Dissertation

At

JINDAL HOSPITAL, PANIPAT

(21st Feb to 20th May 2023)

A Project Report On

Association of child feeding practices with the nutritional status of the children in India, 2019-21

By **Dr SHREYA MALIK**

PG/21/104

Under the guidance of

Dr PIJUSH KANTI KHAN

Assistant Professor, IIHMR, New Delhi

PGDM (Hospital & Health Management)

2021-2023

International Institute of Health Management Research

New Delhi

Dissertation

At

JINDAL HOSPITAL, PANIPAT

(21st Feb to 20th May 2023)

A Project Report On

Association of child feeding practices with the nutritional status of the children in India, 2019-21

By **Dr SHREYA MALIK**

PG/21/104

Under the guidance of

Dr PIJUSH KANTI KHAN

Assistant Professor, IIHMR, New Delhi

PGDM (Hospital & Health Management)

2021-2023

International Institute of Health Management Research

New Delhi

JINDAL NURSING HOME

A Hospital Committed to Caring Since 1988

An ISO 9001:2008 Certified Hospital

JINDAL NURSING HOME

A Hospital Committed to Caring Since 1988

An ISO 9001:2008 Certified Hospital

25th May 2023

To Whomsoever It May Concern

This is to certify that Dr. Shreya Malik was associated with Maternal & Child Healthcare Unit of Jindal Multispecialty Hospital, Panipat (Haryana) from 21st February 2023 to 20th May 2023.

She was designated as the Patient Care Coordinator; during her relieving. We wish her all the best in her future endeavours.

Best Regards,

Dr. R. P. JINDAL
M.S. (ORTHO) ORTHOPAEDIC SURGEON
JINDAL NURSING HOME
PANIPAT

Dr. R.P. Jindal
Founder, MD
Jindal Multispecialty Hospital

Dr. Shreya Malik

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Shreya Malik** student of PGDM (Hospital & Health Management) from International Institute of Health Management Research; New Delhi has undergone internship training at **Jindal Multispecialty Hospital** from **21st February 2023** to **20th May 2023**.

The Candidate has successfully carried out the study designated to her during internship training and his/her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.

Dr. Sumesh Kumar
Associate Dean, Academic and Student Affairs
IIHMR, New Delhi

Mentor
IIHMR, New Delhi

Certificate from Dissertation Advisory Committee

This is to certify that **Dr. SHREYA MALIK**, a graduate student of the **Post Graducate Diploma in Hospital & Health Management** has worked under our guidance and supervision. He/ She is submitting this dissertation titled "**Association of child feeding practices with the nutritional status of the children in India, 2019-21**" at '**JINDAL MULTISPECIALITY HOSPITAL** in partial fulfilment of the requirements for the award of the **PGDM (Hospital & Health Management).**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr. Pijush Kanti Khan.
Assistant Professor,
IIHMR, Delhi

Dr. R P Jindal
Founder, MD
Jindal Hospital

Certificate of Approval

The following dissertation titled **"Association of child feeding practices with the nutritional status of the children in India, 2019-2021"** at **Jindal Hospital , Panipat** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

Name	Signature
Jacob Puliyel	
DR. RATIKA	
Dr. Sumant Sidana	

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **Association of Child Feeding Practices with the Nutritional Status of the Children in India, 2019-21** was submitted by **Dr. Shreya Malik.** Enrolment No. **PG/21/104** under the supervision of **Dr. Pijush Kanti Khan** for award of Post Graduate Diploma in Hospital & Health Management of the Institute carried out during the period from 21st February 2023 to 20th May 2023. Embodies of my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

Dr. Shreya Malik

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to JINDAL HOSPITAL for providing me with the opportunity to work as a Patient care Coordinator. This project has been an invaluable experience in enhancing my knowledge and skills in the field of Healthcare & Hospital management.

I am immensely grateful to Dr Pijush Kanti Khan, my mentor and guide throughout this project. His expertise, guidance, and unwavering support have been instrumental in shaping my understanding. His constructive feedback and continuous encouragement have greatly enriched my learning experience.

I would also like to extend my thanks to the entire team of Jindal Hospital for their constant support and cooperation. Their collective efforts and dedication have made this report a success.

Next, I would like to extend my heartfelt appreciation to my Parents, whose unwavering support and sacrifices have made my educational journey possible; my dear Husband for his constant encouragement and love; My Mother in law & my siblings for their constant belief in my abilities have been a constant source of strength for me. Their unwavering faith in my potential has been a driving force behind my achievements, and I am forever grateful for their unwavering support.

I am truly grateful to all the individuals involved in this project, as their contributions have been indispensable in my professional growth and development.

Dr. Shreya Malik
Date- 20TH June 2023

FEEDBACK FORM

Name of the Student: Dr. Shreya Malik

Name of the Organisation in which Dissertation has been completed : Jindal Multi Speciality Hospital

Area of Dissertation: Maternal & child Health

Attendance: 95%

Objective Achieved: Yes - Overall good performance

Deliverables: Perfect deliverables

Strengths: Communication Skills, Problem solving & stating skills, Hard working & confident.

Suggestions for Improvement: -

Suggestions for Institute (course curriculum, industry interaction, placement alumni) : Satisfactory

Signature of the Organisation Mentor (Dissertation)

Date: 26.9.23

Place: Panipat.

TABLE OF CONTENTS

PART A- ORGANISATIONAL DETAIL

About Jindal Hospital

Dr. R.P. Jindal, a Gold Medalist, founded Jindal Hospital (an ISO 9001:2008 Certified Hospital) on April 17, 1988 as a multispecialty facility providing patients with the greatest available amenities and services at a reasonable price.

The hospital is located in a quiet neighbourhood near the centre of Panipat. In an emergency, it is so quickly reachable from any location inside the city. A group of committed doctors who are on call around-the-clock run the hospital. The personnel have received extensive training to respond quickly to emergencies.

Their goal has always been to make high-quality medical care accessible to the average person. It has advanced throughout time, introducing the most cutting-edge medical care in crucial and life-threatening fields like neurology, burns treatment, poisoning treatment, maternity and gynaecology, etc.

TPAs and Insurance firms empanelled with the organisation are

1. HDFC ergo general insurance
2. HOGCL
3. Genins India TPA LIMITED
4. EMSL E-MEDITEK
5. Alankit
6. EWA
7. Iffco-tokio
8. Medsave India
9. Paramount health
10. Tata AIG life
11. Safeway
12. National fertilizer limited

About the Founder

ACADEMIC RECORDS

- 1975: M.B.B.S. with a Gold Medal in Gynecology and Obstetrics (Govt. College, Amritsar)
- Post-Graduate M.S. in General Surgery and M.A.M.S. (in First Chance & in First Position), 1978 (PGI Chandigarh)
- PGI Chandigarh provided endoscopy training in 1990; Whipps Cross Hospital in London provided laparoscopic surgery training under the auspices of SMIGS (U.K.) in 1992.
- In 2000, trained in lap gynae in Kochin

EXPERIENCE

- From February 1978 to April 1982,he served as the medical director and chief surgeon at Sewak Sabha Charitable Hospital in Hisar.
- From April 1982 to March 1988,he worked at JNH, Bagh Rama Nand, in Amritsar.
- And from 1988 to the present, he is working at Jindal Nursing Home.

MEMBERSHIPS HELD

- Life Member of Indian Medical Association since 1979.
- Member of the Haryana and Northern Chapters of the Indian Association of Surgeons
- British Society for Minimal Invasive General Surgery member.
- Participant in the ELSA (Endoscopic Laparoscopic Surgeons of Asia-Singapore) organization.
- A member of India's Laparoscopic Surgeons.
- The Rotary President for the years 2002–2003.
- 1993–1994–1995–1996–1998–1999 Chairman, IMA (Haryana)
- The IMA's Vice President (twice).

Names & Departments of the Doctors present at the Jindal Hospital

Name of the Doctor	Department
Dr. R. P Jindal	General surgeon
Dr. Bed Prakash	Neurophysician

Dr. Rohit Goel	Mch (Aiims) NeuroSurgeon
Dr. Harish Batra	Physician
Dr. Anoop Talwar	Physician
Dr. Bhawna Mahajan	LMO obs & Gynae
Dr. sanjay Soni	Plastic & cosmetic surgeon
Dr. Ravindra Garg	M.S. Ortho
Dr. neera gupta	Ultrasonologist
Dr. P.P Goyal	Anesthetist
Dr. Sangeeta	Anesthetist
Dr. Aditya Gupta	Pediatrician
Dr. Hawa Singh	Pediatrician
Dr. Dinesh Vashist	Pediatrician
Dr. Pritam Arora	ENT Surgeon
DR. Reet Jain	ENT Surgeon
Dr. Roshan	Pathologist
Dr. Sunaina Garg	Pathologist
Dr. Naresh Pahuja	Urologist
Dr. K. K soni	Eye surgeon
Dr. Dhawan	Skin specialist
Dr. Ankur Singla	Psychiatrist

General Facilities provided by the Hospital:

- Well Ventilated, Well Furnished 10 Indoor Pvt. Rooms including coolers, A/C facility and General Wards of 4 Beds each with Cooler Facility.
- Very Well equipped, Air Conditioned Operation Theater of 220 Sq.Ft Area.
- Laproscopic Surgery Unit by Olympus
- Urology unit including C-ARM, URS, PCNL, for all urinary stone problem.
- Cryosurgery for Piles
- Video Flexible Gastroscope & Sigmoidoscope (Olympus) to diagnose all types of
    - Gastric Ulcer
    - Hyperacidity
    - Bleeding from Mouth
    - Any foreign body in Food Pipe
    - Any Cancer in food pipe, Stomach, Layer Intestine
- Special Burn Patient Wards having Air Purifier, Air Mattress & A/C Facilities

- Ultrasound (Toshiba), XRAYS, ECG Unit
- EEG, Pulmonary Function Tests
- Well-equipped Labor Room
- 10 Indoor Pvt. Rooms with A/C, coolers, and well-ventilated general wards with four beds each have cooler facilities.
- A 220 square foot, extremely well-equipped operation theater with air conditioning.
- Urology unit incorporating C-ARM, URS, and PCNL for all urinary stone problems.
- Laproscopic Surgery Unit by Olympus.
- Cryosurgery for Piles
- An Olympus video flexible gastroscope and sigmoidoscope to diagnose all sorts of

1. Gastric Ulcer o Hyperacidity
2. Bleeding from Mouth
3. Any Foreign Body in Food Pipe
4. Any Cancer in Food Pipe, Stomach, or Layer Intestine

- Specialized burn patient rooms with air purifiers, air mattresses, and air conditioning
- EEG, pulmonary function tests, XRAYS, Toshiba ultrasound, and a well-equipped labour room.

Super Facilities

- **ICU :**

  o Cardiac monitor, two ventilators, central oxygen, syringe pumps, etc.

  o Arterial Line, Central Line, and CVP Monitoring

  o Intubation for all medical patients, including those with heart and neurological conditions, as well as poisoning victims

  o Pulmonary Function Test (PFT), ECG, and Electroencephalography (EEG)

- **Obs & Gynae**

Deliveries, Cesarean sections, laparoscopic surgeries, hysterectomies, and all other obstetric and gynecological work are all under the direction of Dr. Bhawna Mahajan.

• Fully Equipped Laboratory with Analyzer Facility

• Trauma Center with the Best Technology

Services Offered by the Obstetrics and Gynaecology Department:

Leading centre for women's health is Jindal Nursing Home. Jindal Nursing Home consistently receives great marks from patients admitted to the department of obstetrics and gynaecology for both the quality of care and the achievement of desired results. From youth to menopause, as well as in a range of illnesses from cancer to benign disorders, they offer care and support for women. The full-time consultants at Jindal Nursing Home are trained, seasoned, and sympathetic in delivering patient care.

Services Offered

Obstetrics » Birthing : The Jindal Nursing Home's birthing program is a thorough course that lasts for nine months. The curriculum places a strong emphasis on empowerment and knowledge as essential components of a fulfilling maternity journey. The complete program is delivered by an inter-disciplinary team made up of obstetricians, women's health educators, physiotherapists, nutritionists, paediatricians, and nursing staff.

