

An Exploration of Father's Influence on Feeding Practices and Nutritional Status of Pre-School Children in Kebbi State

Yau, S. L.¹, Yusuf Abdulrahman Bashir^{2*}, Sahabi M, A.², Bashir, I. I.³

¹Department of Nursing Science, Federal University, Birnin Kebbi, Kebbi State, Nigeria

²Department of Biochemistry and Molecular Biology, Federal University, Birnin Kebbi, Kebbi State, Nigeria

³Integrated Primary Health care Advisor, USAID Integrated Health Program, Palladium Development Nigeria Limited

DOI: [10.36348/sjnhc.2023.v06i01.006](https://doi.org/10.36348/sjnhc.2023.v06i01.006)

| Received: 16.12.2022 | Accepted: 24.01.2023 | Published: 28.01.2023

*Corresponding author: Yusuf Abdulrahman Bashir

Department of Biochemistry and Molecular Biology, Federal University, Birnin Kebbi, Kebbi State, Nigeria

Abstract

Background: Malnutrition among preschool children is still a serious public health problem in Nigeria and other developing countries. The critical role fathers play in providing support in improving infant, young child and maternal nutrition cannot be overemphasized. Therefore, the current study seeks to explore the level of male involvement in infant and young child nutrition and its association with nutritional status. **Methodology:** A cross sectional study among 190 households, 5 focus group discussions, and 5 key informant interviews were conducted in Birnin Kebbi metropolis of Kebbi State in Nigeria. Anthropometric measurement, biochemical and physical evaluation were used to assess nutritional status of preschool children of the respondents. Focus group discussions and in-depth interviews conducted and summarized into themes. **Results:** The study revealed that higher percentage of the males provided money to buy food for the children (93.6%), and only 9.8% have ever accompanied mothers to young child clinics. **Conclusion:** In this study, most males were involved in buying food for their children, and providing money for transport to young child clinics was associated with normal nutritional status of children less than 5 years in the study area.

Keywords: Nutritional status, infant feeding, children, father and formative research.

Copyright © 2023 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

1.0 INTRODUCTION

Nutrition has a powerful influence on growth, development, and the survival of every individual. Optimal nutrition at each stage of the lifecycle is therefore a fundamental human right with malnutrition being viewed as a denial of that right. Infant and young children are the most nutritionally vulnerable group of the society as they are dependants and are also at a critical stage of the growing process (WHO, 2014; Yusuf *et al.*, 2019). The vulnerability of infants and young children are more when they are denied their rights to proper feeding and good nutrition. Infant and young child feeding practices directly affect the nutritional status of preschool children; their growth, development and ultimately survival (Yusuf *et al.*, 2019).

It is pertinent to note that exclusive breastfeeding (EBF) from birth to 6 months has proven to be the most effective preventive intervention for ensuring child survival and is estimated to save 13 percent of all deaths in preschool children (Farzana *et*

al., 2014; UNICEF, 2018). It is hard to believe, but a child's future can be determined years before they even reach their fifth birthday. Although exclusive breastfeeding provides the best start to life, an infant requires more nutrients than are generally available in breast milk alone after six months (Das *et al.*, 2016). Any non-breast milk foods or nutritive liquids that are given to young children during this period (in addition to breast milk) are referred to as complementary foods, and complementary feeding is the process of introducing these foods. This transitional period is very important in every child's life, for health, growth, and psychosocial development (Amankwah *et al.*, 2009; Adeoye *et al.*, 2018).

Previous studies have revealed that infants and preschool children begin to experience malnutrition shortly after the first six months of exclusive breastfeeding (Akinola *et al.*, 2014). This is because at the age of six months and above, the child is undergoing rapid growth and development. Breast milk is no longer sufficient to meet the nutritional needs of the infant.

Therefore, complementary foods should be added to the diet of young child at six months (Save the Children 2016; WHO, 2018).

There are several factors that influence Infant and young child feeding practices. These are among others a low and/or lack of knowledge on the optimal EBF and complementary feeding practices (UNICEF, 2013). Lack of support for breastfeeding mothers from their spouses, other family members, communities and healthcare providers; as well as social cultural factors like gender roles (Akinsola *et al.*, 2017). Gender actually has a major role to play in this because of the gender roles society ascribes to men and women which affect health and determine how they support each other (WHO, 2013).

