

A Study of Maternal Knowledge, Attitude and Practice Regarding Child Survival Interventions at a Urban Health Centre of Berhampur

Type: Thesis

Received: September 13, 2024

Published: January 24, 2025

Citation:

Geetanjali Sethy, et al. "A Study of Maternal Knowledge, Attitude and Practice Regarding Child Survival Interventions at a Urban Health Centre of Berhampur". PriMera Scientific Medicine and Public Health 6.2 (2025): 16-26.

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Abstract

Introduction: The world has made remarkable progress in child survival in the past few decades. WHO in collaboration with UNICEF and the WORLD BANK, developed a set of evidence based interventions - "Child survival strategies" which when properly implemented would reduce under five mortality.

Objectives: 1. To assess the knowledge, attitude and practice of mothers having children aged less than 5 years about child survival strategies.

2. To determine the association between various sociodemographic variables and the knowledge, attitude and practice of mothers on child survival strategies if any.

Methodology: This is a hospital based Cross-sectional Study done at Urban Health Centre(UHC), Ankuli from November 2017 - October 2019. Mothers of children less than 5 years of age attending the UHC were the study subjects. Pre-designed, semi-structured questionnaire was used and data collected & analysed using SPSS 18.0.

Sample size: The sample size was calculated to be 237 and to this was added the nonresponse rate of 20% making it 285. The final sample was rounded off to 300.

Results: Around 41.3% (124) of the mothers were in the age group of 21 to 25 years and 72.7% (218) were literate. The occupation was associated with the practice of exclusive breastfeeding. ($p=0.028$). Literacy was associated with exclusive breast feeding, (0.037) knowledge about re-constitution of ORS(0.039) and practice of Family planning methods ($P=0.042$).

Conclusion: Awareness needs to be created among adolescents about correct age of marriage, pregnancy & appropriate ANC check-ups. Literacy was significantly associated with breast feeding practices, ORT and family planning practices.

Keywords: Growth monitoring; Oral rehydration therapy; Breastfeeding; Immunization; Family planning; Food supplementation; Female education

Introduction

The world has made remarkable progress in child survival in the past few decades. The global under five mortality rate (U5MR) declined by 59 per cent, from 93 deaths per 1,000 live births in 1990 to 39 in 2018. Despite this considerable progress, improving child survival remains a matter of concern [1]. Globally, pneumonia, diarrhoea and malaria remain the leading causes of death among children under age.

WHO in collaboration with UNICEF and the WORLD BANK, developed a set of evidence based interventions -“*Child survival strategies*” which when properly implemented would reduce under five mortality [2].

Child survival interventions or strategies is defined as steps taken for children of age less than or equal to five years by individuals and communities to reduce risk, duration and severity of an adverse health condition that detrimentally affects the survival of infants and children(USAID 2002) [1, 2].

These intervention or strategies include:

1. Growth monitoring.
2. Oral rehydration therapy.
3. Breastfeeding.
4. Immunization.
5. Family panning.
6. Food supplementation.
7. Female education.

According to UNICEF, India has the highest number of under-5 deaths, with a total of 1.08 million deaths in 2016. India contributes to 19% of all under-5 deaths and 24% of all neonatal deaths. U5MR reduced from 114 per 1000 live births in 1990 to 39 in 2016 at an annual rate of 3%. At the national level, U5MR is estimated at 39, and it varies from 43 in rural areas to 25 in urban areas. Recent data shows Kerala has the lowest (11) & Madhya Pradesh has the highest (55) U5MR [2, 3]. The U5MR of Odisha is 48.

There are no studies in Odisha regarding knowledge, attitude and practice (KAP) of mothers about the different child survival interventions. Therefore this study was done with the following objectives.

Objectives

1. To assess the knowledge, attitude and practice of mothers having children aged less than 5 years about child survival strategies.
2. To determine the association between various sociodemographic variables and the knowledge, attitude and practice of mothers on child survival strategies if any.

Methodology

This cross-sectional study was carried out at the Urban health centre(UHC), Ankuli, Berhampur between November 2017 to October 2019. The study population were mothers of children less than 5 years of age attending the UHC for various reasons like immunisation,

general health check up, growth monitoring, nutrition counselling etc. Mothers of seriously ill and those with congenital anomalies were excluded.