Obstetrics » Labour, Delivery and Post-delivery care : Birthing can be done safely and happily at Jindal Nursing Home. Support is provided to the patient physically and emotionally, which lowers the need for medical intervention and enhances the better outcomes for the baby. In addition to receiving breastfeeding counseling, the mother is also instructed about post-delivery care.

Gynaecology » High risk pregnancy:

- Laproscopic surgery
- Hysteroscopic surgery
- Recanalization

Clinical services:

- Internal Medicine
- Laparoscopic Surgery
- Cardiology
- Neurology
- Gastroenterology
- Pulmonology
- Obs & Gynae
- Orthopedics
- Plastic Surgery
- Intensive Care
- Urology

Other Services:

- Well Equipped Operation Theatre
- Well Equipped ICU
- Well Equipped Laboratory
- Electroencephalography (EEG)
- Trauma Aid Centre
- Pharmacy Store

PART B – PROJECT REPORT

ABBREVIATIONS

EAG States: Empowered Action Group (Low Performing States)

LMIC: Low & Medium Income Countries.

SDG: Sustainable Development Goals

NFHS: National Family Health Survey

DHS: Demographic and Health Surveys

MCH: Mother and Child Health

IQ: Intelligence Quotient

LIST OF TABLES

ABSTRACT:

Introduction: Breastfeeding within the first hour of birth of the infant is very crucial since colostrum helps to build immunity in the baby and provide concentrated nourishment. Exclusive breastfeeding for the initial 6 months of life is very important, as the protein present in the mother's milk helps to utilise the iron stored in the baby's body. Adequate nourishment in the initial 5 years of life reduces the risk of wasting, stunting and malnourishment in children.

Aim: To analyse the effect of feeding patterns on stunting, wasting, and malnourishment among children in EAG states of India and compare it with the National average.

Methodology: Data from NFHS 5 has been taken, in which 6.37 lakh sample households were questioned. These household comprised of 7,24,115 women aged 15–49 years who were in the reproductive age group, who had just delivered a baby, mothers breastfeeding the infants, mothers with children under 3 years.

District level analysis was done for the 8 EAG state of India (Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh, Uttrakhand) in which correlation was assessed between 3 Independent variables (% of Children under the age of 3 years who were breastfed within the 1st hour of birth, % of children under the age of 6 months who are exclusively breastfed, % of children between the age of 6-24 months who receive adequate diet) with 3 Dependent variables (% of children under 5 years who are stunted, % of children under 5 years who are wasted, % of children under 5 years who are underweight).

Results:

- Out of all the 291 EAG districts, negative co-relation is seen for all the indicators except for the children aged 6-23 months who are receiving an adequate diet with children below 2 years who are wasted.
- In Chhattisgarh, positive Co-relation is seen for all the indicators except for that in children under 6 months of age who are exclusively breastfed with children under 5 years who are stunted.

- In Jharkhand, positive Co-relation is seen for all the indicators except for that in children aged 6-23 months who receive adequate diet with children under 5 years who are stunted.

Conclusion: Inadequate diet in children under the age of 2 years is the main indicator leading to excessive stunting and underweight in children under the age of 5 years.

Since Childhood malnourishment is multifactorial, any single cause isn't big enough to blame, but a multifaceted approach is required to combact malnourishment.

Key words: child feeding practices, breastfeeding, nutritional practices**.**

INTRODUCTION

The first two years of life are crucial for a child's growth in terms of nutrition. To avoid stunting in infancy and early childhood and to end the intergenerational cycle of under nutrition, early and exclusive breastfeeding, maintained nursing for two years or longer, and age-appropriate, responsive supplemental feeding beginning at six months are essential.

Optimal breastfeeding in the first year and complementary feeding practices together can prevent almost one-fifth of deaths in children under five years of age. [(1)]

"Breastfeeding within the first hour of life is recognized as one of the most important actions for infant survival. Yet in India, only 56.6 % of infants start breastfeeding within one hour of life." [(1)]

Even in hot climates, newborns do not require water or any other liquids if they receive frequent, on-demand feedings. Everything they require for survival and healthy growth and development is their mother's milk. When substituted for mother's milk, foods given to newborns during the first six months of life may not promote growth but, rather, are harmful since they can induce recurrent illnesses and subpar development.

Infants who are exclusively breastfed have a lower risk of developing illnesses like pneumonia and diarrhea, which are common causes of death in children under the age of five. A baby who is not exclusively breastfed has a mortality risk from all causes that is more than 14 times higher than a baby who is. Exclusive breastfeeding reduces the risk of fever, cough, and diarrheal illnesses. [2]

Infants require both breastfeeding and supplementary nutrients to continue developing normally and fully after six months. Infants need a lot of nourishment during this time of rapid growth and development, which mother's milk cannot provide on its own.

Nonetheless, throughout the first two years of life, breast milk is still a significant source of nutrition. Hence, it is advised that breastfeeding be continued until the child is at least two years old in addition to supplemental eating. After six months, solid, semi-solid, or soft meals fed with breast milk are considered appropriate complementary foods.

Nutrition for babies and young children is crucial because it paves the way for lifelong health and produces a skilled workforce. The National Guidelines on Infant and Young Child Feeding were developed by the Ministry of Women & Child Development's Food and Nutrition Council and published in August 2004. [2]

Malnutrition in children is more of a result of a complex interaction between low access to healthcare, female illiteracy, and ignorance of the nutritional requirements of newborns and young children. An infant's healthy growth and development depend on proper nutrition. [3]

A child is the primary victim of the interaction of socioeconomic, nutritional, and health factors that contribute to malnutrition. The rapid increase in childhood malnutrition during the first two years of life is a sign of ineffective newborn feeding techniques. The nutritional status of children under the age of five is, as Prof. Amartya Sen previously noted, the most sensitive indicator of development in a given area. [3]

In addition to being breastfeeding essential for a baby's survival, health, nourishment, and the growth of his or her sense of security and trust, it also promotes brain development and learning preparation. [3]

For infant and Early Child Development, the best possible start in life for young children is ensured by feeding practices particularly early initiation and exclusive breastfeeding for the first six months of life. The natural method of child care and breastfeeding forges a close

link between mother and kid. It offers the infant developmental and educational opportunities while stimulating all five of the child's senses: sight, smell, hearing, taste, and touch. In addition to having a long-term effect on psychosocial development, breastfeeding promotes emotional security and attachment. Increased IQs and improved visual acuity are the results of special fatty acids found in breast milk. A baby who has been breastfed is likely to have an IQ that is about 8 points higher than a newborn who has not been. (3)

Global weighted prevalence in 57 LMICs from 2010 to 2018 was 51.9% for early initiation of breastfeeding, 45.7% for exclusive breastfeeding under 6 months, 32.0% for exclusive breastfeeding at 4-5 months, 83.1% for continued breastfeeding at 1 year, 56.2% for continued breastfeeding at 2 years, and 14.9% for introducing solid, semi-solid, or soft foods before 6 months and 63.1% for introducing solid, semi-solid, or soft foods at 6-8 months. (4)

WHO and UNICEF suggest that: The introduction of nutritionally adequate and safe supplemental (solid) foods at 6 months along with continued breastfeeding up to 2 years of age or beyond. Breastfeeding should start as early as within 1st hour of birth and exclusive breastfeeding should be performed for the first 6 months of life. (5)

RATIONALE

Given the state of maternal and child health in India, improved performance of breastfeeding plays a critical role for children under 5 years. To reach the maternal health SDGs by 2030 it is very important to educate families about the importance of breastfeeding and exclusive breastfeeding for the initial 6 months since breastfeeding keeps the infants and children safe from a lot of critical illnesses and also helps to improve the intelligent quotient of the child.

Stunting, wasting, and malnutrition are caused by a lack of nutrition in young children. This study will help to analyze the pattern of child feeding practices and to how much extent it helps to overcome stunting, wasting, and malnourishment in children under 5 years. This study will also help to learn the nutritional status of children under 5 years by the pattern of their feeding practices & comparing the data of Low performing states and National Average as published in the NFHS-5 report.

OBJECTIVE

To analyse the effect of feeding patterns on stunting, wasting, and malnourishment among children in EAG states of India and compare it with the National average.

METHODOLOGY

DATA:

Data from the National Family Health Survey 5 (NFHS 5), 2019-21 has been used for the analysis. The NFHS 5 is the fifth in the series of the repeated cross-sectional Demographic and Health Surveys (DHS), conducted during 2019-21. The primary aim of NFHS 5 was to provide reliable estimates of demographic, maternal and child health (MCH) and nutrition across all states and union territories of India. A total of 6.37 lakh sample households, 7,24,115 women aged 15–49 years and 1,01,839 men aged 15–54 years were successfully

interviewed during 2019-21. While maintaining comparability with earlier rounds, the NFHS 5 has included a number of new domains totalling to 131 indicators.

- **Study Population** – women in the reproductive age group (15-49) and bearing children under 5 years of age.
- **Study Setting** – EAG states of India.

- **Analytical Strategy :**

In order to find out the effect of feeding patterns in young children on stunting, wasting, and malnourishment among children in EAG states in India, we consider the following :

1. The study is conducted on all the (EAG) low performing states of India.
2. District of each EAG state has been taken as the unit of study = 291
3. Study of relation between the attitude of new mothers for feeding patterns & methods for children under 6 months, and children under 5 years was conducted.
4. To capture the study objectives, we have used –

Independent Variables:

- Children under 3 years breastfed within one hour of birth (%)
- Children under 6 months of age exclusively breastfed (%)
- Total % children age 6-23 months receiving an adequate diet.

Dependent Variables:

- Children under 5 years who are stunted (%)
- Children under 5 years who are wasted (%)
- Children under 5 years who are underweight (%)

Correlation has been assessed for all the independent and dependent variables.

RESULT

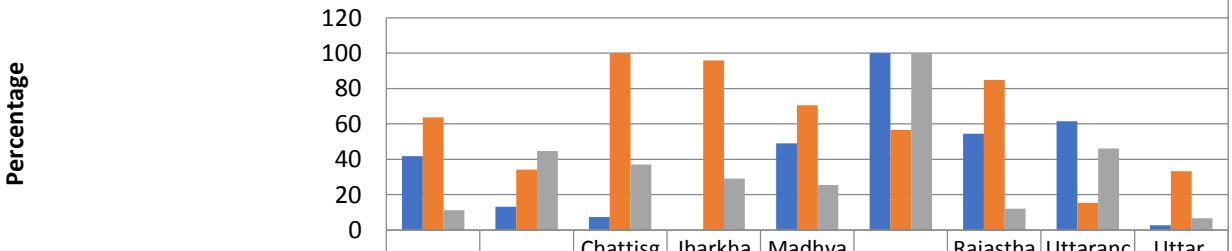
	Children under 3 years breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total children age 6-23 months receiving an adequate diet
National Average for these indicators :	41.8	63.7	11.3

Table 1 % OF EAG DISTRICTS IN EACH STATE PERFORMING BETTER THAN THE NATIONAL AVERAGE FOR THE INDEPENDENT VARIABLES

India & 8 EAG Districts	Total no. of districts	Children under 3 years breastfed within one hour of birth	Children under age 6 months exclusively breastfed	Total children age 6-23 months receiving an adequate diet	Children under 3 years breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total % children age 6-23 months receiving an adequate diet
India					41.8	63.7	11.3
Bihar	38	5	13	17	13.2	34.2	44.7
Chattisgarh	27	2	27	10	7.4	100.0	37.0
Jharkhand	24	0	23	7	0.0	95.8	29.2
Madhya P.	51	25	36	13	49.0	70.6	25.5
Orrisa	30	30	17	30	100.0	56.7	100.0
Rajasthan	33	18	28	4	54.5	84.8	12.1
Uttaranchal	13	8	2	6	61.5	15.4	46.2
Uttar P.	75	2	25	5	2.7	33.3	6.7
	291	90	171	92	30.9	58.8	31.6

Chart 1: % of EAG states which perform better than the national average for Independent variables are:

Children under 3 years breastfed within one hour of birth (%)	90/291	31%
Children under age 6 months exclusively breastfed (%)	171/291	59%
Total children age 6-23 months receiving an adequate diet	92/291	32%