As in many African traditions, Kebbi state inclusive, men are brought up knowing that they are providers and heads of homes while a woman's responsibility is to take care of the children and family. These gender roles have contributed to most men having a negative attitude towards supporting their partners with child care or house chores. Usually, consequences in form of peer stigma befall those men that are caught up doing culturally tagged female roles (Adeoye *et al.*, 2018).

These sociocultural factors as highlighted go beyond individual mothers to include fathers and other family members. Often times, mothers may be willing to exclusively breastfeed their infants, but the success to do so may be hindered by a lack of breastfeeding knowledge and skills. For instance, a mother could be knowledgeable with breastfeeding skills but she might not have the decision making power to act on it. This is mainly because fathers have been observed to influence how a mother feeds her child (Magawa, 2012). Family and community perceptions can therefore hamper the success of optimum infant feeding especially if they have no knowledge on infant feeding practices. Most of the past studies and programs carried out on infant and young child feeding practices in Nigeria have focused mainly on mothers, neglecting the greater influence men have in their homes.

To improve fathers 'and mothers' knowledge, behavior and practice on optimal EBF; family support, adequate information (Knowledge) and skills and behavior change communication in their communities becomes important and needs to be emphasized (Adeoti *et al.*, 2018, Bereket *et al.*, 2018). This can improve the nutritional status of infant and young children through sustainable and coordinated increase in the understanding of current knowledge, practices, and behavioral influences related to infant and young child nutrition (IYCN) at household and community levels. Therefore, the current study seeks to explore the level of male involvement in infant and young child nutrition and its association with nutritional status.

2.0 MATERIALS AND METHODS

A community based cross sectional study was conducted in 2018 among 150 households selected by multistage simple random sampling technique. In each household one male partner/caretaker and child aged 6–59 months pair was selected as the study subjects. Six focus group discussions (FGD) with 10-12 participants were conducted. Twelve key informant interviews were also conducted. The interviews were tape recorded and notes taken. The FGDs and in depth interviews were conducted in the local language (Hausa) and the duration of the sessions was two hours. The data was transcribed and summarized into themes.

2.1 Study Area

Kebbi State is located in the North-western part of Nigeria, and it lies on latitude 10° N to 13° N, and Longitude 3° E to 6° E. The state enjoys a tropical type climate, which is generally characterized by two extreme seasons: the hot and cold temperatures. The rainfall begins in May/June and ends in October with the heaviest fall occurring in July and August. The extremely cold Harmattan period, usually accompanied by dusty winds and fog, prevails in November, December, and January. Mean annual temperatures vary considerably but usually range between 70°F and 100°F, while mean annual rainfall is about 500mm. The state is famous for the traditional fishing festival which attracts people from far and near and even from neighboring African countries.

The main ethnic groups are Arawa, Hausa and Fulani with minor tribes like Yoruba, Nupe and Igbo. The main occupations of the inhabitants are farming, trading, and fishing. Islam and Christianity are the predominant religion with some practicing traditional religion.

Kebbi is one of the states bordering the Sahelian nation of Niger and Benin Republics on the western part, Sokoto State on the northeast and Niger State on the south. It has an estimated population of 3.8 million, total land area of 36,800 km² administratively divided into 21 Local Government Areas. Like most states in the region, Kebbi state has low socio-economic indicators. The Government of Kebbi State recognizes that health is one of the basic ingredients for socio-economic and technological advancements and is committed to ensuring that its people attain high health standards. Common agricultural products in the state include rice, guinea corn, sweet potatoes and onions among others.

2.2 Study Sites

Gwadangwaji, Takalau, Kalgo, Kuka, Augie and Kardi-Gulumbe.

2.3 Study Setting and Participants

The assessment utilized an in-depth participatory approach to gather information from

community members and selected key informants on the diets of women, feeding practices of children less than 5 years, roles of men, and household and community factors influencing maternal, infant, and young child feeding practices.

2.4 In-Depth Interviews

In order to cater for those individuals who could not express themselves freely in groups, in-depth interviews were used in order to explore their individual views and experiences. In this case detailed information on male involvement and support in EBF was required.

