Summer Internship Report

at

Piramal Swasthya Foundation

(April 22nd – June 21st,2024)

A Report

By

KAUSIK HALDER

To understand reproductive, maternal, newborn, child health and nutrition(rmnch+n) practices in rural Bihar during 2024

Under guidance of

DR. Nidhi Yadav

PGDM (Hospital and Health Management)

2023-2025

International Institute of Health Management Research, New Delhi

ACKNOWLEDGEMENTS

I could consider the internship, I had with Piramal Swastha Foundation, Bihar to be quite a wonderful chance to learn and to develop. For this reason, I believe that I was quite lucky as I was given a chance to become a participant of this process. I also wish to express my appreciation to God for avails to meet many lovely and professional people who guided me through this interns' stage.

I would like to express my sincere gratitude to **Dr. Tanmay Mahapatra (Director, Data and Learning, Piramal Swasthya Management and Research Institute), Dr. Devashish singh(Senior RMLE leader), Dr. Sambhavi singh(Senior RMLE leader)** for taking part in useful decision & giving necessary advice and guidance and arranged all facilities to make my project easier. I choose this moment to acknowledge their contribution gratefully.

I am also thankful to **Dr. Prabhas Kumar Mishra** for his overall supervision and **Mr. Kunal Ranjan and Mr. Alok Ranjan** for their assistance and cooperation in providing necessary information and their guidance in analysis for this report.

It is my radiant sentiment to place on record my best regards, and deepest sense of gratitude to **Dr. Sutapa Bandyopadhyay Neogi (Director, IIHMR Delhi), Dr. Sumesh Kumar (Associate Dean Academics and students Affairs, IIHMR Delhi), and my mentor Dr. Nidhi Yadav (Associate Professor, IIHMR Delhi)** for their careful and precious guidance which were extremely valuable for my study both theoretically and practically.

I see this chance as the significant step forward in my career process. I will try to take full advantage with the skills and knowledge that I have acquired and also will endeavor to work harder to acquire these skills to achieve my desired career goals. Looks forward to continuing cooperation with all of you in the future.

Sincerely,

Kausik Halder

Certificate of Approval

The Summer Internship Project of titled **"TO UNDERSTAND REPRODUCTIVE, MATERNAL,NEWBORN, CHILD HEALTH AND NUTRITION(RMNCH+N) PRACTICES IN RURAL BIHAR DURING 2024"** at **"Piramal Swasthya Management and Research Institute, Bihar"** 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 **Post Graduate Diploma in Health and Hospital 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 report only for the purpose it is submitted.

Dr. Nidhi Yadav
Associate Professor
IIHMR, Delhi

FEEDBACK FORM

(IIHMR MENTOR)

Name of the Student: KAUSIK HALDER

Summer Internship Institution: Piramal Swasthya Management & Research Institute

Area of Summer Internship: RMNCHN

Attendance: Perfect adherence to internship norms

Objectives met:

Deliverables:

- Health and wellness centre visit
- Basic introduction about SAS
- Participate in household survey among different districts in Bihar.
- Knowledge regarding different research methodology study design.
- Basic introduction on data cleaning and management.
- Sub district hospital visit in Danapur, Patna, Bihar.
- Communication with ASHA workers who work at the basic ground level.

Strengths: Diligent and committed to work, follows time line

Suggestions for improvement: Learn writing skills (scientific), improve verbal communication with more confidence.

Date: 9th Dec 2024

Place: New Delhi

Signature of the Officer in charge

(Internship)

FEEDBACK FORM

(Organization Supervisor)

Name of the Student: KAUSIK HALDER

Summer Internship Institution: Piramal Swasthya Management and Research Institute

Area of Summer Internship: Public Health with a special focus on RMNCH+N

Attendance: Perfect adherence to internship norms.

Objectives met: Learnt Literature Review, Evidence Table Generation, Reference Management, Tool Development, Epidemiological concepts, Digital Data Management & Quality control, Determining the Themes and Sub-themes, Developing Code Dictionary, Data Collection, Data Management, Basic Quantitative Analysis and Thematic Extraction of Information from Qualitative Data.

Deliverables:

- Health and wellness centre visit
- Basic introduction about SAS
- Participate in household survey among different districts in Bihar.
- Knowledge regarding different research methodology study design.
- Basic introduction on data cleaning and management.
- Sub district hospital visit in Danapur, Patna, Bihar.
- Communication with ASHA workers who work at the basic ground level.