	India	Bihar	Chattisgarh	Jharkhand	Madhya Pradesh	Orrisa	Rajasthan	Uttaranchal	Uttar Pradesh
children under 3 years breastfed within one hour of birth (%)	41.8	13.2	7.4	0.0	49.0	100.0	54.5	61.5	2.7
Children under age 6 months exclusively breastfed (%)	63.7	34.2	100.0	95.8	70.6	56.7	84.8	15.4	33.3
Total % children age 6-23 months receiving an adequate diet	11.3	44.7	37.0	29.2	25.5	100.0	12.1	46.2	6.7

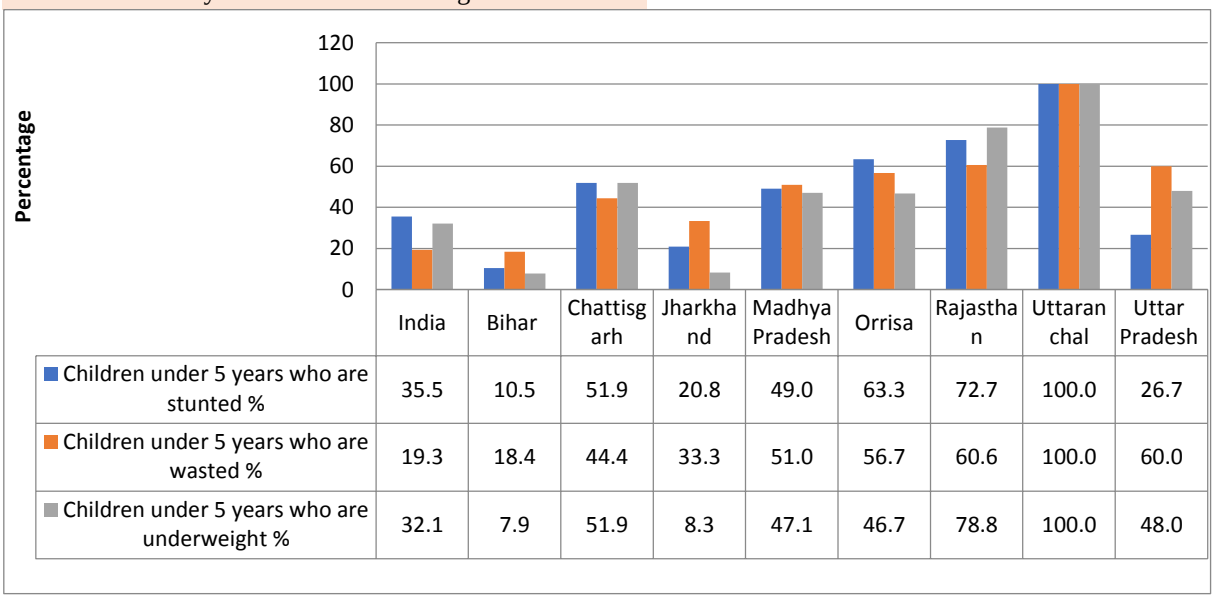
	Children under 5 years who are stunted	Children under 5 years who are wasted	Children under 5 years who are underweight
National average for these indicators:	35.5	19.3	32.1

Table 2 % OF EAG DISTRICTS IN EACH STATE PERFORMING BETTER THAN THE NATIONAL AVERAGE FOR THE DEPENDENT VARIABLES

India & EAG States	Total no. of districts	Children under 5 years who are stunted	Children under 5 years who are wasted	Children under 5 years who are underweight	Children under 5 years who are stunted %	Children under 5 years who are wasted %	Children under 5 years who are underweight %
India					35.5	19.3	32.1
Bihar	38	4	7	3	10.5	18.4	7.9
Chattisgarh	27	14	12	14	51.9	44.4	51.9
Jharkhand	24	5	8	2	20.8	33.3	8.3
Madhya P.	51	25	26	24	49.0	51.0	47.1
Orrisa	30	19	17	14	63.3	56.7	46.7
Rajasthan	33	24	20	26	72.7	60.6	78.8
Uttaranchal	13	13	13	13	100.0	100.0	100.0
Uttar P.	75	20	45	36	26.7	60.0	48.0
	291	124	148	132			

Chart 2 :% of EAG states which perform better than the national average for Dependent Variables are:

Children under 5 years who are stunted	124/291	43%
Children under 5 years who are wasted	148/291	51%
Children under 5 years who are underweight	132/291	45%



Detailed Report of all EAG States :

1. Bihar
2. Chattisgarh
3. Jharkhand
4. Madhya Pradesh
5. Odhisa
6. Rajasthan
7. Uttar Pradesh
8. Uttrakhand

Table 3 DISTRICT WISE VALUE OF BIHAR FOR ALL THE DEPENDENT AND INDEPENDENT

BIHAR DISTRICTS	Children under 3 years breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted	Children under 5 years who are wasted	Children under 5 years who are underweight
Araria	30.6	69	12.8	49.9	23.9	47.8
Arwal	44.1	48.3	11.5	45.6	36.8	52.9
Aurangabad	35.5	61.8	5.8	41.2	32.9	48.7
Banka	41.1	56.9	2.8	46.7	26.9	45.8
Begusarai	42	50.8	4.6	37.8	21	35.6
Bhagalpur	33.4	52.6	8.1	40	21.2	40.4
Bhojpur	25.5	33.8	7.7	40.7	31.3	44
Buxar	36.9	33	8.3	39.6	33.2	45.3
Darbhanga	30.9	71.7	14	45.4	19.3	39.2
Gaya	42.4	66.9	12.5	47.4	24.3	43.5
Gopalganj	38.6	83.5	13.8	34.2	21.5	29.2
Jamui	36.8	63.9	3.3	43	19.4	37.5
Jehanabad	45.1	32.8	6.6	41.3	36.6	51.7
Kaimur	48.5	45.1	27.3	44.1	27.3	47.2
Katihar	25.8	36.1	13.8	43.9	23.5	48.1
khagaria	26.3	48.2	16.3	34.8	25.3	36.4
Kishangarh	16.9	53.5	13.1	38.8	23.9	41.1
Lakhisarai	36	51.2	3.6	42.7	25.6	45.1
Madhepura	34	64.1	6.9	46.3	20.6	43.5
Madhubani	27.7	74.6	12	43.3	17.1	36
Munger	28.3	60.3	5.1	35.5	26.7	39.5
Muzaffarpur	29.7	71.9	17.2	42.6	19.9	34.7
Nalanda	22.4	67.2	9.6	42.6	27.8	46.7
Nawada	36.9	60.5	5.1	49.4	18.2	37.3
Paschim Chmaparan	25.9	64.2	13.6	43.5	13.2	30.3
Patna	34.1	22.3	8.3	34.5	27.5	39.6
Purba Champarana	33.7	72	15.4	49.1	16.8	37.9
Purnia	26.1	53.6	5.5	43.5	25.8	47.1

Rohtas	31.3	56.6	2.6	40	30.8	48.2
Saharsa	38	49.4	10.3	47.8	20.5	42.7
Samastipur	27	63.5	17.7	44	21.3	42.8
Saran	28.2	45	7.1	39.7	28.8	45
Sheikhpura	25.2	81.7	5.5	53.6	16.3	37.6
Sheohar	27.3	83.5	3.5	34.4	35.4	42.2
Sitamarhi	22.6	63.7	16.3	54.2	16.2	40.8
Siwan	21.9	59.5	10.8	36.7	18.2	30.8
Supaul	37	64.1	14.5	42.3	25.8	45
Vaishali	27.6	47	11.7	38.3	19.6	38.4

Independent variable	Dependent Variable	Correlation
Children under 3 years breastfed within 1st hour of birth (%)	Children under 5 years who are stunted %	0.084937704
Children under 3 years breastfed within 1st hour of birth (%)	Children under 5 years who are wasted %	0.31117262
Children under 3 years breastfed within 1st hour of birth (%)	Children under 5 years who are underweight	0.292830601
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are stunted %	0.271216235
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are wasted %	-0.43354622
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are underweight	-0.40472063
Total children age 6-23 months receiving an adequate diet (%)	Children under 5 years who are stunted %	0.147809603
Total children age 6-23 months receiving an adequate diet (%)	Children under 5 years who are wasted %	-0.277067393
Total children age 6-23 months receiving an adequate diet (%)	Children under 5 years who are underweight	-0.138769402

	Best Performing Districts	Worst Performing Districts
Children under 3 years breastfed within one hour of birth (%)	Kaimur	Kishangarh
Children under age 6 months exclusively breastfed (%)	Gopalganj	Patna
Total children age 6-23 months receiving an adequate diet	Kaimur	Rohtas
Children under 5 years who are stunted %	Gopalganj	Sitamarhi
Children under 5 years who are wasted %	Paschim Chmaparan	Arwal
Children under 5 years who are underweight	Gopalganj	Arwal

Table 4 DISTRICT WISE VALUE OF CHATTISGARH FOR ALL THE DEPENDENT AND INDEPENDENT VARIABLES

CHATTISGRAH DISTRICTS	Children under 3 years breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted	Children under 5 years who are wasted	Children under 5 years who are underweight
Balod	22.4	*	2.9	33.6	15.1	36
Baloda Bazar	35.4	73.3	11.5	40.9	19.4	34.1
Balrampur	38.3	85.2	13.4	35.1	23	38.8
Bastar	42	70.6	10.6	48.1	20.4	45.2
Bemetara	27.4	65.6	14.7	38.4	16.4	27.6
Bijapur	25.4	81.9	16.4	53.8	20	46.1
Bilaspur	33.6	*	15.2	25.7	24	28
Dantewada	34.5	86.1	19.6	45.6	19.4	45.8
Dhamtari	23.3	77.4	8.9	30.5	17.9	28.9
Durg	18.5	*	8.3	38.9	16.9	27.7
Gariyabad	31.2	93.8	9.4	28.9	21.9	22.1
Janjgir Champa	31.4	75.7	4.8	32.5	24.6	30.2
Jashpur	31.3	87.8	5.8	35.8	17	33.6
Kabeerdham	44.4	71.2	6.8	37.9	12	27.3
Kodagaon	35.6	85.3	9.3	37.6	22.8	42.2
Korba	26.4	*	4	34.7	14.7	27.9
Koriya	31.5	83.5	8	32.1	18.1	31.8
Mahasamund	41.7	82.1	15.7	36.8	14	25.8
Mungeli	37.6	94	3	30.1	17.7	30.6
Narayanpur	33.2	88.6	14.8	43.7	21.5	39.5
Raigarh	37.6	82.8	4.5	39.1	14.9	28
Raipur	36.4	71.9	7.9	32.2	21.7	32.3
Rajnandgaon	20.1	85.5	10.6	27.6	19.4	31
Sukma	38	85.8	20.9	41.8	21.2	37.4
Surajpur	23.3	85.2	11.4	27.6	19.3	32.3
Surgija	32.3	87.2	9.9	29.4	17.5	30.6
Uttar bastar	28.8	92.7	8	24.8	24.5	36.1

Independent variable	Dependent Variable	Correlation
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are stunted %	0.252096866
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are wasted %	0.0025718
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are underweight	0.126968726

Children under age 6 months exclusively breastfed (%)	Children under 5 years who are stunted %	-0.331177239
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are wasted %	0.265273504
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are underweight	0.044216948
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted %	0.419117998
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are wasted %	0.282010671
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are underweight	0.390257583

	Best Performing Districts	Worst Performing Districts
Children under 3 years breastfed within 1st hour of birth (%)	Kabeerdham	Durg
Children under age 6 months exclusively breastfed (%)	Mungeli	Bemetara
Total children age 6-23 months receiving an adequate diet	Sukma	Balod
Children under 5 years who are stunted %	Uttar bastar	Bijapur
Children under 5 years who are wasted %	Kabeerdham	Janjgir Champa
Children under 5 years who are underweight	Gariyabad	Bijapur

