Acknowledgements

Firstly, I praise and thank God, for giving me the strength, knowledge, ability, and blessings to undertake and complete this research study successfully. This accomplishment would not have been achieved without HIS blessings. I am thankful for allowing me to experience the finest and most difficult times of my life during this period. I am grateful to God for reminding me of HIS omnipresence every time when I encounter difficult situations and for providing me with the strength to overcome it.

Further, I am happy to express my appreciation to everyone who has been supportive, helpful, and influential in the completion of my thesis.

I pay my legitimate admiration to the Ethical Committee, Swami Rama Himalayan University, Dehradun for allowing me to conduct this study. My genuine appreciation to Dr. Kunwar Singh Bhandari, Chief Medical Superintendent, CHC Doiwala, Dehradun for his cooperation and for permitting me to conduct this study with ASHA workers of the block and the postnatal mothers.

My heartfelt gratitude goes to my supervisor, Prof. Dr. Sanchita Pugazhendi (Professor, Himalayan College of Nursing and Dean, Faculty of Nursing, Swami Rama Himalayan University, Dehradun), for her unwavering support and guidance during the Ph.D. program. It is because of her generous assistance that I could complete my research work without difficulty. I am really grateful for her constructive ideas and for permitting me to submit my thesis on time.

I am also grateful to Prof. Dr. Ruchi Juyal (Professor, Department of Community Medicine, HIMS, Swami Rama Himalayan University) for offering valuable inputs and suggestions in my study. I am very much thankful for her help, trust, and generosity.

I am grateful to all the validators and DRC members for their contributions and suggestions in my research work. In addition, I am thankful to Mr. Ashish Gaur, Assistant Professor cum Statistician, Sri Aurobindo Medical College & PG Institute, Indore for helping me in the data analysis of my research.

My love and appreciation to all the participants (ASHAs and mothers) of my study for their kind cooperation and support during the study. Every moment that I spent with them was incredible; it will be remembered and cherished forever.

Most importantly, I am extremely indebted to all my family members for their firm support, compassion, inspiration, and trust in every situation. They stood like a full-fledged Banyan tree beneath I could find my ultimate comfort and peace. Regardless of how terrible the problems are, their presence always gives me the courage to overcome and move ahead. I am very grateful to have such a wonderful family in my life.

Last but not least, this small effort is dedicated to all the young mothers, who are the cornerstone of newborn health and survival. Mother's optimum health, awareness regarding correct newborn care practices, and dedication towards the care of newborns may undoubtedly result in the improvement of health status including morbidity and mortality of newborns in the society.

ABSTRACT

Background: Every year, about 2.6 million infants die during the initial 30 days of life, and India contributes for almost twenty percent of worldwide live births and one-quarter of newborn mortality. In 2018, the newborn death rate in Uttarakhand was 31 per 1000 live births, which is much greater than the SDG-3 goal of 12 deaths per 1000 live births by 2030. Accredited Social Health Activists (ASHA) under National Health Mission of Government of India was established to promote community healthcare services including Reproductive and Child Health programs in villages. The current research was conducted to identify factors affecting implementation of HBNC by ASHA using Focus Group Discussion (FGD) and also to measure effectiveness of re-education on HBNC knowledge score, attitude score and practice score of ASHAs working in rural Uttarakhand, India.

Methods: This study was community-based and a mixed-method design was adopted. A total of 110 ASHAs and 205 postnatal mothers (registered to these ASHAs) who were within 42 days of delivery in Doiwala, Uttarakhand were enrolled in the study. Qualitative data were collected through FGD and quantitative data of the ASHAs were collected using a knowledge questionnaire, attitude scale, and practice questionnaire. Mothers' data were collected through the total enumeration technique by using the newborn care practices checklist and opinionnaire on HBNC as provided by ASHAs. These data were collected using organized, dependable, and pretested tools that comprised of a variety of elements regarding newborn care at home (HBNC). SPSS version 21 was used for analysis of the data.

Results: The major themes identified regarding implementation of HBNC by ASHAs during FGD were - (I) Contributing factors – as a source of earning, people recognition as ASHA, gained knowledge on HBNC, benefitted to newborns and health of the people, and gained self confidence as ASHA. (II) Hindering factors – Not getting adequate incentive (less incentive), too much workload (Surveys, DOT's program, AYUSHMAN yojna, etc.), lack of cooperation from people, mothers and families, difficulty to recollect the appropriate skill while practicing, and lack of required medicines and instruments in the provided kits.

The mean scores of knowledge on HBNC of ASHAs were progressively increased in the successive assessments (a) pretest (23.64±3.59) (b) posttest-1 (26.45±3.54) (c) posttest-2 (29.51±3.58) and (d) posttest-3 (32.52±3.20) (<0.001). The mean scores of attitude of ASHAs in the successive assessments were (a) pretest (84.07±9.59), (b) posttest-1 (87.74±8.85), (c) posttest-2 (87.30±7.04) and (d) posttest-3 (86.85±7.90) respectively ($p<0.01$). The mean scores of practices of ASHAs were also progressively increased in the successive assessments (a) pretest (76.99±7.80) (b) posttest-1 (79.69±8.04) (c) posttest-2 (81.83±8.05) and (d) posttest-3 (81.83±8.05) (<0.001).

Most postnatal mothers (94.15%) had undergone their delivery in institutions and were mainly cared by ASHA throughout pregnancy. The remaining 5.85% of them delivered their babies at home under the supervision of local Dais and their relatives. Majority of the newborns (95.12%) were termed and about 47.40% of mothers had received immunization (BCG, OPV, and HEP-B vaccines). The majority of postnatal mothers (78.05%) started breastfeeding at the first hour after delivery and most of them (88.29%) practiced exclusive breastfeeding. On the other hand, the remaining 11.71%

postnatal mothers gave prelacteal feeds to their babies. About one-third (72.68%) of participants considered delaying the first bathe of their babies for a minimum of two days (48h) after birth and 74.63% of them practiced Kangaroo Mother Care (KMC) regularly. Most of the mothers (93.66%) provided umbilical cord care; however, 6.34% of them practiced other traditional methods such as application of ghee and turmeric powder to the umbilical cord of the newborns. All the mothers accepted that ASHA's visit to their houses was beneficial as useful information about newborn care as well as maternity care practices were shared. The majority (96.59%) of them responded positively regarding the delivery of ASHA's home-based newborn care practices.

Conclusion: According to the findings of the study, lack of cooperation from people, difficulty to recollect appropriate procedures and skills while practicing, and inadequate kit contents such as instruments and medicines hindered ASHA's HBNC practices. Postnatal mothers' responses regarding ASHA's visit and HBNC practices provided by them were beneficial and informative. Moreover, re-education on HBNC could substantially increase knowledge, attitude, and practices of ASHA. Hence ASHA needs to be provided training and re-education incorporating updated knowledge and practices at regular intervals to augment efficiencies of their practices.

Key words: Home-Based Newborn Care, Accredited Social Health Activists, Newborn, Neonatal Mortality Rate, Kangaroo Mother Care, Mother, Sustainable Development Goal