In a study [2], 82% of the respondents knew that children should be given salt sugar solution when they have diarrhoea. By taking this value as proportion with 5% absolute precision and confidence interval 95% minimum sample size was calculated to be 237 after applying formula $4pq/l$ [2]. Then to this adding non response rate of 20%, our final minimum sample size to be 285. For convenience we have taken 300 as our sample size.

The required information was collected by a pre-designed, semi-structured questionnaire. A pilot study was conducted to assess the validity of the questionnaire and required modification was done. The questionnaire included data about maternal age, address, education, occupation, parity, socio economic status etc. and questions to access their knowledge, attitude & practice regarding different components of child survival interventions. The collected data was analysed using SPSS software (version 18) and described in terms of frequency and percentage. Relevant associations were made using Chi-square test. P value <0.05 taken as significant.

The ethical approval for this study was obtained by institutional ethical committee. The informed consent was taken from the respondent prior to the interview.

Results

<i>Variable</i>	<i>Frequency (Percentage)</i>
Age of mothers (in years)	
< 20	28(9.3)
21-25	124(41.3)
26-30	118(39.3)
>30	30(10.1)
Education	
Illiterate	42(14)
Literate	218(72.7)
Graduate or above	40(13.3)

Table 1: Sociodemographic profile of study participants.

<i>Knowledge</i>	<i>Response</i>	<i>N (%)</i>
Do you know the birth weight of your child	Yes	270 (90%)
	No	30 (10%)
	Total	300 (100%)
Do you have a MCP card	Yes	300 (100%)
	No	0
	Total	300 (100%)
Knowledge about important milestones	Don't know	22 (7.3%)
	Knows little	158 (52.7%)
	Knows completely	120 (40%)
	Total	300 (100%)

Attitude & Practice		
Do you think weight, height measurement important?	Yes	270 (90%)
	Can't say	30 (10%)
	No	0
	Total	300(100%)
Where do you prefer to go for growth monitoring of your child?	Urban health centre or hospital	300 (100%)
	Health workers	0
	Private practitioner	0
	Total	300(100%)
Whether regular growth monitoring done?	Yes	0
	No	300(100%)
	Total	300(100%)

Table 2: Distribution of study sample according to knowledge, attitude & practice regarding growth monitoring.

Knowledge	Response	N (%)
What do you do if your child suffer from loose motion	ORS	276 (92%)
	Any other answer	24 (8%)
	Total	300 (100%)
If any other answer- do you know what is ORS?	Yes	24 (100%)
	No	0
	Total	24 (100%)
Knowledge about reconstitution of ORS	Don't know	24 (8.1%)
	Incorrect	230 (76.6%)
	Knows well	46 (15.3%)
	Total	300 (100%)
Attitude & Practice		
Do you think ORS can help your child to recover from loose motion?	Yes	280 (93.3%)
	No	6 (2%)
	Don't know	14 (4.7%)
	Total	300 (100%)
How ORS is given?	Sip by sip	70 (23.3%)
	Full glass at a time	14 (4.7%)
	When child demands	186 (62%)
	Don't know	30 (10%)
	Total	300 (100%)
What did you give if ORS packet is not available?	Sugar salt solution	222(74%)
	Fruit juice	12(4%)
	Plain water	58(19.3%)
	Milk	8(2.7%)
	Total	300(100%)

Table 3: Distribution of study sample according to knowledge, attitude & practice regarding oral rehydration therapy.

Knowledge	Response	N (%)
Source of information about breast feeding	Family & friends	236(78.7%)
	Health personnel	56(18.7%)
	Others	8(2.6%)
	Total	300(100%)
Knowledge about advantage of breast feeding	Yes	268(89.3%)
	No	32(10.7%)
	Total	300(100%)
Up to what maximum age will you breast feed your child	6 month	122(40.7%)
	1 year	138(46%)
	2 years or more	40(13.3%)
	Total	300(100%)
Attitude & Practice		
Attitude towards breast feeding	Mother's milk is best for the baby	288(96%)
	Breast milk is pure & cost effective	12(4%)
	Breast feeding prevents going to work	0
	Breast feeding is old fashioned	0
	Total	300(100%)
When is your baby breast feed first after delivery?	Within 1 hour	94(31.3%)
	After 1 hour	206(68.7%)
	Total	300(100%)
Any pre lacteal feed given?	Yes	12(4%)
	No	288(96%)
	Total	300(100%)
Exclusive breast feeding or not?	Yes	141(47%)
	No	159(53%)
	Total	300(100%)
If no- Reason for stopping or adding top feed?	Ill health of mother	52(32.7%)
	Insufficient milk	88(55.3%)
	Formula milk is better	0
	Local breast problem	19(11.9%)
	Total	159(100%)

