



## ORIGINAL RESEARCH ARTICLE

### KNOWLEDGE, ATTITUDE AND PRACTICE ON INFANT AND YOUNG CHILD FEEDING PRACTICES (IYCF) IN RAKSIRANG, MAKWANPUR, NEPAL

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#### ABSTRACT

Nepal is one of the developing Countries in the South Asia. Early childhood is very important and the crucial period for the proper physical, mental and emotional development. Therefore child should be looked especially at this period. In Nepal, child below two years are suffering from malnutrition the most.

The initiation of breastfeeding within one hour of birth has numerous nutritional and immunological benefits and has been found to reduce neonatal mortality. An improper feeding practice among young children particularly 6-23 months is a major cause of malnutrition. Thus, the present study has been focused on feeding practices of fewer than two years children. The study was quantitative study. Main objective of the study was to know the feeding practices of under two years children after implementation of Baal Vita (Sprinkles) program in Raksirang VDC of Makwanpur district. Questionnaire was related to the Baal Vita (Sprinkles) program, Breast-feeding practices and Complimentary feeding practices.

Altogether 132 mothers were taken for the study. The structured questionnaire was developed, pretested and used to collect the information. After the collection of data, it was analyzed by using SPSS 17.0. Also the data was presented in different tables to make it more clear and specific.

Among 132 of the respondent, majority of the respondent were aged between 21-25 years. 37.88% mothers were illiterate and only 1.52% had secondary level education. Some of the respondents were pregnant before the age 20 years. One of the mother was give birth to her child at age of 15 years. 68.18% respondent had first Breastfed their child with in 1 hour of birth. Colostrum feeding was seen not good. This study found Still practice of squeezing colostrum. Current breastfeeding practice is seen good. About 88.64% of the respondent had started giving complementary food in correct time.

**Key words:** Baal Vita, Feeding practice, IYCF, Makwanpur, Sprinkles

#### INTRODUCTION

There has been a drastic reduction in child and infant mortality rates in Nepal in the last ten years. The child mortality has gone down from 118 to 61 per 1000 live births, the infant mortality from 79 to 48 per 1000 live births and the neonatal mortality from 55 to 33 per 1000 live birth.<sup>1</sup> Improvement in the maternal and child nutrition situation in the last decade has a vital role in the reduction of these mortality rates. A recent meta-analysis reported that the initiation of breastfeeding within 24 hours of birth was significantly associated with reduction

in “all-cause neonatal mortality”, “low birth weight related neonatal mortality” and “infection related neonatal mortality” among all live births.<sup>2</sup>

A number of potential mechanisms for the observed reduction in mortality have been suggested<sup>2,3</sup> and include the early stimulation of the immune system through exposure to the high levels of immunoglobulins and lymphocytes found in colostrum, along with the displacement of prelacteal feeds which may be vehicles for infectious pathogens

and also disrupt normal gut maturation, resulting in increased permeability to infectious pathogens. Furthermore, early initiation of breastfeeding is recommended as one of several steps that should be taken to prevent hypothermia in the newborn.<sup>4</sup> Besides reducing neonatal mortality, early initiation of breastfeeding has benefits.

Complementary feeding is defined as the process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk. Malnutrition is responsible, directly or indirectly, for over half of all childhood deaths. Complementary feeding is safe and nutritional foods in addition to breast-feeding [BF] i.e. clean and nutritionally rich additional foods introduced at about six months of infant age. Complementary feeding strategies encompass a wide variety of interventions designed to improve not only the quality and quantity of these foods but also improve the feeding behaviors.<sup>5</sup>

World Health Organization (WHO) recommends exclusive breast-feeding (BF) for the first six months of age, addition of complementary feeds (CF) at six months with continued BF till two years which if followed appropriately can decrease infant mortality by 19 percent and prevent malnutrition especially in developing countries like ours. Although timing of weaning varies across societies but is always determined by the mother's characteristics, choices, knowledge and perceptions about child's health or cultural beliefs related to feeding. Additionally, mothers hold the overall responsibilities for the child's health and mothers' knowledge can be the barrier for weaning practice.<sup>6</sup>

Childhood mortality is a very tragic phenomenon of the world. It is still high in most of the developing countries. United Nations (UN) set Millennium Development Goals (MDG) to reduce the childhood mortality by two thirds by 2015. Despite these achievements, general malnutrition is still an enduring problem in the country and around 50% of children are suffering from chronic malnutrition or are stunted. But, there is a remarkable progress in the micronutrient malnutrition control.<sup>8</sup> Because of the successful biannual vitamin A capsule distribution, which has been reaching more than 90% of 3.3

million children age 6-59 months consistently for the past 15 years, vitamin 'A' deficiency is no longer a public health problem.<sup>9</sup>

In spite of these remarkable achievements, the recent NDHS survey shows that around 80% under five deaths occurs in the first year of child life. Combined infections from ARI, diarrhea had a major contribution in these deaths.

