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RISK OF PEDIATRIC MORTALITY AND HOSPITALIZATION RELATED TO SUBOPTIMAL BREAST-FEEDING PRACTICES

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ABSTRACT

Introduction: The World Health Organization (WHO) estimates 53% of pneumonia and 45% of diarrhea deaths were due to poor feeding practices during the first six months of life. Suboptimal breastfeeding is estimated to be responsible for 1.4 million child death and 43.5 million disability adjusted life years with nonexclusive breastfeeding during the first 6 months. **Objective:** The current study was performed to assess the sub-optimal breastfeeding complication in neonates and to identify the reasons and complications in newborns due to suboptimal breastfeeding practice and to educate mothers regarding the importance of breastfeeding. **Material and Methods:** The prospective cross-sectional study was performed among 250 breastfeeding mothers, neonates and infants for six months. Descriptive and Regression analysis was done after collecting data. **Results:** In a total of 250 patients, children of 7-14 months were hospitalized due to sub-optimal breastfeeding practice in 1 to 2 hours patients were (2.8%) low. Duration of breastfeeding for 6 months to 1year patients were (54.8%) greater than mothers providing breastfeeding over one year. Exclusive breast-feeding patients were (76%) high, Non-exclusive breastfeeding patients (12.4%) and bottle-feeding patients were (4.4%) low. **Conclusion:** Knowledge and outcomes regarding healthy breastfeeding practices are found to be less in women of the region, leading to untoward pediatric hospitalization; which could be limited by educating and creating awareness in breastfeeding women by effective counseling on diets and lifestyle modifications for which pharmacists' role is recommended.

KEYWORDS: Exclusive breastfeeding, Complimentary food, Infant feeding practices.

INTRODUCTION

According to the 2015 world Breastfeeding Trends Initiative Report, India ranked 78 out of 150 countries surveyed on breastfeeding practices with fewer than half (44.6%) of newborns born annually breastfeed within the first hour of birth and about two- thirds (64.9%) optimally breastfeed during 6 months of life, it leads to sub-optimal breastfeeding practices. Sub-optimal breastfeeding means poor hygiene, irregular feeding practice.[1] The world health organization (WHO) estimates 53% pneumonia, 45%diarrhoea deaths due to poor feeding practices during 6 months of life. Major deaths of infants in India include neonatal infection, diarrhea and pneumonia. Sub-optimal breastfeeding is estimated as1.4 million child death and 43.5 million are disability adjusted life years (DALY's) with nonexclusive breastfeeding during 0-6 months accounting for 77% (1.06 million) of death and 85% of DALY's. The (APCAPS)Andhra Pradesh children and Parent's society states that as there was a rapid growth in uneven urbanization leading to the high prevalence of sub optimal breast feeding in compared with rural areas.[2] The decision about breast milk feeding and the presence of infection should balance the potential risk compared with the innumerable benefits of breast milk.[3] Breastfeeding jaundice is due to inadequate intake of breast milk by the neonates either due to inadequate dietary intake by the mother or due to improper breastfeeding techniques.[4] Lower milk production had higher prolactin levels increases the risk of breast cancer. However, in breast cancer cells prolactin has also been implicated in invasion suppresses the hormone.[5]

The current study aims to evaluate breastfeeding practices and complications in neonates and to educate mothers regarding the importance of breastfeeding.

MATERIALS AND METHODS

A prospective cross-sectional study was conducted in Secondary Care Referral Hospital, Anantapur, Andhra Pradesh, India for 06 months (April 2019 - November 2019). The study was conducted among nursing mothers, neonates, infants and critically ill neonates from Pediatric In-patient Department after getting approval from Institutional Review Board. Among 250 members, mothers and neonates from the outpatient department are excluded. We prepared data collected questionnaire forms about breastfeeding practices of neonates in the pediatric department to the mothers. The 20-item questionnaire was developed and validated using expert opinion. The questionnaire was used to collect data regarding

pregnancy, optimal breastfeeding, early initiation breastfeeding, exclusive breastfeeding, non-exclusive breastfeeding, bottle feeding, mixed breastfeeding and duration of breastfeeding practices and age at introduction of complementary feeds. Along with that pediatric data was collected including birth history and immunization of history and reasons for hospitalization. After data collection, the mothers were educated about the importance and benefits of breastfeeding. Descriptive analysis was performed by calculating the frequencies and percentages for categorical variables. Central tendency, mean and median were calculated for quantitative variables. An Independent sample test was used to compare categorical variables. P-value <0.05 was considered statistically significant. Descriptive analysis was performed by calculating the frequencies and percentages for categorical variables. Regression value was performed and compare categorical variables. P-value <0.05 was considered statistically significant.

RESULTS

In a total of 250 patients, children of 7-14 months were hospitalized due to sub-optimal breastfeeding practice. Non-exclusive breastfeeding patients (12.4%). As per early initiation breastfeeding within 1to 2 hours patients were (2.8%) low. Induration of breastfeeding 6 months to 1-year patients were (54.8%) high, greater than 1-year patients (19.6%) low.