Table 4: Distribution of study sample according to knowledge, attitude & practice regarding breast feeding.

Knowledge	Response	N (%)
Do you know about immunization	Yes	300(100%)
	No	0
	Total	300(100%)
From whom did you come to know about immunization	Health care facility	166(55.3%)
	Family & friends	134(44.7%)
	Total	300(100%)

Can you name some vaccine preventable disease? (at least 2)	Yes	300(100%)
	No	0
	Total	300(100%)
Attitude & Practice		
Why do think immunization is required?	Prevent occurrence of some disease	276(92%)
	Cure from disease	2(0.7%)
	Don't know	22(7.3%)
	Total	300(100%)
Have you vaccinated your child	Yes	300(100%)
	No	0
	Total	300(100%)
Have you completed vaccination as per age?	Yes	268(89.3%)
	No	32(10.7%)
	Total	300(100%)
From where do you get vaccine for your child?	Government facility	300(100%)
	Private clinic	0
	Total	300(100%)

Table 5: Distribution of study sample according to knowledge, attitude & Practice regarding immunization.

Questions	Response	N (%)
What do you mean by family planning	Knows	254(84.7%)
	Don't know	46(15.3%)
	Total	300(100%)
From where did you come to know about family planning	Health care facility	154(51.4%)
	Family & friends	100(33.3%)
	Don't know about family planning	46(15.3%)
	Total	300(100%)
Do you think family planning is important?	Yes	300(100%)
	No	0
	Total	300(100%)
Any methods of contraception have you used?	Yes	106(35.3%)
	No	194(64.7%)
	Total	300(100%)

Table 6: Distribution of study sample according to knowledge, attitude & practice regarding Family planning.

Questions	Response	Frequency
Knowledge about how female education help in child survival practices?	Yes	300(100%)
	No	0
	Total	300(100%)
Do you think female education is important?	Yes	300(100%)
	No	0
	Total	300(100%)

How your educations help you in child rearing practices?	Helps a lot	250(83.3%)
	Doesn't help	0
	Can't say	50(16.7%)
	Total	300(100%)

Table 7: Distribution of study sample according to knowledge, attitude & practice regarding Female education.

Questions	Response	N (%)
When did/should you start complimentary feeding?	Before 6 month	10(3.3%)
	Completed 6 month	182(60.7%)
	After 6 month or don't know	108(36%)
	Total	300(100%)
What did/should you feed your baby in complimentary feeding?	Home based food	164(54.7%)
	Commercially available food	136(45.3%)
	Total	300(100%)
How many times did/should you feed your baby?	1-2 times	64(21.3%)
	3-4 times	182(60.7%)
	>4 times	54(18%)
	Total	300(100%)
How much food type did/should you give to your child?	<4	80(26.7%)
	>4	220(73.3%)
	Total	300(100%)
Practice of hand washing before handling food	Every time	68(22.7%)
	Some times	232(77.3%)
	Total	300(100%)

Table 8: Distribution of study sample according to knowledge, attitude and practice regarding Food supplementation.

Occupation	Exclusive Breast Feeding		
	Yes N (% of total)	No N (% of total)	Total N (% of total)
Housewife	136(48.7%)	143(51.3%)	279 (93%)
Employed	5(23.8%)	16(76.2%)	21(7%)
Total	141(47%)	159(53%)	300(100%)

P value- 0.028 (Significant) Chi-square- 4.87 df- 1.

Table 9: Association between occupation and exclusive breast feeding.