If these deaths due to low vitamin and iron store at infant period could be avoided, then there is the possibility for further reducing child mortality rate. Therefore, the Nepal Government decided to initiate several new policies like Newborn Vitamin 'A' dosing and micronutrient supplementation Baalvita (Sprinkles) to address the problems of micronutrient malnutrition in newborns and infants. Given that micronutrient supplementation Baalvita "Sprinkles" reduces anemia significantly, the Government has decided to supplement children below two years (6-23 Months children) with the sprinkles. Sprinkles are sachets (like small packets of sugar) containing a blend of micronutrients in powder form, which are easily sprinkled onto foods prepared in homes. Social marketing of Sprinkles in rural community is seen as a viable strategy to drastically reduce the prevalence of anemia in infants aged 6 to 24 months.

Sprinkles promotion can also be linked with improved complementary feeding. While introducing sprinkles, mothers can be counseled and convinced to initiate complementary foods at the age of six months and discuss feeding frequency. Mothers can be counseled to improve the quality of feeding by making it more energy dense by adding locally available energy rich food items such as milk, oil, ghee, peanuts etc into the complementary foods. Mothers can be trained to prepare "SarbotamLito", blended flour by mixing cereals and legumes, which drastically increases energy density. Sprinkles have been identified as a useful entry point for to also counsel mothers about IYCF practices.<sup>9</sup>

## METHODS

Study design was conducted according to the Descriptive, Exploratory, Cross-sectional. Study site was Raksirang VDC of Makwanpur district which is

the one of the program piloting VDC and district. Mothers in Raksirang VDC of Makwanpur district who had the children completed six months to under 23 months and feed Baal Vita (Sprinkles) to their children were taken for the purpose of research. One hundred thirty two mothers were taken for study.

Ethical approval and grant was taken from Nepal Health Research Council during the PG study grant program in 2011 A.D. Before including the respondent in the study, verbal and written consent was obtained from them. Interview schedule was used to collect the data via the structured questionnaire. Content validity was maintained by consultation with the research experts and making necessary changes as per suggestions; peer review Pre-testing of the questionnaire was done prior to the study. The tool was translated in Nepali language so that the respondents could understand it. Data analysis was done by descriptive statistics and data was analyzed via the software SPSS 17.0.

## RESULTS

The study shows that most of the respondents were under the group 21-25 Years on which the lowest age is 15 Years and the highest age is 42 years. The educational status of the respondent is low, 37.88% are illiterate. Lower secondary and secondary education is low. There was no higher education among the respondent. Most of the respondent i.e. 94.7% had heard about the Baal Vita program. Similarly 96.21% heard about colostrum. There were still 9.09% have practicing the bottle feeding which is not good for child health.

We can see after implementation of program more than 85% have change their knowledge on BF and CF. 88.64% have changed feeding frequency to their child. They have been practicing the low frequency of feeding. More than 80% respondent have get counseling on IYCF which will results on good health of child. More than 90% respondent said that they have changed awareness on nutrition. Most of the respondent was heard about program by FCHVs. School advocacy on Baal vita (Sprinkles) program seen good, 68.18% respondent get information from the students about program where 45.45% got information through health facility.

About 90.91% mothers have the correct information for eligible age for Baal Vita (Sprinkles). About 3.79% mothers said that don't know the eligible age but they have given Baal vita (Sprinkles) to their child, 3.03% mothers said that eligible age is below 6 months which was incorrect. Only 30.61% mothers have the correct answer, 33.67% mothers had no knowledge about the types of micronutrients available in Baal Vita (Sprinkles). Most of the mothers think that Baal Vita benefits to their children. 12.88% mothers don't know about the beneficence of that micronutrient Sachets. 3.79% mothers said that Baal Vita (Sprinkles) is not beneficiary to their children. Appropriate time of consumption of mixed food after mixing of Baal Vita was seen correct in 60.61% respondents. 11.36% respondents don't know using time duration of mixed food. 87.12% mothers think that Baal Vita (Sprinkles) make the children healthy, clever and strong where 5.30% don't know the benefits of Baal Vita (Sprinkles). Most of the mothers have good Practice of mixing Baal vita (Sprinkles) with other supplementary food. Some mothers have the practice of mixing Baal Vita (Sprinkles) in liquid like Milk and water which was not good Practice.

Practice of colostrums feeding seen not good because 39.39% respondent squeezing the colostrums because of misconception about colostrums. 68.18% of the respondent had breastfeed within 1 hour of birth to their babies. It is good for child's health, only 4 respondents that were included in others had feed breast milk after 2 -3 days due to lack of production of milk of mother. Most of the respondent i.e. 64.39% had squeeze colostrums which is bad practice because first milk provides immunity to the children. We can say colostrums is the first immunization of the child. 65.91% mothers have been breastfeeding to their child which was good practice. 7.58% mothers have breastfed their child only below six months. Which was not good for child health.