Table 5 DISTRICT WISE VALUE OF JHARKHAND FOR ALL THE DEPENDENT AND INDEPENDENT VARIABLES

JHARKHAND DISTRICTS	Children under 3 year's breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted	Children under 5 years who are wasted	Children under 5 years who are underweight
Bokaro	18	60.9	18.1	36.2	19.7	32.3
Chatra	24.8	78.1	6.1	42.2	17.2	39.8
Deoghar	22.6	71.6	7.2	41.7	17.7	36.9
Dhanbad	19.2	73.5	4.7	27	14	25.1
Dumka	16.1	69.3	7.8	38.2	27.8	44.9
Garhwa	25.2	87.5	6.4	47.7	18.9	40.6
Giridih	14.5	67.8	10.7	31.9	27.8	34.3
Godda	17.2	71.1	7.6	39.4	24.5	40.7
Gumla	21.8	73.8	10.7	40.2	20.1	38.7
Hazaribagh	17.9	77	16.9	37.8	16.2	32.5
Jamtara	13.8	87	15.9	41.9	23	46.2
Khunti	17.9	80.3	10.5	38.5	32.1	44

Kodarma	19.2	68.8	10.8	34.6	18	31.7
Latehar	18.9	69	7.5	40.1	19.2	39.4
Lohardaga	37.9	71.8	7	40.7	26.6	43.4
Pakur	25.4	73.1	8.1	51.3	23.6	51.4
Palamu	26.4	77	5.4	43.7	18.4	37.3
Paschimi singhbhum	22	73.7	11.7	60.6	30.5	62.4
Purbi singhbhum	22.4	*	11.1	35.9	29.4	41.6
Ramgarh	23.1	85.5	12.5	35.3	23.5	35.3
Ranchi	32.1	89	19.7	28.3	32.7	40.6
Sahibganj	23.6	82.6	8.2	49.1	19.7	44.8
Saraikela Kharsawan	18.9	74.3	13.8	40	32.9	48.7
Simdega	17.8	71.8	10.8	42.2	21.1	37

Independent variable	Dependent Variable	Correlation
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are stunted %	0.133224619
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are wasted %	0.091055195
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are underweight	0.159991592
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are stunted %	0.075758832
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are wasted %	0.134000507
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are underweight	0.185556887
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted %	-0.242853812
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are wasted %	0.355866504
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are underweight	0.029677472

	Best Performing Districts	Worst Performing Districts
Children under 3 years breastfed within one hour of birth (%)	Lohardaga	Jamtara
Children under age 6 months exclusively breastfed (%)	Ranchi	Bokaro
Total children age 6-23 months receiving an adequate diet	Ranchi	Dhanbad
Children under 5 years who are stunted %	Dhanbad	Paschimi singhbhum
Children under 5 years who are wasted %	Dhanbad	Saraikela Kharsawan
Children under 5 years who are underweight	Dhanbad	Paschimi singhbhum

Table 6 DISTRICT WISE VALUE OF MADHYA PRADESH FOR ALL THE DEPENDENT AND INDEPENDENT VARIABLES

MADHYA PRADESH	Children under 3 year breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted	Children under 5 years who are wasted	Children under 5 years who are underweight
Agar Malwa	55.6	*	0	40.3	18.7	35.7
Alirajpur	54.2	78.7	6.6	34.6	15.4	31.6
Anuppur	23.4	72.2	6.3	24	18.4	30.7
Ashoknagar	51.8	65.3	3.1	32.6	19.7	31.1
Balaghat	23	*	9.7	41.9	20.5	44.9
Barwani	45.9	77.9	11.1	45.8	18.9	41
Betul	59.8	65.1	9.9	30.8	21.7	31.4
Bhind	50.1	88.8	13.6	32.2	12.4	29
Bhopal	36	*	14.4	19.9	20.6	29.1
Bhurhanpur	28	69.4	16.8	38.7	27.9	47.2
Chhatarpur	28.5	78.4	6.8	45.1	17.5	34.6
Chhindawara	44.1	81.8	5.8	23.9	18.1	32.8
Damoh	40.4	69.8	12.7	40	16.2	32.3
Datia	56.4	58.4	2.8	36.8	16.4	29.4
Dewas	36.3	79.1	13.1	36.8	20.4	30.7
Dhar	38.2	*	4.6	28.8	29.5	35.9
Dindori	48.4	85.5	12.9	38.9	15.8	33.6
Guna	44.1	81.8	9.9	31.9	10.1	25.1
Gwalior	49.2	72.9	11.6	40.1	12.4	33
Harda	41.5	64.8	9.9	38.8	28	34.7
Hoshangabad	36	73.9	11.2	34.8	19.5	27.2
Indore	29.3	*	9.8	28.7	21.2	24.9
Jabalpur	73.2	*	*	18	26.4	31.3
Jhabua	36.5	67.3	15.7	49.3	17.9	41.7
Katni	56.5	76.3	8.2	49.5	21.8	44
Khandwa	52.9	*	3.5	38.4	20.7	35.3
Khargone	42.2	63.1	6.6	31.4	27.4	44
Mandla	42.9	92	7.3	32.1	15.9	33
Mandsaur	49.5	*	1.2	30.9	13.1	22.9
Morena	59.4	86.1	8.2	40	10.1	29.6
Narsinghpur	39.3	70.6	18.1	32	19.6	28.1
Neemuch	43.2	83	3.3	33	13.1	27.7
Panna	38.1	77.6	9.4	45.1	23.2	39.2
Raisen	34.3	*	19	30.4	21.1	25.4
Rajgarh	31	93	5.2	27.6	22.4	26.8
Ratlam	41.6	78.6	16.7	29	16.2	28.6
Rewa	35.9	65.9	10.1	37	18.7	31.5
Sagar	24	67.8	8.5	42.7	15.2	35.8
Satna	22.2	*	7	49.4	16.8	31.2

Sehore	35.3	83.7	5.5	21.9	20.3	27.6
Seoni	57	93.6	12.1	23.5	21.1	31.1
Shahdol	32.9	66.8	6.2	44	20.4	39.2
Shajapur	43.4	79.5	8.2	27.8	23.4	27.6
Sheopur	50.8	79.4	4.4	45.8	16.2	37.7
Shivpuri	62.5	67.6	7.2	39.2	18.4	36.1
Sindhi	38.3	79.1	13.2	39.1	16.6	32.8
Singrauli	34	75.5	6.4	37.3	25.2	36
Tikamgarh	52.4	*	8.8	27.5	19.7	34.9
Ujjain	39.3	*	11.2	34.7	29.8	36.2
Umaria	41.3	79.7	9.8	45.3	15.5	36.6
Vidhisha	42.6	64.5	3.9	36.5	16.6	34.4

Independent variable	Dependent Variable	Correlation
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are stunted %	-0.1567182
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are wasted %	-0.1328840
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are underweight	0.0213325
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are stunted %	-0.291007
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are wasted %	-0.2986991
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are underweight	-0.3428864
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted %	-0.010809
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are wasted %	0.0749532
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are underweight	0.0213325

	Best Performing Districts	Worst Performing Districts
Children under 3 years breastfed within one hour of birth (%)	Jabalpur	Satna
Children under age 6 months exclusively breastfed (%)	Seoni	Datia
Total children age 6-23 months receiving an adequate diet	Raisen	Agar Malwa
Children under 5 years who are stunted %	Jabalpur	Katni
Children under 5 years who are wasted %	Guna	Ujjain
Children under 5 years who are underweight	Mandsaur	Bhurhanpur

Table 7 DISTRICT WISE VALUE OF ODISHA FOR ALL THE DEPENDENT ANDINDEPENDENT VARIABLES

ODISHA DISTRICTS	Children under 3 year's breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted	Children under 5 years who are wasted	Children under 5 years who are underweight
Anugul	67.4	*	18.7	28.1	25.1	30.5
Balangir	77.3	76.8	29.6	32.7	25.5	37.6
Baleshwar	51	79.4	21.7	24.4	15	22.6
Bargarh	67.6	*	17.1	38.9	18	30
Baudh	68.6	58.3	19.6	37	20.1	38.6
Bhadrak	56.6	86.5	23.1	32.3	15.8	28.9
Cuttack	63.7	*	21.3	20.4	14.2	18.9
Debegarh	71.5	*	13	28.4	27.3	34.3
Dhenkanal	70.1	65.3	25.6	33.3	22.7	30
Gajapati	79.9	82.3	18.8	43.4	16.1	34.3
Ganjam	71.9	64.5	22.3	23.9	10.2	18.9
jagatsinghapur	68.8	*	31.2	13.2	10.7	11
Jajapur	60.8	53.7	13.9	25.5	15.9	21.8
Jharsuguda	73.8	*	26.7	27.1	16.9	26.9
Kalahandi	68.9	84.6	16.4	33	17.2	33.6
Kandhamal	76.5	68.3	22.1	34.2	23.3	35.2
Kendrapara	68.9	*	23.3	28.6	7.9	17.9
Kendujhar	57.9	67.7	15.1	36.2	23.8	37.1
Khordha	73.3	*	13.8	17.1	13.2	16.9
Koraput	85.9	82	17.2	43.1	15.9	33.5
Malkangiri	74	80.9	19.8	44.3	19.3	41.6
Mayurbhanj	58.4	68.6	23.7	36.7	28.5	45.9
Nabarangapur	79.5	72.5	16.8	44.1	25.2	46.6
Naupada	78.6	93.7	25.3	43.1	18.1	38
Nayagarh	76.8	*	20.3	20	10.5	20.2
Puri	77.6	*	20.6	13.8	8.9	11.3
Rayagada	74.5	86.7	24.7	43.6	16.1	39.8
Sambalpur	59	79.6	17.4	40.7	25.5	36.3
Subarnapur	61	71	22.5	29.6	26	34.5
Sundargarh	63.2	*	14.7	32.9	21.1	34.7

Independent variable	Dependent Variable	Correlation
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are stunted %	0.185062155
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are wasted %	-0.191053088
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are underweight	0.059715013

Children under age 6 months exclusively breastfed (%)	Children under 5 years who are stunted %	0.492073257
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are wasted %	-0.19520898
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are underweight	0.234827009
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted %	-0.133401253
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are wasted %	-0.155771632
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are underweight	-0.130404937

	Best Performing Districts	Worst Performing Districts
Children under 3 years breastfed within one hour of birth (%)	Koraput	Baleshwar
Children under age 6 months exclusively breastfed (%)	Naupada	Jajapur
Total children age 6-23 months receiving an adequate diet	jagatsinghapur	Debegarh
Children under 5 years who are stunted %	jagatsinghapur	Malkangiri
Children under 5 years who are wasted %	Kendrapara	Mayurbhanj
Children under 5 years who are underweight	jagatsinghapur	Nabarangapur

Table 8 DISTRICT WISE VALUE OF RAJASTHAN FOR ALL THE DEPENDENT AND INDEPENDENT VARIABLES

RAJASTHAN DISTRICTS	Children under 3 years breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted	Children under 5 years who are wasted	Children under 5 years who are underweight
Ajmer	35.2	66.3	5.1	22.3	20	23.1
Alwar	33.5	66.2	11.2	33.9	15.6	24
Banswara	57.8	71.8	9.7	44.6	17.3	38.7
Baran	63	78.2	11.1	46	21.3	40.2
Barmer	28.6	66.7	9	39.1	11.5	31.7
Bharatpur	37.9	48.2	11.8	40.3	12.2	29.1
Bhilwara	45.9	80.8	5.8	22.6	17.4	23.5
Bikaner	48	61.2	10.2	22.8	25.6	28.5
Bundi	41.8	72.7	10.8	30	19.6	29.1
Chittaurgarh	51.1	77.2	5.2	31.4	14.6	25.9
Churu	39.7	62	11.2	27.1	16.5	23.4
Dausa	36.7	72.8	5.8	37.7	20.7	33.5
Dhaulpur	41	77.9	5.8	45.7	13.7	31.3
Dungarpur	47.2	66.3	4.7	31.4	15.6	25.9

Ganganagar	46.9	81.9	12.3	24.5	24.9	26.1
Hanumangarh	45	83.9	7.1	24.2	19.8	21.3
Jaipur	40.7	67.8	5.8	25	14.6	20.8
Jaisalmer	36.4	63.2	6.1	25.5	25	31.7
Jalor	43.3	78.6	5	44.3	12.1	36.5
Jhalawar	59.3	77.1	5.8	34	29	38.1
Jhunjhunun	43.3	83.5	10.7	20.9	13.9	19.6
Jodhpur	27.9	64.7	12.5	32.6	13.3	25.4
Karauli	38.4	81.3	6.3	37.6	26.6	37.3
Kota	47.9	77.6	9.3	29.5	20.8	26.4
Nagaur	28.9	69	7.3	31.5	16.2	26.2
Pali	38.5	48.9	5.5	35.9	18.3	35.9
Pratapgarh	56.6	78.6	8	29	24.9	31.8
Rajsamnad	44.1	73.4	7.6	30.3	16.6	23.7
Sawai Madhopur	48.2	71	10.4	26.9	22	24.2
Sikar	30.4	74	12	23.1	12.8	18.3
Sirohi	50.1	73.8	4.3	30.7	16.4	31.2
Tonk	38.9	82.1	6	33.1	18.1	28.2
Udaipur	44.6	81.6	6.1	34	8.6	26.6