Literacy	Exclusive Breast Feeding*		
	Yes N(%)	No N(%)	Total N(%)
Illiterate	26 (61.9%)	16(38.1%)	42 (14%)
Literate : (Literate and Graduate)	115(44.6%)	143(55.4%)	258(86%)
TOTAL	141	159	300

	Knowledge about reconstitution of ORS**		
	Yes	No	Total
	N(%)	N(%)	N(%)
Illiterate	2(4.8)	40(95.2)	42(14)
Literate	44(17.1)	214(84.7)	258(86)
	46	254	300
	Practice of Family Planning Methods***		
	Yes	No	Total
	N(%)	N(%)	N(%)
Illiterate	9(21.4)	33(78.6)	42(14)
Literate	97(37.6)	161(62.4)	258(86)
	106	194	300

*P value- 0.037 χ^2 - 4.35.

**P value- 0.039 χ^2 - 4.20.

***P value- 0.042 χ^2 - 4.13.

Table 10: Association between literacy and exclusive breast feeding, knowledge about reconstitution of ORS and practice of family planning methods. (N = 300).

Around 41.3% (124) of the mothers were in the age group of 21 to 25 years and 72.7% (218) were literate. Only 13.3% (40) had studied till graduation and above.

The age at marriage was 18 - 30 years in 72% (216) of the study participants. However, 28% (84) were married before 18 years of age. About 84.7% (254) were living in joint families.

The age at 1st child birth was 18-30 years in 98.7% (296) of the mothers. Around 90.7% (272) were residing in pucca house, 84.3%(254) were using sanitary latrine and 82.7%(248) were using cooking gas in their kitchen. The source of drinking water was municipal tap water supply, bore well and well in 65.3% (196), 30% ((90) and 4.7%(14) of the study participants respectively.

The birth weight of their child was known to 90%(270) of mothers and all mothers were having MCP cards. Knowledge about important milestones was known completely by 40%(120) of mothers. However, 7.3% (22) of the mothers had no knowledge about important milestones. Around 90%(270) had good attitude towards growth monitoring and all of them were visiting the Urban health Center for the same. Though all mothers knew about ORS only 15.3% (46) knew correctly about its reconstitution. About 93.3 % of the mothers had good attitude about ORT but majority were not practicing it correctly. Majority of the mothers 96% (288) believed that breast milk is the best food for their infant but only 47%(141) of these mothers had done exclusive breast feeding.

All the mothers knew about immunization. All mothers had vaccinated their child and 89.3%(268) had completed it as per age. However the vaccination was partial in 10.7%(32) of the study participants. All the children had received their vaccination from the government facility.

About 84.7%(254) of the mothers had knowledge about family planning. Only 35.3% (106) had used any methods of contraception though all agreed that family planning was important. All mothers had knowledge regarding the importance of female education and its role in child survival practices. About 60.7% (182) of mothers had started complementary feeding at completed 6 months. Around 54.7% (164) gave home based food and 45.3% (136) gave commercially available food in complementary feeding. Only 22.7%(68) practiced hand washing before handling food. More than 4 food groups was used in complementary feeding by 73.3% (220) mothers.

The occupation was associated with the practice of exclusive breast feeding. ($p=0.028$). Literacy was associated with exclusive breast feeding, (0.037) knowledge about reconstitution of ORS (0.039) and practice of Family planning methods ($P=0.042$).

Discussion

Most children under five years of age die from preventable or treatable diseases such as pneumonia, diarrhoea, neonatal sepsis and malaria. Childhood survival strategies are the simple, practicable, culturally acceptable and most cost effective measures which has been designed to reduce under-five mortality.

Maximum number of mothers were in the age group 21 to 25 years which was similar to a study conducted by Madhu K et al (2009) [4]. According to the NFHS-4, Ganjam district has a women literacy rate of 64.11%. The literacy rate in our study was 72.7% which could be because of the fact that the study was conducted in an urban area. This re-emphasizes the importance of girl child education in our society as a pre-requisite for healthy family.

Around 90% (270) of mothers had good attitude towards growth monitoring. All mothers preferred to go to the urban health center for the same. But no one had done it regularly as per the IAP guideline. Rasaki et al (2009) [5] & Ashworth et al (2008) [6] have found in their study that mothers have knowledge but are not participating in growth monitoring programmes. Ruberfroid et al (2007) [7] reported that only 13% mothers went for regular monitoring despite having a good knowledge. This shows that over the years literate mothers are more concerned about child's growth & go to urban health centre for growth monitoring.