Most of the respondent had started complementary feeding to their babies at correct time that is after 6 months of age which is good for child health. Frequency of supplementary feeding more than 4 times a day is low i.e. 20.45%. Only two times supplementary feeding practice is not sufficient which results the ill health of child.

**Table 1: Age of the respondent**

Age interval	Number (%)
< 20	30 (22.73)
21-25	40(30.30)
26-30	33(25)
31-35	17(12.89)
36 and Above	12(9.09)
<b>Total</b>	<b>132(100)</b>

Table 1 Shows that respondents age. Majority of respondents was 21 to 25 years (30.30%).

**Table 2: Educational status of mother**

Age interval	Number (%)
< 20	30 (22.73)
21-25	40(30.30)
26-30	33(25)
31-35	17(12.89)
36 and Above	12(9.09)
<b>Total</b>	<b>132(100)</b>

Table 2 Shows that educational status of the mothers. Majority of the mothers were illiterate (37.88%).

**Table 3: Respondents knowledge about the Yes/No question**

Variables	Number (%)
Heard about Baal Vita program	110(94.7)
Heard about Colostrums	127(96.21)
Bottle feeding practices	12(9.09)
Change in knowledge about BF after the program implementation	115(87.12)
Knowledge about complimentary feeding	120(90.91)
Starting complimentary feeding in correct time	132(100)
Change in feeding frequency after program	117(88.64)
Received Counseling on Breast feeding, complimentary feeding and Baal vita	115(87.12)
Change in behavior after counseling on Breast feeding, complimentary feeding and Baal vita	110(83.33)
Increase awareness on nutrition	119( 90.15)

Table 3 Shows that Respondents knowledge about the Yes/No question. 94.7 % mothers were heard about Baal Vita Program. Most of the mothers were know with colostrums. Some bottle feeding practice were found(9.09%).87.12% mothers had knowledge on Breast feeding as well as 90.91% in complimentary feeding. All mothers were started complimentary feeding to their child. Majority

of mother said that change in feeding frequency after implementation of program. 87.12% mothers was counseled about feeding practice. Majority of mothers said that their knowledge on Nutrition was increased after implementation of program.

**Table 4: Source of information about program**

Source of information about program	Number (%)
Students	90(68.18)
FCHVs	120(90.91)
Health facility	60(45.45)
31-35	17(12.89)
36 and Above	12(9.09)
<b>Total</b>	<b>132(100)</b>

Table 4 Shows that majority of mothers were informed about program by FCHVs and school students.

**Table 5: Respondent correct Knowledge on different Variables.**

Variables	Correct answer, Yes (N=132, Number & Percentage)
Eligible age of children for Baal Vita (6-24 months)	120 (90.91)
Types of Micronutrients in Baal Vita	40 (30.61)
Attitude on Baal vita benefits the children	110 (83.33)
Attitude on Baal vita provide the micronutrients to their child	117 (88.64)
Appropriate time of consumption of mixed food after mixing of Baal vita	(60.61)
Attitude on Baal vita makes their children healthy, strong and clever	115 (87.12)
Practice of mixing Baal vita with correct food	110 (83.33)
Practice of colostrums feeding	80 (60.61)
First breastfeeding after birth	90 (68.18)
Squeezing practice of Breast milk	32 (24.24)

Table 5: Respondent correct Knowledge on different Variables.

Table 5 shows that Respondent correct Knowledge on different Variables. There were still practice of squeezing breast milk (24.24%). First breastfeeding after birth in correct time was not satisfactory (68.18%).

**Table 6: Situation of breast feeding to their child**

Situation of breast feeding to their child	Number (%)
<6months	10(7.58)
Up to one year	35(26.52)
Currently feeding	87(65.91)
<b>Total</b>	<b>132(100)</b>

Table 6 Shows that Situation of breast feeding to feeding before six months. Continuation of breast their child.7.58% mothers were stopped breast feeding was 65.91%.

**Table 7: Attitude on Age of started complementary feeding**

Age	Number (%)
0-6 months	15(11.36)
After 6 months	117(88.64)
<b>Total</b>	<b>132(100)</b>

Table 7 Shows that Attitude on Age of started started in correct time. complementary feeding, 88.64 % mothers were

**Table 8: Frequency of supplementary food to their child**

Frequency of supplementary food to their child	Number (%)
2 times	25(18.94)
3 times	60(45.45)
4 times	20(15.15)
>4 times	27(20.45)
<b>Total</b>	<b>132(100)</b>

Table 8 Shows that Frequency of supplementary food to their child.Nearly half(45.45%) of the mothers feed complimentary feeding three times a day.More than four times was 20.45%.