2.5 Focus Group Discussions (FGD)

To complement the information from the in-depth interviews, FGDs were conducted. In Kebbi state, men come together in assemblies known as *Majalisa*. The FGDs were an avenue for group interactions where participants build on each other's comments giving collective meanings about their experiences and views on infant and young child feeding practices. The purpose of FGD was to reveal diverse knowledge, experiences and preferences of participants (Flick, 2007).

The FGD comprise the researcher as the facilitator and an intern as the note taker. The intern was guided on what to take note of before each session. Participants for the FGD were recruited with help of community volunteers. FGDs were audio recorded after getting participants' consent and were assured that they would be deleted once they are transcribed. This method was adopted because it is considered user friendly and can be used with limited resources and in a specified amount of time (Babour and Rosaline, 2007). It was also well suited for the exploratory study.

2.6 Key Informant Interviews

These interviews allow for a collection of information from people who have the knowledge, ideas and views about infant and young child feeding practices in community. In Kebbi, people with some kind of leadership in the community are respected and considered to be knowledgeable. Hence, in-depth views and perceptions of community health promoters/providers seemed ideal for this particular study (Kvale, 2007).

2.7 Participant Selection

Community volunteers (CV) conducted a rapid census of households with children in the study areas. Eligible households had a caregiver and a child less than 59 months of age at enrolment. All eligible households were invited to participate, and participation was voluntary. Individuals who were seriously ill and pregnant women were excluded. Participants were drawn from households, Local authorities, Religious leaders, Traditional leaders, Traditional healers, and Health personnel.

2.7.1 Inclusion Criteria

- Children <59 months with MUAC >11.5 cm.
- Residency within the study communities and willing to participate in the study.
- Written consent of parent or caregiver.

2.7.2 Exclusion Criteria

- Children >59 months.
- MUAC <11.5 cm or presence of bilateral pitting oedema or any other illnesses requiring inpatient treatment.
- Participation in any other clinical trial.

2.8 Ethical Approval and Informed Consent

Ethical approval was obtained from Kebbi State Ministry of Health with Health Research Committee assigned number 108:1/2018 and KSHREC Registration number 108/2018. Informed written consent was taken from all the respondents.

2.9 Statistical Analysis

Data obtained during the study was imported to IBM SPSS software version 20 for analysis. Descriptive statistics were used to get the frequencies. ENA SMART software, 2011 was used to analyze the data of anthropometric measurements for the children. WHO (2006) cut offs was used to interpret the nutritional status. A Z-score of ± 2 SD for stunting (HA), underweight (W/A) and wasting (W/H) without edema was used to indicate nutritional status. Z-score of -2SD to -3SD indicate moderately malnourish, <-3SD indicate severely malnourish. MUAC cut off ≥ 13.5 reflect normal, 11.5 to 12.5 moderately malnourish and <11.5 as severely malnourished.

3.0 RESULTS AND DISCUSSION

Table 1: Socio Demographic data, Father's perception and participation in Infants and Young Child Feeding practices

Variable	Frequency	Percentage
Level of education of fathers		
Primary	12	8
Secondary	30	20
Tertiary	66	44
Non-formal	42	28
Total	150	100
Occupation		
Farmer	45	30
civil servant	57	38

Variable	Frequency	Percentage
skilled artisan	18	12
business man	30	20
Total	150	100
When should baby be put to breast for the first time after birth?		
Within first hour		
Within first hour	99	66
>30minutes	51	34
Total	150	100
Should colostrum be given to baby?		
YES	87	58
NO	63	42
Total	150	100
Should a child be given any other thing in addition to breast milk before 6months unless medically indicated?		
YES	66	44
NO	84	56
Total	150	100
How many immunizations did the child takes?		
Once	10	6.67
Two	25	16.67
all time	88	58.67
None	27	18
During pregnancy did you ask your spouse to go for antenatal?		
Yes	140	93.33
No	10	6.67
Total	150	100
After your wife gave birth did you provide balance diet for her?		
Yes	135	90
No	15	10
Total	150	100

n=150

Table 2: Level of Father's Participation in Infants and Young Child Feeding (IYCF) Activities

