalization and enterostomy and the nursing ability of family members for children with enterostomy. However, this study only focused on the enterostomy complications of newborns during hospitalization. The incidence of enterostomy complications after discharge and the time interval of the second operation is also the focus of the subsequent research.

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Reference

1. Mbitto WD, Mzingula EP, Determinants of infant mortality in Kisarawe district Tanzania, SPR, 2022;2(2): 476 – 481.
2. Ahsan M, Rana ZA, Ali M, Anwer K, Assessment of knowledge, concerns and support of physicians towards biobanks in Pakistan, and their willingness to donate, SPR, 2021;1(4): 320– 328.
3. Fiore JF Jr, Faragher IG, Bialocerkowski A, Browning L, Denehy L. Time to readiness for discharge is a valid and reliable measure of short-term recovery after colorectal surgery. World J Surg. 2013 Dec;37(12):2927-34.
4. Goudarzi Z, Askari M, Seyed-Fatemi N, Asgari P, Mehran A. The effect of educational program on stress, anxiety and depression of the mothers of neonates having colostomy. J Matern Fetal Neonatal Med. 2016 Dec;29(23):3902-5.
5. Xia L. The Effects of Continuous Care Model of Information-Based Hospital-Family Integration on Colostomy Patients: a Randomized Controlled Trial. J Cancer Educ. 2020 Apr;35(2):301-311.
6. Zheng MC, Zhang JE, Qin HY, Fang YJ, Wu XJ. Telephone follow-up for patients returning home with colostomies: views and experiences of patients and enterostomal nurses. Eur J Oncol Nurs. 2013 Apr;17(2):184-9.
7. Gray M, Colwell JC, Doughty D, Goldberg M, Hoeflok J, Manson A, McNichol L, Rao S. Peristomal moisture-associated skin damage in adults with fecal ostomies: a comprehensive review and consensus. J Wound Ostomy Continence Nurs. 2013 Jul-Aug;40(4):389-99.
8. Bethell G, Kenny S, Corbett H. Enterostomy-related complications and growth following reversal in infants. Arch Dis Child Fetal Neonatal Ed. 2017 May;102(3):F230-F234.
9. Minaev SV, Bykov NI, Isaeva AV, Kachanov AV, Tovkan EA, Filip'yeva NV, Gerasimenko IN. Oslozhneniia kishechnykh stom u deteĭ [The complications of intestinal stoma in children]. Khirurgiia (Mosk). 2017;(1):54-57.
10. Steinau G，Ruhl KM，Hornchen H，et al. Enterostomy complications in infancy and childhood［J］. Langenbecks Arch Surg，2001，386：346-349.
11. Lu Q, Zhou XY, Liu ZY. [Enterostomy closure: how to select an opportunity after enterostomy in children]. Zhongguo Dang

Dai Er Ke Za Zhi. 2012 Jan;14(1):69-70. Chinese.

12. Olejnik B, Maciorkowska E, Lenkiewicz T, Sierakowska M. Educational and nursing problems of parents of children with stoma. Rocz Akad Med Bialymst. 2005;50 Suppl 1:163-6.
13. Jiang S, Warre R, Qiu X, et al. Parents as practitioners inpretermcare [J]. Early Hum Dev,2014,90(11):781-785.
14. Galarza-Winton ME, Dicky T, OLeary L, etal. Imple-menting family-integrated care in the NICU:educating nurses[J]. Adv Neonatal Care,2013,13(5):335-340.
15. O'Flynn SK. Care of the stoma: complications and treatments. Br J Community Nurs. 2018 Aug 2;23(8):382-387.
16. Rothstein MS. Dermatologic considerations of stoma care. J Am Acad Dermatol. 1986 Sep;15(3):411-32.
17. Rivet EB. Ostomy Management: A Model of Interdisciplinary Care. Surg Clin North Am. 2019 Oct;99(5):885-898.
18. Arfi N, Alim F, Agarwal S, Mental health and well-being during COVID-19 in the developing world: A review of Sub-Saharan Africa and Asia, SPR, 2021, Volume 1, issue 4, Page No.: 250 – 257.
19. Naim A, Khan MF, Consumer behavior for health services: A psychological approach, SPR, 2021; 1(4): 298 – 309.