Independent variable	**Dependent Variable**	**Correlation**
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are stunted %	0.1369661
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are wasted %	0.4125427
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are underweight	0.3941719
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are stunted %	-0.0648127
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are wasted %	0.1233120
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are underweight	-0.0411813
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted %	-0.0953490
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are wasted %	-0.0199911
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are underweight	-0.2226563

	Best Performing Districts	Worst Performing Districts
Children under 3 years breastfed within one hour of birth (%)	Baran	Jodhpur
Children under age 6 months exclusively breastfed (%)	Hanumangarh	Bharatpur
Total children age 6-23 months receiving an adequate diet	Jodhpur	Sirohi
Children under 5 years who are stunted %	Jhunjhunun	Baran
Children under 5 years who are wasted %	Udaipur	Jhalawar
Children under 5 years who are underweight	Sikar	Baran

Table 9 DISTRICT WISE VALUE OF UTTAR PRADESH FOR ALL THE DEPENDENT AND INDEPENDENT VARIABLES

UTTAR PRADESH DISTRICTS	Children under 3 years breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted	Children under 5 years who are wasted	Children under 5 years who are underweight
Agra	19.5	43.1	10.6	35.9	16.4	26.2
Aligarh	43.4	57	9.9	35	10.9	26.3
Ambedkar Nagar	20.4	68	5	31.1	17.8	29.2
Amethi	21.6	72.6	5.7	35.8	19.9	33.1
Auraiya	19.3	69.4	6.1	39.7	19.4	32.6
Azamgarh	18.8	61.8	0	33.4	14.4	28
Baghpat	18.3	58.8	9.1	25.5	10.3	26
Bahraich	17	70.5	9.8	52.1	14.4	38
Ballia	8	69.8	0.9	43.8	21.9	42.5
Balrampur	14.1	70.6	6.9	41.2	24.9	37.2
Banda	16.9	46.7	9.5	51	25.7	49.3
Barabanki	30.2	60.8	6.7	41.9	18.1	31.9
Bareilly	42.7	58.1	10.5	45.9	15.4	35.2
Basti	12.1	72.1	5.7	35.9	24.2	39.2
Bhadohi	7.8	66.6	2.9	42.7	9.1	26.5
Bijnor	31.3	57.9	6.8	36.2	9.4	21.9
Budaun	33.6	52.4	8.6	51.8	18.2	43
Bulandshahar	21.7	49.7	8.9	37.6	13.8	26.5
Chandauli	28	65.7	3.5	39.5	17.4	29.9
Chitrakoot	26.9	41.6	8.4	47.5	24.8	41.8
Deoria	17.3	54.8	2.7	36.8	26.5	39.4
Etah	29.8	56.5	5	48.8	15	30.6
Etawah	30.4	57.6	6.2	38.8	13.9	24.3
Faizabad	12.5	64.2	2.9	30.6	12.4	27.5
Farrukhabad	32.9	58.6	14.8	47.8	14.3	31.1
Fatehpur	13.9	48	3.5	51.1	17.8	38
Firozabad	28.4	57.2	6.8	46.9	9.5	25.6
GautamBuddhaNagar	33.4	*	6.9	25.5	12	21.9
Gaziabad	18.4	54.5	6	28.2	17.1	26.4

Ghazipur	12.4	60.7	4.4	39.3	25.7	38.3
Gonda	17.9	55.9	5	45.9	12.1	28
Gorakhpur	38.8	71.2	2.3	29.6	23.3	33.7
Hamirpur	19.9	57.2	5.8	48	20.6	36.3
Hapur	38.4	61.1	10.9	30.2	18.5	26.9
Hardoi	20.4	53.5	7.6	44.5	22.3	33
Jalaun	37.3	58.1	2.8	45.1	19.5	36.1
Jaunpur	18	54.9	5.7	40.5	14.8	30.3
Jhansi	12.7	49.7	10.7	40.9	25.2	39.3
Jyotiba Phule Nagar	30.3	62	16.8	42.2	22.5	35.4
Kannauj	12.6	53.9	13.5	43	21.5	33.5
Kanpur Dehat	26.3	53.1	5.4	44.1	12.5	32.8
Kanpur nagar	34.8	53.9	3.7	34.6	21.4	27.8
Kanshiram Nagar	33.2	67.7	5.6	45.1	19.3	35.5
Kaushambi	27.8	62.5	6.1	40.2	18.3	36.8
kheri	27	65.5	4.4	47.6	15.8	36.3
Khushinagar	16.7	63.2	3	32.2	24.3	36.6
Lalitpur	29.2	56	4.8	46.6	18.7	34.8
Lucknow	19.8	71.7	2.3	32.1	11.5	25.5
Mahamaya Nagar	34.7	67.4	5.9	39.1	12	24.5
Maharajganj	13.4	62.1	8	40.5	21.8	37.4
Mahoba	20.1	67.8	7.5	42.3	25	33.4
Mainpuri	30.3	61.9	10.1	44.3	14.6	33.6
Mathura	24.5	61	2.6	31.6	11	21.3
Mau	37.1	65.1	3.2	25.4	21.2	30.3
Merrut	27.2	55.4	8.7	32.1	10.2	23.7
Mirzapur	8.7	71.5	4.6	43.4	12.5	27.6
Moradabad	17	56	12.9	34.7	19.1	27
Muzaffarnagar	18.2	61.8	16.1	29.8	20.7	29.9
Pilibhit	29.1	54.6	8.9	38.9	20.1	39.4
Pratapgarh	13.2	51.9	4.2	35.5	10	27.7
Prayagraj	24.8	53.4	0	37.9	15.1	32.6
Rae Bareli	28.6	64.4	3.4	47	13	28.8
Rampur	39.6	43.4	6.9	40.4	17.6	32.1
Saharanpur	26.7	67.4	5.6	28.8	22	26.7
Sambhal	31.5	62.5	5.6	51.6	14.1	29.8
Sant Kabeer Nagar	12.5	61.7	7.5	42.3	19	34.2
Shahjahanpur	27.6	55.1	6.7	44.5	17	34.7
Shamli	19.1	64.8	1.8	28.6	24.3	24.5
Shravasti	14.1	70.2	3.4	50.9	20.3	40.8
Siddarthnagar	24.9	70.4	3.5	37.2	24.8	36.3
Sitapur	24.3	60.8	4.1	47.8	18.2	37.9
Sonbhadra	29.1	66.8	2.5	38.3	26.8	46.5

Sultanpur	26.7	64.8	4.4	33.4	10.7	28.3
Unnao	11.7	54.7	5.2	39.2	12.1	29.3
Varanasi	36.4	47.5	5.8	37.4	21	39

Independent variable	Dependent Variable	Correlation
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are stunted %	-0.036542345
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are wasted %	-0.122822366
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are underweight	-0.129421583
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are stunted %	-0.170503776
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are wasted %	0.058424724
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are underweight	-0.052959454
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted %	0.107215973
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are wasted %	0.036904615
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are underweight	0.011460663

	Best Performing District	Worst Performing District
Children under 3 years breastfed within one hour of birth (%)	Aligarh	Bhadohi
Children under age 6 months exclusively breastfed (%)	Amethi	Chitrakoot
Total children age 6-23 months receiving an adequate diet	Jyotiba Phule Nagar	Prayagraj, Azamgarh
Children under 5 years who are stunted %	Mau	Bahraich
Children under 5 years who are wasted %	Bhadohi	Sonbhadra
Children under 5 years who are underweight	Mathura	Banda

Table 10 DISTRICT WISE VALUE OF UTTARKHAND FOR ALL THE DEPENDENT AND INDEPENDENT VARIABLES

UTTRAKH-AND DISTRICTS	Children under 3 years breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted	Children under 5 years who are wasted	Children under 5 years who are underweight
Almora	30.2	63	18.1	26	17	22.9
Bageshwar	37	*	7.2	23.6	7.7	11.9
Chamoli	63.1	*	10.3	34.1	16.2	21.6
Champawat	46.3	57.2	9	24.9	12.4	15.3
Dehradun	55.4	55.4	13.3	20.9	10.1	19.1
Haridwar	30.6	42.4	15.5	31.1	16.4	27
Nainital	24	41.2	19.2	23.2	14	14.8
Pauri Garhwal	36	75.2	12.1	30	12	18.8
Pithoragarh	54.1	61.8	16.9	25.6	12.4	20.6
Rudraprayag	54.4	59	10.8	25.2	8	10.9
Tehri Garhwal	41.8	64.6	1.5	29.3	12.8	20.7
Udam Singh N.	42.4	52.2	9.7	26.8	12.4	22
Uttarkashi	61.7	52.4	7.6	34.1	10.6	23.5

Independent variable	Dependent Variable	Correlation
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are stunted %	0.291751522
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are wasted %	-0.325484919
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are underweight	0.026265603
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are stunted %	0.090391098
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are wasted %	-0.222572597
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are underweight	-0.136157665
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted %	-0.302083809
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are wasted %	0.431629139
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are underweight	0.128500862

	Best Performing Districts	Worst Performing Districts
Children under 3 years breastfed within one hour of birth (%)	Chamoli	Nainital
Children under age 6 months exclusively breastfed (%)	Pauri Garhwal	Nainital
Total children age 6-23 months receiving an adequate diet	Nainital	Tehri Garhwal
Children under 5 years who are stunted %	Dehradun	Chamoli ,Uttarkashi
Children under 5 years who are wasted %	Bageshwar	Almora
Children under 5 years who are underweight	Rudraprayag	Haridwar

Table 11 DISTRICT WISE VALUE OF ALL 291 EAG DISTRICTS FOR ALL THE DEPENDENT AND INDEPENDENT VARIABLES

DETAILS FOR ALL 291 EAG STATES

	Children under 3 years breastfed within one hour of birth (%)	Children under age 6 months exclusively breastfed (%)	Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted %	Children under 5 years who are wasted %	Children under 5 years who are underweight %
Agar Malwa	55.6	*	0	40.3	18.7	35.7
Agra	19.5	43.1	10.6	35.9	16.4	26.2
Ajmer	35.2	66.3	5.1	22.3	20	23.1
Aligarh	43.4	57	9.9	35	10.9	26.3
Alirajpur	54.2	78.7	6.6	34.6	15.4	31.6
Almora	30.2	63	18.1	26	17	22.9
Alwar	33.5	66.2	11.2	33.9	15.6	24
Ambedkar Nagar	20.4	68	5	31.1	17.8	29.2
Amethi	21.6	72.6	5.7	35.8	19.9	33.1
Anugul	67.4	*	18.7	28.1	25.1	30.5
Anuppur	23.4	72.2	6.3	24	18.4	30.7
Araria	30.6	69	12.8	49.9	23.9	47.8
Arwal	44.1	48.3	11.5	45.6	36.8	52.9
Ashoknagar	51.8	65.3	3.1	32.6	19.7	31.1
Auraiya	19.3	69.4	6.1	39.7	19.4	32.6
Aurangabad	35.5	61.8	5.8	41.2	32.9	48.7
Azamgarh	18.8	61.8	0	33.4	14.4	28
Bageshwar	37	*	7.2	23.6	7.7	11.9
Baghpat	18.3	58.8	9.1	25.5	10.3	26
Bahraich	17	70.5	9.8	52.1	14.4	38
Balaghat	23	*	9.7	41.9	20.5	44.9
Balangir	77.3	76.8	29.6	32.7	25.5	37.6
Baleshwar	51	79.4	21.7	24.4	15	22.6
Ballia	8	69.8	0.9	43.8	21.9	42.5