Activity	Respondent's responses	
	Yes	No
Decision making in IYCF		
Final decision on EBF	84(56%)	66(44%)
Final decision to commence complementary feeding	79(52.67%)	71(47.33%)
Final decision on type of food to start complementary feeding	30(20%)	120(80%)
Provide physical support		
Participate in child feeding	66(44%)	84(56%)
Assist in household chores	50(33.33%)	100(66.67%)
Allow other family members to support the mother after delivery	80(53.33%)	70(46.67%)
Accompany mother to child health clinic	88(58.67%)	62(41.33%)
Provide financial support		
Provision of variety of food for the child	132(88%)	18(12%)
Provision of variety of food for mother	135(90%)	15(10%)
Provide support or transport money to child health clinic	130(86.67%)	20(13.33%)

n=150, EBF= exclusive breast feeding.

Table 3: Mean Age of the Children of the Participants

Group	Mean age (Months)
G1	20±0.29
G2	22±0.10
G3	19±0.25
G4	22±0.35
G5	23±0.23
G6	21±0.57

Table 4: Mid Upper Arm Circumference (cm) of the children of the Participants

Group	MUAC
G1	11.57 ^a ± 0.23
G2	11.55 ^a ± 0.10
G3	11.74 ^a ± 0.29
G4	11.71 ^a ± 0.10
G5	11.65 ^a ± 0.06
G6	11.70 ^a ± 0.17

Values are mean ± standard error of mean (SEM). Values in the same column with different superscripts are significantly different at ($P < 0.05$). Each group comprise twenty five participants. G1-Gwandangwaji, G2-Takalau, G3-Kalgo, G4-Kuka, G5-Augie and G6-Gulumbé.

Table 5: Weight (kg) of the Children of the Participants

Group	Weight
G1	7.57 ^a ± 0.25
G2	7.85 ^a ± 0.10
G3	8.10 ^a ± 0.23
G4	7.71 ^a ± 0.57
G5	7.65 ^a ± 0.06
G6	7.80 ^a ± 0.27

Values are mean ± standard error of mean (SEM). Values in the same column with different superscripts are significantly different at ($P < 0.05$). Each group comprise twenty five participants. G1-Gwandangwaji, G2-Takalau, G3-Kalgo, G4-Kuka, G5-Augie and G6-Gulumbé.

Table 6: Body Mass Index (Kg/M²) of the participants

Group	BMI
G1	14.84 ^a ± 0.23
G2	15.12 ^a ± 0.10
G3	14.00 ^a ± 0.29
G4	15.39 ^a ± 0.10
G5	15.99 ^a ± 0.06
G6	15.26 ^a ± 0.15

Values are mean ± standard error of mean (SEM). Values in the same column with different superscripts are significantly different at ($P < 0.05$). Each group comprise twenty five participants. G1-Gwandangwaji, G2-Takalau, G3-Kalgo, G4-Kuka, G5-Augie and G6-Gulumbé.

Table 7: Triceps skin folds thickness (mm) of the Children of the Participants

Group	MUAC
G1	6.20 ^a ± 0.23
G2	6.55 ^a ± 0.10
G3	6.10 ^a ± 0.29
G4	5.81 ^a ± 0.10
G5	6.65 ^a ± 0.06
G6	6.00 ^a ± 0.17

Values are mean ± standard error of mean (SEM). Values in the same column with different superscripts are significantly different at ($P < 0.05$). Each group comprise twenty five participants. G1-Gwandangwaji, G2-Takalau, G3-Kalgo, G4-Kuka, G5-Augie and G6-Gulumbé.

Table 8: Sub scapular skin folds thickness (mm) of the Children of the Participants

Group	Sub scapula skin fold
G1	3.57 ^a ± 0.29
G2	3.70 ^a ± 0.23
G3	3.80 ^a ± 0.10
G4	3.75 ^a ± 0.57
G5	3.45 ^a ± 0.10
G6	3.50 ^a ± 0.57

Values are mean ± standard error of mean (SEM). Values in the same column with different superscripts are significantly different at ($P < 0.05$). Each group comprise twenty five participants. G1-Gwandangwaji, G2-Takalau, G3-Kalgo, G4-Kuka, G5-Augie and G6-Gulumbé.