## **DISCUSSION:**

The main objective of the study was to determine the feeding practices of under two years of children after the implementation of Baal Vita(Sprinkles) with IYCF program.Quantitative study was conducted in Raksirang VDC of Makwanpurdistrict.Questionnaire was developed in Nepali and childbearing mother of age completed 6 months to under two years children's mothers were interviewed.This study showed that early pregnancy is still prevalent in those areas.As approved by the government age at

marriage of girl is 20 years but some respondent had first delivery was before 20 years and from this, concluded that the consequences of the health of mother and child will be in danger. Literacy rate of mother is seen low, 37.37% mothers were literate. Initiation of first breastfeeding within one hour of birth was 68.18% which is very good in comparison to other studies. similar study found that out of 735 mother-infant pairs, a total of 310 (42.2%) reported early initiation; followed by breastfeeding initiation after 1 h–6 h (39.5%), after 6 h–24 h (9.8%), after 24 h–3 days (5.3%), more than three days (1.8%), or could not recall the time (n = 11, 1.3%).10The finding is comparable to the recent Nepal Demographic and Health Survey 2011 (45%), but, higher than that reported for the Kaski district (67%) in central

Nepal<sup>11</sup> and higher than that reported by the 2006 Nepal Demographic and Health Survey (35.4%).<sup>12</sup> Our finding is higher than those reported for neighboring countries Bangladesh (24%)<sup>13</sup>, and India (36.4%)<sup>14</sup> but lower than that of Sri Lanka (83.3%).<sup>15</sup> Such variation in the rates of early initiation within Nepal and within the South Asian countries is likely due to differences in the geography, ethnicity, culture and socioeconomic status of populations.<sup>16</sup> Current Breastfeeding till the age of two years with complimentary feeding was found to be very good. There is still prevalent of the squeezing breast milk first giving to child which is bad practice and negative impacts on child's health. This study shows that there still practice of bottle feeding which is bad practice. Practices of colostrums feeding seen good which provides the immunity to child. After the implementation of IYCF and Baal Vita program they have been developing the good practice.

Initiation of Complimentary feeding was good. It is understood that Complementary feeding should started after six months of age; here this study showed 88.64% had started in a correct time. Similar study done by Subba et al shows that earliest age at which complementary feeding was started either for the present or the previous child was one month. Mothers who reported giving weaning by 3 months were 9.9%, which rise to 29.6% by 5 months and 38% of the mothers reported starting at 6 months.<sup>17</sup> A study in the tertiary hospital in India has shown that 17.5% of mothers started CF at the recommended time.<sup>18</sup> A study in a tertiary hospital in Pakistan reported that an undesirable early and late introduction of CF was also practiced.<sup>19</sup>

In another study in Delhi slums, 16.6% of mothers started CF at the right time<sup>20</sup> though in our study among non-EBF mothers, similar percentage was found in late introduction of CF.<sup>21</sup> Almost all respondent have started by giving family food as Complimentary. Child should be given sarbottampitho for better development, this study shows that most of the respondent had given supplementary food but feeding frequency is low. Mixing the Baal Vita(Sprinkles) in complimentary food they think that food becomes more tasty, nutritious, which provides all nutrients to their children.

## CONCLUSION

This study demonstrates that delayed initiation of breastfeeding continues to be a problem in Nepal as only 68.18% newborn infants received breast milk within the first hour of birth. Given the protective association of early breastfeeding and neonatal mortality, promoting early initiation of breastfeeding at a universal level will contribute to significant progress in newborn survival in the post Millennium Development Goal period in Nepal. The results show that receiving assistance from skilled FCHVs during childbirth had a positive impact on early infant feeding practices. After the implementation of this school based monitoring program shows good improvement in infant and young child feeding practice(IYCF). Practice of squeezing breast milk is still prevalent which is not good for child health. Colostrum feeding Practice need to be improve because it is the first immunization of child. Initiation of Complimentary feeding was satisfactory, 88.64% started in correct time. There was practice of giving sarbottampitho, lito mixing with Baal Vita(Sprinkles) as a complementary feeding which is good. Correct Feeding frequency of complimentary feeding is seen low so IYCF linked with Baal Vita(Sprinkles) program will be crucial for nutrition improvement in community level through school based monitoring approach.

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## AUTHOR CONTRIBUTIONS:

Kamal Prasad Kandel contributed to study design, literature review, data collection, data analysis and interpretation and manuscript preparation. Sindhu Kafle contributed to data collection and entry and literature review. Both authors revised and agreed on the views expressed in the manuscript.

**Conflicts of Interest:** The authors declare no conflict of interest.

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