Balod	22.4	*	2.9	33.6	15.1	36
Baloda Bazar	35.4	73.3	11.5	40.9	19.4	34.1
Balrampur	14.1	70.6	6.9	41.2	24.9	37.2
Balrampur	38.3	85.2	13.4	35.1	23	38.8
Banda	16.9	46.7	9.5	51	25.7	49.3
Banka	41.1	56.9	2.8	46.7	26.9	45.8
Banswara	57.8	71.8	9.7	44.6	17.3	38.7
Barabanki	30.2	60.8	6.7	41.9	18.1	31.9
Baran	63	78.2	11.1	46	21.3	40.2
Bareilly	42.7	58.1	10.5	45.9	15.4	35.2
Bargarh	67.6	*	17.1	38.9	18	30
Barmer	28.6	66.7	9	39.1	11.5	31.7
Barwani	45.9	77.9	11.1	45.8	18.9	41
Bastar	42	70.6	10.6	48.1	20.4	45.2
Basti	12.1	72.1	5.7	35.9	24.2	39.2
Baudh	68.6	58.3	19.6	37	20.1	38.6
Begusarai	42	50.8	4.6	37.8	21	35.6
Bemetara	27.4	65.6	14.7	38.4	16.4	27.6
Betul	59.8	65.1	9.9	30.8	21.7	31.4
Bhadohi	7.8	66.6	2.9	42.7	9.1	26.5
Bhadrak	56.6	86.5	23.1	32.3	15.8	28.9
Bhagalpur	33.4	52.6	8.1	40	21.2	40.4
Bharatpur	37.9	48.2	11.8	40.3	12.2	29.1
Bhilwara	45.9	80.8	5.8	22.6	17.4	23.5
Bhind	50.1	88.8	13.6	32.2	12.4	29
Bhojpur	25.5	33.8	7.7	40.7	31.3	44
Bhopal	36	*	14.4	19.9	20.6	29.1
Bhurhanpur	28	69.4	16.8	38.7	27.9	47.2
Bijapur	25.4	81.9	16.4	53.8	20	46.1
Bijnor	31.3	57.9	6.8	36.2	9.4	21.9
Bikaner	48	61.2	10.2	22.8	25.6	28.5
Bilaspur	33.6	*	15.2	25.7	24	28
Bokaro	18	60.9	18.1	36.2	19.7	32.3
Budaun	33.6	52.4	8.6	51.8	18.2	43
Bulandshahar	21.7	49.7	8.9	37.6	13.8	26.5
Bundi	41.8	72.7	10.8	30	19.6	29.1
Buxar	36.9	33	8.3	39.6	33.2	45.3
Chamoli	63.1	*	10.3	34.1	16.2	21.6
Champawat	46.3	57.2	9	24.9	12.4	15.3
Chandauli	28	65.7	3.5	39.5	17.4	29.9
Chatra	24.8	78.1	6.1	42.2	17.2	39.8
Chhatarpur	28.5	78.4	6.8	45.1	17.5	34.6
Chhindawara	44.1	81.8	5.8	23.9	18.1	32.8
Chitrakoot	26.9	41.6	8.4	47.5	24.8	41.8

Chittaurgarh	51.1	77.2	5.2	31.4	14.6	25.9
Churu	39.7	62	11.2	27.1	16.5	23.4
Cuttack	63.7	*	21.3	20.4	14.2	18.9
Damoh	40.4	69.8	12.7	40	16.2	32.3
Dantewada	34.5	86.1	19.6	45.6	19.4	45.8
Darbhanga	30.9	71.7	14	45.4	19.3	39.2
Datia	56.4	58.4	2.8	36.8	16.4	29.4
Dausa	36.7	72.8	5.8	37.7	20.7	33.5
Debegarh	71.5	*	13	28.4	27.3	34.3
Dehradun	55.4	55.4	13.3	20.9	10.1	19.1
Deoghar	22.6	71.6	7.2	41.7	17.7	36.9
Deoria	17.3	54.8	2.7	36.8	26.5	39.4
Dewas	36.3	79.1	13.1	36.8	20.4	30.7
Dhamtari	23.3	77.4	8.9	30.5	17.9	28.9
Dhanbad	19.2	73.5	4.7	27	14	25.1
Dhar	38.2	*	4.6	28.8	29.5	35.9
Dhaulpur	41	77.9	5.8	45.7	13.7	31.3
Dhenkanal	70.1	65.3	25.6	33.3	22.7	30
Dindori	48.4	85.5	12.9	38.9	15.8	33.6
Dumka	16.1	69.3	7.8	38.2	27.8	44.9
Dungarpur	47.2	66.3	4.7	31.4	15.6	25.9
Durg	18.5	*	8.3	38.9	16.9	27.7
Etah	29.8	56.5	5	48.8	15	30.6
Etawah	30.4	57.6	6.2	38.8	13.9	24.3
Faizabad	12.5	64.2	2.9	30.6	12.4	27.5
Farrukhabad	32.9	58.6	14.8	47.8	14.3	31.1
Fatehpur	13.9	48	3.5	51.1	17.8	38
Firozabad	28.4	57.2	6.8	46.9	9.5	25.6
Gajapati	79.9	82.3	18.8	43.4	16.1	34.3
Ganganagar	46.9	81.9	12.3	24.5	24.9	26.1
Ganjam	71.9	64.5	22.3	23.9	10.2	18.9
Garhwa	25.2	87.5	6.4	47.7	18.9	40.6
Gariyabad	31.2	93.8	9.4	28.9	21.9	22.1
Gautam Buddha Nagar	33.4	*	6.9	25.5	12	21.9
Gaya	42.4	66.9	12.5	47.4	24.3	43.5
Gaziabad	18.4	54.5	6	28.2	17.1	26.4
Ghazipur	12.4	60.7	4.4	39.3	25.7	38.3
Giridih	14.5	67.8	10.7	31.9	27.8	34.3
Godda	17.2	71.1	7.6	39.4	24.5	40.7
Gonda	17.9	55.9	5	45.9	12.1	28
Gopalganj	38.6	83.5	13.8	34.2	21.5	29.2
Gorakhpur	38.8	71.2	2.3	29.6	23.3	33.7
Gumla	21.8	73.8	10.7	40.2	20.1	38.7
Guna	44.1	81.8	9.9	31.9	10.1	25.1

Gwalior	49.2	72.9	11.6	40.1	12.4	33
Hamirpur	19.9	57.2	5.8	48	20.6	36.3
Hanumangarh	45	83.9	7.1	24.2	19.8	21.3
Hapur	38.4	61.1	10.9	30.2	18.5	26.9
Harda	41.5	64.8	9.9	38.8	28	34.7
Hardoi	20.4	53.5	7.6	44.5	22.3	33
Haridwar	30.6	42.4	15.5	31.1	16.4	27
Hazaribagh	17.9	77	16.9	37.8	16.2	32.5
Hoshangabad	36	73.9	11.2	34.8	19.5	27.2
Indore	29.3	*	9.8	28.7	21.2	24.9
Jabalpur	73.2	*	*	18	26.4	31.3
Jagatsinghapur	68.8	*	31.2	13.2	10.7	11
Jaipur	40.7	67.8	5.8	25	14.6	20.8
Jaisalmer	36.4	63.2	6.1	25.5	25	31.7
Jajapur	60.8	53.7	13.9	25.5	15.9	21.8
Jalaun	37.3	58.1	2.8	45.1	19.5	36.1
Jalor	43.3	78.6	5	44.3	12.1	36.5
Jamtara	13.8	87	15.9	41.9	23	46.2
Jamui	36.8	63.9	3.3	43	19.4	37.5
Janjgir Champa	31.4	75.7	4.8	32.5	24.6	30.2
Jashpur	31.3	87.8	5.8	35.8	17	33.6
Jaunpur	18	54.9	5.7	40.5	14.8	30.3
Jehanabad	45.1	32.8	6.6	41.3	36.6	51.7
Jhabua	36.5	67.3	15.7	49.3	17.9	41.7
Jhalawar	59.3	77.1	5.8	34	29	38.1
Jhansi	12.7	49.7	10.7	40.9	25.2	39.3
Jharsuguda	73.8	*	26.7	27.1	16.9	26.9
Jhunjhunun	43.3	83.5	10.7	20.9	13.9	19.6
Jodhpur	27.9	64.7	12.5	32.6	13.3	25.4
Jyotiba Phule Nagar	30.3	62	16.8	42.2	22.5	35.4
Kabeerdham	44.4	71.2	6.8	37.9	12	27.3
Kaimur	48.5	45.1	27.3	44.1	27.3	47.2
Kalahandi	68.9	84.6	16.4	33	17.2	33.6
Kandhamal	76.5	68.3	22.1	34.2	23.3	35.2
Kannauj	12.6	53.9	13.5	43	21.5	33.5
Kanpur Dehat	26.3	53.1	5.4	44.1	12.5	32.8
Kanpur nagar	34.8	53.9	3.7	34.6	21.4	27.8
Kanshiram Nagar	33.2	67.7	5.6	45.1	19.3	35.5
Karauli	38.4	81.3	6.3	37.6	26.6	37.3
Katihar	25.8	36.1	13.8	43.9	23.5	48.1
Katni	56.5	76.3	8.2	49.5	21.8	44
Kaushambi	27.8	62.5	6.1	40.2	18.3	36.8
Kendrapara	68.9	*	23.3	28.6	7.9	17.9
Kendujhar	57.9	67.7	15.1	36.2	23.8	37.1

khagaria	26.3	48.2	16.3	34.8	25.3	36.4
Khandwa	52.9	*	3.5	38.4	20.7	35.3
Khargone	42.2	63.1	6.6	31.4	27.4	44
kheri	27	65.5	4.4	47.6	15.8	36.3
Khordha	73.3	*	13.8	17.1	13.2	16.9
Khunti	17.9	80.3	10.5	38.5	32.1	44
Khushinagar	16.7	63.2	3	32.2	24.3	36.6
Kishangarh	16.9	53.5	13.1	38.8	23.9	41.1
Kodagaon	35.6	85.3	9.3	37.6	22.8	42.2
Kodarma	19.2	68.8	10.8	34.6	18	31.7
Koraput	85.9	82	17.2	43.1	15.9	33.5
Korba	26.4	*	4	34.7	14.7	27.9
Koriya	31.5	83.5	8	32.1	18.1	31.8
Kota	47.9	77.6	9.3	29.5	20.8	26.4
Lakhisarai	36	51.2	3.6	42.7	25.6	45.1
Lalitpur	29.2	56	4.8	46.6	18.7	34.8
Latehar	18.9	69	7.5	40.1	19.2	39.4
Lohardaga	37.9	71.8	7	40.7	26.6	43.4
Lucknow	19.8	71.7	2.3	32.1	11.5	25.5
Madhepura	34	64.1	6.9	46.3	20.6	43.5
Madhubani	27.7	74.6	12	43.3	17.1	36
Mahamaya Nagar	34.7	67.4	5.9	39.1	12	24.5
Maharajganj	13.4	62.1	8	40.5	21.8	37.4
Mahasamund	41.7	82.1	15.7	36.8	14	25.8
Mahoba	20.1	67.8	7.5	42.3	25	33.4
Mainpuri	30.3	61.9	10.1	44.3	14.6	33.6
Malkangiri	74	80.9	19.8	44.3	19.3	41.6
Mandla	42.9	92	7.3	32.1	15.9	33
Mandsaur	49.5	*	1.2	30.9	13.1	22.9
Mathura	24.5	61	2.6	31.6	11	21.3
Mau	37.1	65.1	3.2	25.4	21.2	30.3
Mayurbhanj	58.4	68.6	23.7	36.7	28.5	45.9
Merrut	27.2	55.4	8.7	32.1	10.2	23.7
Mirzapur	8.7	71.5	4.6	43.4	12.5	27.6
Moradabad	17	56	12.9	34.7	19.1	27
Morena	59.4	86.1	8.2	40	10.1	29.6
Mungeli	37.6	94	3	30.1	17.7	30.6
Munger	28.3	60.3	5.1	35.5	26.7	39.5
Muzaffarnagar	18.2	61.8	16.1	29.8	20.7	29.9
Muzaffarpur	29.7	71.9	17.2	42.6	19.9	34.7
Nabarangapur	79.5	72.5	16.8	44.1	25.2	46.6
Nagaur	28.9	69	7.3	31.5	16.2	26.2
Nainital	24	41.2	19.2	23.2	14	14.8
Nalanda	22.4	67.2	9.6	42.6	27.8	46.7