Table no. 1: Demographic details of the patient.

Characterization		Frequency		Total
Gender		**Male**	**Female**	**(%)**
Age (Months)	01 – 06	26	13	39(15.6%)
	07 – 12	41	39	80(32%)
	13-18	25	13	38(15.2%)
	19-24	27	15	42(16.8%)
	25-30	04	03	7(2.8%)
	31-36	10	05	15(6%)
	>36	17	12	29(11.6%)
Birth weight (Kgs)	Normal (>2.5)	112	68	180(72%)
	Low (<2.5)	46	24	70(28%)
Place of delivery	Home	17	15	32(12.8%)
	Hospital	133	85	18(87.2%)

Table no. 2: Determination of breastfeeding practices.

Characterization		Frequency		Total
Gender		Male	Female	(%)
Early initiation of breastfeeding	Within an hour	124	71	195(78%)
	Within1-2 hours	3	4	7(2.8%)
	>2hours	17	14	31(20.8%)
	Not initiated	6	11	17(6.8%)
Types	Exclusive	11	75	190(76%)
	Mixed	12	6	18(7.2%)
	Nonexclusive	19	12	31(12.4%)
	Bottle feeding	4	7	11(4.4%)
Duration of exclusive breastfeeding	<6months	36	27	63(41.4%)
	6months– 1year	81	56	137(54.8%)
	>1year	33	16	49(19.6%)
Age at introduction of complementary feeds	<6months	41	32	73(29.2%)
	>6months	92	47	139(55.6%)
	Not initiated	16	0	16(6.4%)

Table no. 3: Factors associated with non-exclusive breastfeeding.

Characterization		Frequency		Total
Gender		Male (19)	Female (12)	(%)
Diseases	Bronchopneumonia	06	05	11(4.4%)
	LRTI	07	04	11(4.4%)
	Septicemia	04	03	07(4.0%)
	Dengue fever	02	01	03(1.6%)

Table no. 4: Non-exclusive breastfeeding.

Nonexclusive breastfeeding (31)		Odds ratio	P-value (<0.05)
Birth weight	Normal weigh>2.5 (17)	R	-
	Abnormal <2.5(14)	(0.6782)	(0.44)
Immunological history	Not immunized (5)	(0.2335)	(0.01) *
	Partially immunized (14)	R	-
	Fully immunized (12)	(0.7669)	(0.60)
Breastfeeding	Within an hour (15)	R	-
	Within 1–2 hours (3)	(0.1143)	(0.0007) *
	>2 hours (6)	(0.256)	(0.01) *
	Not initiated (6)	(0.256)	(0.01) *
Duration of breast feeding	< 6 months (9)	(0.3369)	(0.03) *
	6 months - 1 year (17)	R	-
	>1 year (5)	(0.1584)	(0.001) *
Complimentary feeds	< 6 months (10)	(0.5782)	(0.29)
	>6 months (14)	R	-
	Not initiated (7)	(0.3542)	(0.05) *

DISCUSSION

In our study, children with 7-14 months were more hospitalized due to sub-optimal breastfeeding practice which similar to a study by Shibru H et al.,[6] Patients with the maternal age group of 20-25 years were high which was similar to Silva VA et al.,[7] In our study patients with exclusive breastfeeding were high which is similar to Holly Nishimura et al.,[8] We analyzed to examine the relationship between breastfeeding practices and child illness was same in the Nemet Hajeebhoy et al.,[4] Our results found that the number of mothers practices sub-optimal breastfeeding practices like 18 were mixed feeding practices, 9 were nonexclusive breastfeeding, 11 were bottle feeding, Whereas the study conducted by Sreenivas P. Veeranki et al.,[1] shows that the large number of mothers practiced sub-optimal breastfeeding with approximately 1 in 3 delayed in breastfeeding and, 1 in 2 practicing non exclusively breastfeeding. We found no association between sub-optimal breastfeeding practices and birth characteristics such as mode of delivery, birth interval, and place of delivery in the adjusted models. Similar to Sreenivas P.Veeranki et al.,[1] Our study of breastfeeding found that location of delivery and birth interval were important predictors in promoting optimal breastfeeding practices similar to Sreenivas P. Veeranki et al.,[1] In our study maternal employment was associated with a slight reduction in the odds of breastfeeding discontinuation before 24 months, similar to Laura Oakley et al.,[2]

CONCLUSION

In conclusion, knowledge and outcomes regarding healthy breastfeeding practices are found to be less in women of the region, leading to untoward pediatric hospitalization; which could be limited by educating and creating awareness in breastfeeding women by effective counseling on diets and lifestyle modifications for which pharmacist's role is recommended.

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Conflicts of interest

The authors declared that they have no conflict of interest.

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