Table 9: Supraliac skin folds thickness (mm) of the Children of the Participants

Group	Sub scapula skin fold
G1	4.57 ^a ±0.57
G2	4.45 ^a ±0.10
G3	4.80 ^a ±0.15
G4	4.75 ^a ±0.57
G5	4.54 ^a ±0.23
G6	4.50 ^a ±0.29

Values are mean ± standard error of mean (SEM). Values in the same column with different superscripts are significantly different at ($P < 0.05$). Each group comprise twenty five participants. G1-Gwandangwaji, G2-Takalau, G3-Kalgo, G4-Kuka, G5-Augie and G6-Gulumbé.

4.0 DISCUSSION

The current study revealed that so many fathers that participated in this study had tertiary education. The results further indicated that about 41.5% are civil servants mostly rely on monthly salary cater for the needs their family. It was observed that due to the high level of education of fathers, their occupation, and their participation in mode of feeding of their children, there was no case of severe acute malnutrition among the children of the participants.

Based on these findings, about 69.05% of the fathers have the knowledge of breastfeeding initiation within one hour after delivery and 54.8% knows about complementary feeding when the child is at six months and this translates to no case chronic malnutrition among the studied children. Many among the fathers in this study (40-43%) agreed that a child should be breastfed more than five times a day depending on his demand and about 54.8% encourages that a child should be given a food in addition to breast milk at the age of six month and the type of food should be a liquid food such as pap (kunu) which comparatively shows that the father's that participates in this study clearly have a positive effect in infants and young child feeding practices in their various houses. This was in agreement with study by Alamgir *et al.*, (2017) on assessment of nutritional status of children aged 1-5 years in Umari District of Hyderabad, where fathers had strong positive participation on feeding practice of their children. These suggest that the result of wasting was due to good participation of father's in taking care of their children.

In many communities in Northwest Nigeria, it is traditionally believed that colostrum is unhealthy and therefore is harmful to the baby. However in the present study, majority of father's (59.5%) believed and encouraged that colostrums should be given to the young child as it is the primary source of all child nutritional needs and health and this may be the reason of having less number of malnourished children among the studied children. This is comparatively similar, to the findings of Stevenson and Conaway (2011) where majority of the mothers participates on regular breastfeeding and given of colostrums to their children. Henceforth, there is a strong relationship between regular breastfeeding and health status of the child.

Effective immunization program against the common communicable diseases are required for the majority of the susceptible populations particularly in the developing countries, wherein the risk of disability or death from preventable infectious diseases is a matter of concern. Based on the findings, about 97.6% of the fathers have a positive respond about taking their wives to antenatal and 95.2% takes their child for immunization. And about 64.3% were able to receive all the immunization which is a clear indication that there child were in less risk of having childhood acute and chronic diseases. This is also similar to findings in Umari District of Madhya Pradesh State where majority of the mothers attends antenatal care checkup as well as regular immunization of their child. In contrast to the findings in Kwazulu-Natal were fathers show lesser participations in immunization of their child (Shashidhar, 2016). These revealed that the fathers of current study show more participation compare to that of Kwazulu-Natal.

The prevalence of underweight in this study is only 1.9% which is an indicator of healthy living among the study children. The prevalence of stunting in this study is 36% which is comparable to that of study conducted in Bangladesh in 2006 and Alamgir *et al.*, (2017) among the under five children. The finding of this study on wasting shows that all the studied children were not wasted which concurred the findings by Bereket *et al.*, (2018) where 90% of the children were not wasted.

5.0 CONCLUSION

On the basis of these findings, conclusion were drawn that fathers participates strongly in infants and young child feeding practices. Majority of the fathers in this study are educated and are aware of importance of balance diet and regular breast feeding of their children. As such, low level of nutritional deficiency was observed among the participants. We also found that some factors such as family size, educational status of father, occupation and source of income were significantly associated with nutritional status of their children.

FUNDING

This research received funding from TETFUND (TETFUND/DESS/UNIV/BIRNIN-KEBBI/RP/VOL.IV).