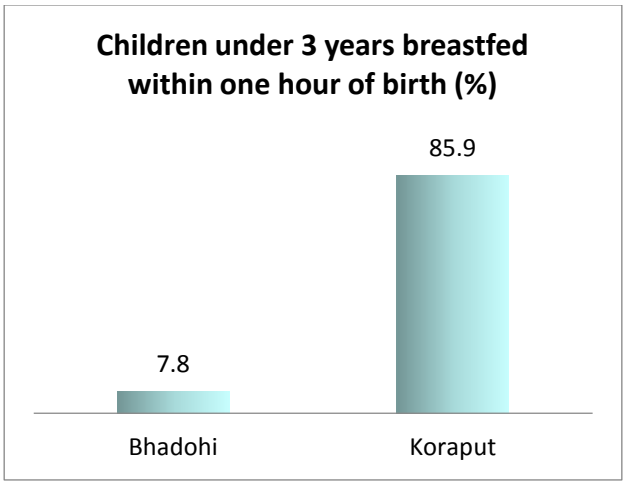
Narayanpur	33.2	88.6	14.8	43.7	21.5	39.5
Narsinghpur	39.3	70.6	18.1	32	19.6	28.1
Naupada	78.6	93.7	25.3	43.1	18.1	38
Nawada	36.9	60.5	5.1	49.4	18.2	37.3
Nayagarh	76.8	*	20.3	20	10.5	20.2
Neemuch	43.2	83	3.3	33	13.1	27.7
Pakur	25.4	73.1	8.1	51.3	23.6	51.4
Palamu	26.4	77	5.4	43.7	18.4	37.3
Pali	38.5	48.9	5.5	35.9	18.3	35.9
Panna	38.1	77.6	9.4	45.1	23.2	39.2
Paschim Chmaparan	25.9	64.2	13.6	43.5	13.2	30.3
Paschimi singhbhum	22	73.7	11.7	60.6	30.5	62.4
Patna	34.1	22.3	8.3	34.5	27.5	39.6
Pauri Garhwal	36	75.2	12.1	30	12	18.8
Pilibhit	29.1	54.6	8.9	38.9	20.1	39.4
Pithoragarh	54.1	61.8	16.9	25.6	12.4	20.6
Pratapgarh	13.2	51.9	4.2	35.5	10	27.7
Pratapgarh	56.6	78.6	8	29	24.9	31.8
Prayagraj	24.8	53.4	0	37.9	15.1	32.6
Purba Champarana	33.7	72	15.4	49.1	16.8	37.9
Purbi singhbhum	22.4	*	11.1	35.9	29.4	41.6
Puri	77.6	*	20.6	13.8	8.9	11.3
Purnia	26.1	53.6	5.5	43.5	25.8	47.1
Rae Bareli	28.6	64.4	3.4	47	13	28.8
Raigarh	37.6	82.8	4.5	39.1	14.9	28
Raipur	36.4	71.9	7.9	32.2	21.7	32.3
Raisen	34.3	*	19	30.4	21.1	25.4
Rajgarh	31	93	5.2	27.6	22.4	26.8
Rajnandgaon	20.1	85.5	10.6	27.6	19.4	31
Rajsamnad	44.1	73.4	7.6	30.3	16.6	23.7
Ramgarh	23.1	85.5	12.5	35.3	23.5	35.3
Rampur	39.6	43.4	6.9	40.4	17.6	32.1
Ranchi	32.1	89	19.7	28.3	32.7	40.6
Ratlam	41.6	78.6	16.7	29	16.2	28.6
Rayagada	74.5	86.7	24.7	43.6	16.1	39.8
Rewa	35.9	65.9	10.1	37	18.7	31.5
Rohtas	31.3	56.6	2.6	40	30.8	48.2
Rudraprayag	54.4	59	10.8	25.2	8	10.9
Sagar	24	67.8	8.5	42.7	15.2	35.8
Saharanpur	26.7	67.4	5.6	28.8	22	26.7
Saharsa	38	49.4	10.3	47.8	20.5	42.7
Sahibganj	23.6	82.6	8.2	49.1	19.7	44.8
Samastipur	27	63.5	17.7	44	21.3	42.8

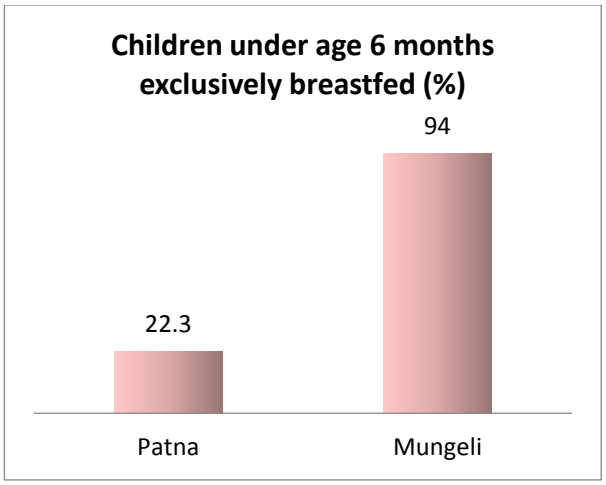
Sambalpur	59	79.6	17.4	40.7	25.5	36.3
Sambhal	31.5	62.5	5.6	51.6	14.1	29.8
Sant Kabeer Nagar	12.5	61.7	7.5	42.3	19	34.2
Saraikela Kharsawan	18.9	74.3	13.8	40	32.9	48.7
Saran	28.2	45	7.1	39.7	28.8	45
Satna	22.2	*	7	49.4	16.8	31.2
Sawai Madhopur	48.2	71	10.4	26.9	22	24.2
Sehore	35.3	83.7	5.5	21.9	20.3	27.6
Seoni	57	93.6	12.1	23.5	21.1	31.1
Shahdol	32.9	66.8	6.2	44	20.4	39.2
Shahjahanpur	27.6	55.1	6.7	44.5	17	34.7
Shajapur	43.4	79.5	8.2	27.8	23.4	27.6
Shamli	19.1	64.8	1.8	28.6	24.3	24.5
Sheikhpura	25.2	81.7	5.5	53.6	16.3	37.6
Sheohar	27.3	83.5	3.5	34.4	35.4	42.2
Sheopur	50.8	79.4	4.4	45.8	16.2	37.7
Shivpuri	62.5	67.6	7.2	39.2	18.4	36.1
Shravasti	14.1	70.2	3.4	50.9	20.3	40.8
Siddarthnagar	24.9	70.4	3.5	37.2	24.8	36.3
Sikar	30.4	74	12	23.1	12.8	18.3
Simdega	17.8	71.8	10.8	42.2	21.1	37
Sindhi	38.3	79.1	13.2	39.1	16.6	32.8
Singrauli	34	75.5	6.4	37.3	25.2	36
Sirohi	50.1	73.8	4.3	30.7	16.4	31.2
Sitamarhi	22.6	63.7	16.3	54.2	16.2	40.8
Sitapur	24.3	60.8	4.1	47.8	18.2	37.9
Siwan	21.9	59.5	10.8	36.7	18.2	30.8
Sonbhadra	29.1	66.8	2.5	38.3	26.8	46.5
Subarnapur	61	71	22.5	29.6	26	34.5
Sukma	38	85.8	20.9	41.8	21.2	37.4
Sultanpur	26.7	64.8	4.4	33.4	10.7	28.3
Sundargarh	63.2	*	14.7	32.9	21.1	34.7
Supaul	37	64.1	14.5	42.3	25.8	45
Surajpur	23.3	85.2	11.4	27.6	19.3	32.3
Surgija	32.3	87.2	9.9	29.4	17.5	30.6
Tehri Garhwal	41.8	64.6	1.5	29.3	12.8	20.7
Tikamgarh	52.4	*	8.8	27.5	19.7	34.9
Tonk	38.9	82.1	6	33.1	18.1	28.2
Udaipur	44.6	81.6	6.1	34	8.6	26.6
Udam Singh Nagar	42.4	52.2	9.7	26.8	12.4	22
Ujjain	39.3	*	11.2	34.7	29.8	36.2
Umaria	41.3	79.7	9.8	45.3	15.5	36.6
Unnao	11.7	54.7	5.2	39.2	12.1	29.3
Uttar bastar	28.8	92.7	8	24.8	24.5	36.1

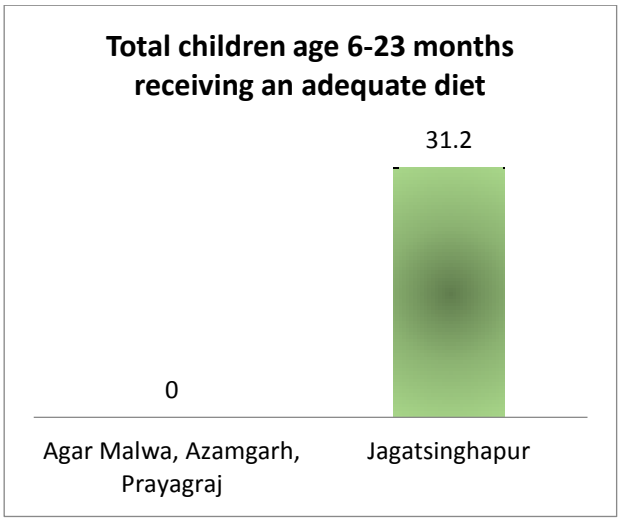
Uttarkashi	61.7	52.4	7.6	34.1	10.6	23.5
Vaishali	27.6	47	11.7	38.3	19.6	38.4
Varanasi	36.4	47.5	5.8	37.4	21	39
Vidhisha	42.6	64.5	3.9	36.5	16.6	34.4

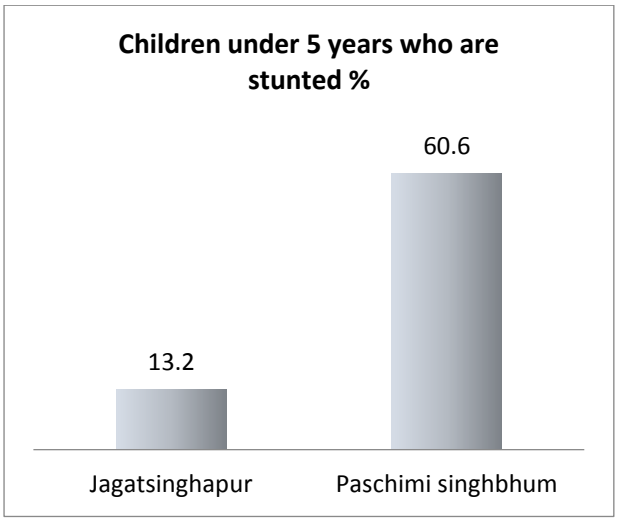
Independent variable	Dependent Variable	Correlation
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are stunted %	-0.302299758
Chi ldren under 3 years breastfed within one hour of birth (%)	Children under 5 years who are wasted %	-0.09175933
Children under 3 years breastfed within one hour of birth (%)	Children under 5 years who are underweight	-0.200328767
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are stunted %	-0.15011587
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are wasted %	-0.074834291
Children under age 6 months exclusively breastfed (%)	Children under 5 years who are underweight	-0.068323456
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are stunted %	-0.144819551
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are wasted %	0.024716757
Total children age 6-23 months receiving an adequate diet	Children under 5 years who are underweight	-0.043146247

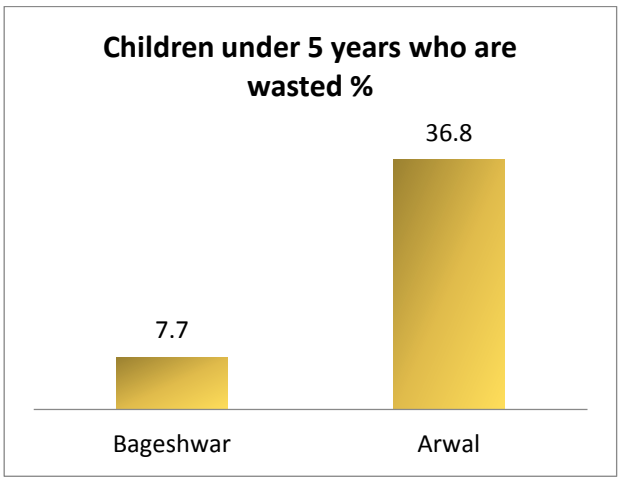
Chart 3 : Best performing & worst performing districts out of 291 EAG districts for the Independent & Dependent Variables:

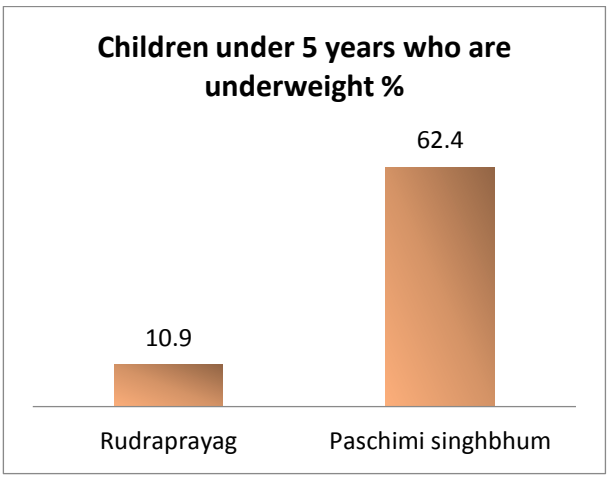












DISCUSSION

- Out of all the 291 EAG districts, negative co-relation is seen for all the indicators except for the children aged 6-23 months who are receiving an adequate diet with children below 2 years of age who are wasted.
- In Chhattisgarh, positive Co-relation is seen for all the indicators except for that in children under 6 months of age who are exclusively breastfed with children under 5 years who are stunted.
- In Jharkhand, positive Co-relation is seen for all the indicators except for that in children aged 6-23 months who receive adequate diet with children below 5 years of age who are stunted.
- Early parent marriage, less educated parents, male offspring, Christian faith, working mothers, fewer prenatal visits, surgical deliveries, late breastfeeding initiation, not feeding colostrum, ignorance of exclusive breastfeeding, and inadequate mother counselling regarding exclusive breastfeeding were all noted as barriers to exclusive breastfeeding.
- The factors that contributed to low breastfeeding rates in urban and semi-rural areas included low socioeconomic status (household income), general characteristics of the mothers (age, occupation, first live child, complications during pregnancy, marital status, education at school, living arrangements, and infection with either HIV or Hepatitis B), general characteristics of the fathers (education, occupation, and ethnic group), and general characteristics of the infants (age at birth, gender, method of delivery including Caesarean section or normal birth through vagina, low weight of infant during birth (< 2500 g), premature birth with gestational age at birth < 37 weeks, and neonatal complications).)
- Numerous things, including children's food (diet), infectious diseases, household food security, childcare practices, health services, and environmental health, can contribute to poor nutrition.
- One of the most important issues in the world is the lack of protein and energy in infancy. Clinical disorders like Kwashiorkor, Marasmus, and anemia are caused by

it. Kwashiorkor is a protein deficiency illness brought on by inadequate protein consumption or poor protein quality over an extended period of time.

- Reasons noticed for stunting, wasting and malnourishment :

a. Short birth intervals between children
b. No. of Children born to a couples
c. Parental working status
d. Child Vaccination status
e. Recurrent diarrhoea

Numerous Organisation working in EAG states have helped to improve the leval of Nourishment in Infants in Children.

- SPREAD has been operating in underdeveloped areas of Odisha since 2006, including Koraput. In order to combat malnutrition in the intervention regions of Odisha, they launched the "Giving Children of Odisha - A Healthy Start" campaign in 2017. This initiative was supported by "CRY - Child Rights and You" and the state alliance known as "Voices for Child Rights in Odisha" (VCRO). Regular sessions on malnutrition were held with community members, teenage girls, and pregnant and nursing mothers as part of this initiative.
- It has been noticed in the state of Orrisa that he districts lying in the coastal areas show better nutritional status and less prevalence of stunting. (out of 291 EAG districts, Jagatsinghpur shows best performance for ‘adequate diet for children between 6-24 months of age and least number of stunted children.
- Districts in Uttrakhand show least number of wasted and undernourished children out of all 291 EAG districts.

LIMITATION:

- Unit level analysis was not performed.
- Since the study asks for the information based on memory of the mother, chances of Recall bias exist.
- Study of Nutrition in children is a multifactorial approach, which cannot be completely assessed by taking in account just the 3 independent variables namely; breastfeeding within the 1st hour of birth, exclusive breast feeding for 6 months and adequate nutrition for the initial 2 years of life.
- The Independent variables themselves depend on multiple factors which have not been included in this study.

CONCLUSION:

Inadequate diet in children under the age of 2 years is the main indicator leading to excessive stunting and underweight in children under the age of 5 years.

Since Childhood malnourishment is multifactorial, any single cause isn't big enough to blame, but a multifaceted approach is required to combact malnourishment.

REFERENCES:

1. Mulatu T, Yimer NB, Alemnew B, Linger M, Liben ML. Exclusive breastfeeding lowers the odds of childhood diarrhea and other medical conditions: evidence from the 2016 Ethiopian demographic and health survey. Italian Journal of Pediatrics. 2021 Dec;47(1):1-6.
2. Wu H, Zhao M, Magnussen CG, Xi B. Global prevalence of WHO infant feeding practices in 57 LMICs in 2010–2018 and time trends since 2000 for 44 LMICs. EClinicalMedicine. 2021 Jul 1;37:100971.

3. Williams J, Kuttumuratova A, Breda J, Wickramasinghe K, Zhiteneva O, Weber MW. Improving the lagging rates of breastfeeding. The Lancet. Child & adolescent health. 2021 Sep;5(9):606-7.

4. Keats EC, Das JK, Salam RA, Lassi ZS, Imdad A, Black RE, Bhutta ZA. Effective interventions to address maternal and child malnutrition: an update of the evidence. The Lancet Child & Adolescent Health. 2021 May 1;5(5):367-84.

5. Victora CG, Bahl R, Barros AJ, França GV, Horton S, Krasevec J, Murch S, Sankar MJ, Walker N, Rollins NC. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. The lancet. 2016 Jan 30;387(10017):475-90

6. Mahmood SE, Srivastava A, Shrotriya VP, Mishra P. Infant feeding practices in the rural population of north India. Journal of family & community medicine. 2012 May;19(2):130.

7. Sahu S, Pradhan SK, Panda SC. Infant and young child feeding practices among tribal mothers in Sambalpur district, Odisha, India. Int J Community Med Public Health [Internet]. 2020 Feb. 27 [cited 2023 Jul. 24];7(3):1072-7.

8. Karmee N, Satapathy SP, Tripathy RM. Infant and young child feeding practices among mothers attending an Urban Health Training Centre (UHTC): a cross-sectional (mixed methodology) study in Berhampur, South Odisha, India. Int J Contemp Pediatrics. 2017 Dec 21;5:161-8.

9. Khan A, Radha R. Breast feeding and weaning practices of mothers in a rural area - a cross-sectional study. Int J Med Sci Public Heal. 2013;2(4):857.

10. Kahssay M, Ebrahim E, Seid O, Woldu E, Reddy S. Infant and young child feeding practices and associated factors among children aged 0–23 months in Assayita District Afar Region Ethiopia. J Food Nutr Sci. 2019;7(6):96-104.

11. Sarkar TK, Bhattacherjee S, Mukherjee A, Saha TK, Chakraborty M, Dasgupta S. Early initiation of breast feeding in tribal children. Int J Community Med Public Health. 2016 Nov;3(11):3081-5.

12. Chavan S, Jadhao A, Narlwar U, Ughade S, Adikane H. Cross sectional study of knowledge and practices regarding breast feeding amongst mothers belonging to tribal community in Melghat area, Amravati, Maharashtra, India. Int J Res Med Sci. 2017;5(3):990.

13. Madhu K, Chowdary S, Masthi R. Breast feeding practices and newborn care in rural areas: A descriptive cross-sectional study. Indian J Community Med. 2009;34(3):243.

14. Sharma A, Thakur P, Tiwari R, Kasar P, Sharma R, Kabirpanthi V. Factors associated with early initiation of breastfeeding among mothers of tribal area of

Madhya Pradesh, India: a community based cross sectional study. Int J Community Med Public Heal. 2016;3(1):194–9.

15. Parashar A, Sharma D, Thakur A, Mazta S. Infant and young child feeding practices - Insights from a cross-sectional study in a hilly state of North India. Int J Nutr Pharmacol Neurol Dis. 2015;5(3):103-7.
16. Deshmukh U, Thomas T, Swaminathan S, Kurpad A. Breastfeeding Practices and Dietary Diversity among Infants and Young Children in Rural and Urban-Slum Populations in India: An Observational Study. Int J Child Heal Nutr. 2018;7(4):175-83.
17. Acharya A, Pradhan MR, Das AK. Determinants of minimum acceptable diet feeding among children aged 6–23 months in Odisha, India. Public Health Nutrition. 2021 Aug;24(12):3834-44.
18. Khamis AG, Mwanri AW, Ntwenya JE, Kreppel K. The influence of dietary diversity on the nutritional status of children between 6 and 23 months of age in Tanzania. BMC pediatrics. 2019 Dec;19(1):1-9.
19. Mokori A, Schonfeldt H, Hendriks SL. Child factors associated with complementary feeding practices in Uganda. South African Journal of Clinical Nutrition. 2017 Mar 31;30(1):7-14.
20. NITI Aayog (2018) SDG India Index Baseline report 2018. http://niti.gov.in/writereaddata/files/SDX_Index_India_21.12.2018.pdf

Shreya Malik report

ORIGINALITY REPORT

14%	10%	10%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	moam.info Internet Source	1%
2	Soumendu Sen, Sayantani Chatterjee, Pijush Kanti khan, Sanjay K. Mohanty. "Unintended Effects of Janani Suraksha Yojana on Maternal Care in India", SSM - Population Health, 2020 Publication	1%
3	www.omicsdi.org Internet Source	1%
4	www.ncbi.nlm.nih.gov Internet Source	1%
5	Submitted to University of Southern Mindanao Student Paper	1%
6	socialwelfare.bih.nic.in Internet Source	1%
7	Nathalia Cavichiolli de Oliveira. "Gut microbiota of the rice and corn strains of >i/i<: diversity and function", Universidade de Sao Paulo, Agencia USP de Gestao da Informacao Academica (AGUIA), 2021 Publication	<1%
8	ccl.nls.ac.in Internet Source	<1%
9	Submitted to Lal Bahadur Shastri National Academy of Administration of Management Student Paper	<1%
10	Submitted to University of Wales Institute, Cardiff Student Paper	<1%
11	worldbreastfeedingconference.org Internet Source	<1%
12	www.sitarambhartia.org Internet Source	<1%

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH (IIHMR)
Plot No. 3, Sector 18A, Phase- II, Dwarka, New Delhi- 110075
Ph. +91-11-30418900, www.iihmrdelhi.edu.in

CERTIFICATE ON PLAGIARISM CHECK

Name of Student (in block letter)	**Dr. SHREYA MALIK**		
Enrolment/Roll No.	PG/21/104	**Batch Year**	2021-2023
Course Specialization (Choose one)	Hospital Management	Health Management	Healthcare IT
Name of Guide/Supervisor	Dr. PIJUSH KANTI KHAN		
Title of the Dissertation/Summer Assignment	ASSOCIATION OF CHILD FEEDING PRACTICES WITH THE NUTRITIONAL STATUS OF THE CHILDREN IN INDIA, 2019-21		
Plagiarism detects software used	"**TURNITIN**"		
Similar contents acceptable (%)	Up to **15** Percent as per policy		
Total words and % of similar contents Identified	**14%**		
Date of validation (DD/MM/YYYY)	24/07/2023		

Guide/Supervisor

Name: Dr. PIJUSH KANTI KHAN

Signature:

Student

Name: Dr. SHREYA MALIK

Signature:

Report checked by

Institute Librarian

Signature:
Date:
Library Seal

Dean (Academics and Student Affairs)

Signature:
Date:
(Seal)