While almost all mothers knew about ORS only 15.3% (46) knew correctly about its reconstitution. There was a significant association between knowledge of reconstitution of ORS with literacy. About 40% of literate mothers had the knowledge regarding reconstitution of ORS correctly as stated by Datta et al. (2001) [8], Jha N, Singh R et al (2006) [9].

In our study there is a gap between knowledge, attitude and practice of breast feeding. While 89.3% of mothers know the advantages of breast feeding and 96% of mothers feel mother's milk is best for their baby, only 47% practice exclusively breast feeding (EBF). Similar findings were observed by S. Sethi et. al 2008 [10] and Koosha A et. al 2008 [11]. However Iyanam Victory Edet et al (2020) [12] observed that 88% of educated mothers practised exclusive breast feeding. This finding is in contrast to our study.

Around 31.3% mothers' breast fed their baby within 1 hour of delivery. Delay in initiation of breastfeeding has also been reported, 4% of mothers have given some prelacteal to their baby in our study. This is in contrast to the study done by Grover VL, P. Chhabra et. al 1998, [13] where 76% of mothers gave prelacteal feeds. This dissimilarity in observation is more likely due to rising awareness on early initiation of breastfeeding in last two decades.

It was observed that mothers had good knowledge of immunising their babies, they could know from health facility. Almost 89.3%(268) had completed it as per age. However the vaccination was partial in 10.7%(32) of the study participants. All the children had received their vaccination from the government facility which indicates good attitude towards vaccination by mothers. Similar attitude and practice was seen in study by Singh MC et al [14].

In our study 84.7% have knowledge about family planning & most of them (51.4%) got the information from health care facility. This good knowledge could be due to provision of free health services and different policies by government. It was comparable to the study done by Khalifa AM et al (2008) [15] where 91% of the mothers have knowledge of at least one contraceptive method. All of them felt that family planning had an important effect on maternal as well as child health. 35.3% of the mothers told that they practice some or other form of contraception. 53% of educated mothers were using modern contraceptive methods as stated by Etokidem et al (2016) [16]. There was association between literacy and family planning practices. All mothers in our study have a good knowledge of female education and attitude towards an educated female community. Findings from the study of Rasaki et al (2009) [5] showed a higher percentage (82.1%) of mothers supporting female education. According to UNICEF (2001), education is a key factor in reducing child and infant mortality.

In our study about 60.7% of mothers had started complementary feeding at completed 6 months and gave home based food and 45.3% gave commercially available food in complementary feeding. Acceptable feeding practices were followed by majority of mothers. Similar result was observed in study by M.E. Khan et al (2010) [17] and Anju Aggarwal, Sanjay verma et al (2008) [18] Significant association between literacy and knowledge & practice of breast feeding, reconstitution of ORS and also practice of family planning methods was observed. Similar findings were observed by Iyanam Victory Edet et al(2020) [12] and Etokidem (2016) [16].

Conclusion

Majority of mothers were of 21-25 years, but there were some mothers below 20 years who need special attention. Awareness needs to be created among adolescents about correct age of marriage, pregnancy & appropriate ANC check-ups. Literacy is one of the biggest factor of child survival. Literacy was significantly associated with good knowledge on breast feeding, ORS and family planning practices. But rate of exclusive breast feeding among literate mothers is not encouraging in our study, which may be because literate mothers are working outside and in pre Covid era there was no facility for breast feeding in workplace. There was good knowledge and attitude about growth monitoring but the practice was poor which is very important for the early detection of malnutrition & illnesses in children. Pregnant women and mothers should be counselled about early initiation of breast feeding, harm of giving prelacteals, exclusive breast feeding and correct position & attachment, regular growth monitoring, immunization, birth spacing, timely initiation of complimentary feeding and home treatment of common diseases of children. By providing comprehensive training to health workers and community health workers along with structured communication, and recognition their presence can lead to more personalised support for beneficiaries, addressing their unique needs effectively.

Collaboration with NGOs, and women's groups shall ensure more comprehensive and sustainable approach. Regular community activities should be conducted to strengthen all parameters of the child survival strategies.

Recently studies are being conducted in Bangladesh on maternal empowerment and child survival.

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