ACKNOWLEDGMENTS

We wish to acknowledge the Head of Department and staff of Department of Biochemistry, Federal University, Birnin Kebbi, Kebbi State, Nigeria for providing an enabling environment to conduct the study.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

- Adeoti, O. A., Osundahunsi, O. A., & Salami, A. A. (2018). Protein Quality, Haematological and Histopathological Studies of Rats Fed with Maize-based Complementary Diet Enriched with Fermented and Germinated *Moringa oleifera* Seed Flour. *Nutrition and Food Science International Journal*, 7, 1-6.
- Adeoye, B. K., Chukwunulu, A., Makinde, Y. O., Ngozi, E. O., Ani, I. F., & Ajuzie, N. (2018). Quality Assessment of Complementary Food Produced Using Fermentation and Roasting Methods. *American Journal of Food and Nutrition*, 6, 96-102. doi: 10.12691/ajfn-6-4-1.
- Akinola, O. O., Opreh, O., & Hammed, I. (2014). Formulation of local ingredient-based complementary food in south-west Nigeria. *Journal of Nursing and Health Science*, 3, 57-61.
- Akinsola, A. O., Onabanjo O. O., Idowu M. A., & Ade-Omowaye, B. I. O. (2017). Traditional Complementary Foods: A Critical Review. *Greener Journal of Agricultural sciences*, 7, 226-242.
- Alamgir, K., Salahuddin, K., Syed, Z., Abdul Manan, T., & Riffat, M. K. (2017). Causes, sign and symptoms of malnutrition among the children. *Journal of Nutrition and Human Health*, 1, 24-26.
- Amankwah, E. A., Barimah, J., Acheampong, R., Addai, L. O., & Nnaji, C. O. (2009). Effect of Fermentation and Malting on the Viscosity of Maize-Soyabean Weaning Blends. *Pakistan Journal of Nutrition*, 8, 1671-1675.
- Bereket, Y., Elias, E., Thilagavathi, T., & Mulugeta, Y. (2018). Timely initiation of complementary feeding to children aged 6–23 months in rural Soro district of Southwest Ethiopia: a cross-sectional study. *Pediatrics*, 18, 17.
- Das, J. K., Salam, R. A., Imdad, A., & Bhutta, Z. A. (2016). "Infant and Young Child Growth." In Disease Control Priorities: 3rd edition. Washington, DC: World Bank. Pp: 27.
- Farzana, S. A., Ferdous, A. B., Asirul, M., Hoque, M. D., & Safiul, A. (2014). Complementary Feeding Practices among Mothers in Selected Slums of Dhaka City: A Descriptive Study. *Journal of Health Population and Nutrition*, 32, 89–96.
- Magawa, R. (2012). Knowledge, attitudes and practices regarding exclusive breastfeeding in Southern Africa Part Available at: http://www.consultancyafrica.com/index.php?option=com_content&view=article&id=1181:knowledgeattitudes-and-practices-regarding-exclusive-breastfeeding-in-southern-africa-part-1&catid=61:hiv-aidsdiscussion-papers&Itemid=268
- Save the Children (2016). State of Nigerian Children: Children Left behind in Nigeria. Retrieved from: <http://www.savethechildren.org/site/apps/ka/ct/>
- Shashidhar, H. R. (2016). Protein Energy Malnutrition. Retrieved from <http://emedicine.medscape.com/article/985140-clinical>.
- Stevenson, R. D., & Conaway, M. R. (2011). Weight and Mortality Rates: "Gomez Classification" for Children with Cerebral Palsy. *Paediatrics*, 128, 37.
- UNICEF (2013). Improving Child Nutrition: The achievable imperative for global progress. Available at www.unicef.org/publications/index.html.
- UNICEF (2018). Companion to breast feed after 6, Retrieved from: <http://www.Unicef.org/programme/breastfeeding/food.htm>. Nutritional
- WHO (2013). Guideline: Updates on the Management of Severe Acute Malnutrition in Infants and Children. Geneva: WHO.
- WHO (2014). Children: Reducing Mortality. Retrieved from <http://www.who.int/media/centre/factsheet/fs178/en/>.
- WHO (2018). Guiding Principles for Complementary Feeding of the Breastfed Child. Geneva: WHO Press. Retrieved from: http://www.who.int/nutrition/publications/guidingprinciples_compfeeding_breastfed.pdf. 5/10/20.
- Yusuf, A. B., Turaki, A. A., Abubakar, J., & Yau, S. L. (2019). Assessment of Nutritional Status of Children in Birnin Kebbi Orphanage Home, Kebbi State, Nigeria. *Savana Journal of Basic and Applied Sciences*, 1(2), 154-159.