Strengths:

During this period, he displayed very good adherence to protocols, learning spree, punctuality, clarity of understanding, proactiveness, teamwork, commitment, sincerity and diligence with analytical progress. Based on his learning abilities and efforts, it appears that, given the level of effort and aptitude he has, if given chance he can become an important contributor to the public health research and implementation sector of India.

Suggestions for Improvement:

Scientific writing, programmatic knowledge, advance analytics, communication skills.

Date: 12.12.2024
Place: Patna

Signature of the Officer-in-Charge
(Internship)

The certificate is awarded to

KAUSIK HALDER

In recognition of having successfully completed his Internship in the department of RMLE

Title: **Introduction about RNMCHN in context of Bihar**

and has successfully completed his Project on

Date 21st JUNE 2024

Piramal Swasthya Management and Research Institute

He comes across as a committed, sincere & diligent person who has a strong drive & zeal for learning We wish him all the best for future endeavors

Organization Supervisor & Department Head

Dr Tanmay Mahapatra	Ms. Amita Shukla
Director, Data & Learning	Senior Program Manager – HR

Piramal Swasthya Management and Research Institute

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ACRONYMS/ABBREVIATIONS

ARI-Acute Respiratory Infection

ASHA- Accredited Social Health activist.

GAPPD- Global Action Plan For The Prevention And Control Of Pneumonia And Diarrhea

HIB- Haemophilus Influenzae Type B

MCP card- Mother Child protection card

NFHS- National Family Health Survey

NHM- National Health Mission

ORS- Oral Rehydration Salt

PCV- Porcine Circovirus

SAANS- Social Awareness And Actions To Neutralize Pneumonia Successfully.

THR- Take Home Ration .

WASH- Water and sanitation hygiene.

OBSERVATIONAL LEARNINGS

ORGANIZATION PROFILE:

Piramal foundation is the corporate social responsibility wing of Piramal group of companies. These it develops solutions, which have proven hard to solve and are some of the major bottlenecks, in the path to unlocking the potential of the Indian economy. India is on the path of fulfilling UHC and Piramal Swasthya is there helping in its endeavor by utilizing its knowledge of what it takes and how to design solution oriented approaches to create a huge proportional change.

Piramal Swasthya has strategic intent on filling public health disparities by both augmenting and enhancing the Government of India's vision on Universal Health Coverage. Piramal Swasthya is one of the largest not- for-profit public health organizations in India – with focus on Maternal, Child and Adolescent health and Non communicable diseases.Piramal Swasthya has been implementing several operational models of delivering healthcare innovations for the past more than a decade, which have primary healthcare solutions for most of the disadvantaged and excluded people across India. journey towards ensuring Universal Health Coverage and Piramal Swasthya is contributing with its experience & expertise of building innovative solutions that impact at scale.

Piramal Swasthya is focused on bridging public healthcare gaps by supplementing and complementing Government of India's vision to meet Universal Health Coverage. Piramal Swasthya is one of the largest not-for-profit organizations in India – in the primary public healthcare space with a focus on Maternal Health, Child and Adolescent Health, Non-communicable Diseases. Piramal Swasthya has over a decade-long experience in operating several healthcare innovations at scale, which are addressing the primary healthcare needs of most underserved and marginalized populations across India. Piramal Swasthya is currently functional in 21 states of India through 35 pioneering public healthcare management programs and has reached out to over 112 Million populations hitherto.

Piramal Swasthya deploys over 2500 employees (including 250 plus Medical Doctors) who interact with Seva Bhav.

These core values; Knowledge, Action, Care and Impact, are important principles that help the Group in discharge of its corporate social responsibilities constituency responsibly.

According to the Foundation, partnerships are the key in efforts towards creating positive changes within society. It fosters those that are replicable and the initiative assures to provide lasting social benefit.

The Foundation currently operates twenty-one states, most often in cooperation with the state authorities. It has created and implemented unique solutions and programs in every single

vertical it works in and has established an excellent relationship with governments, technology partners and with international bodies including with Michael & Susan Dell Foundation, Harvard Graduate School of Education and World Diabetes Foundation. The projects are delivered through Piramal Swasthya, Piramal Sarvajal and Piramal Foundation of Education Leadership.

CORE WORK:

INNOVATION AT SCALE:

- Mobile-based health consulting, advising and delivery service.
- Community outreach platform.
- CSR partnerships.

ENDING PREVENTABLE DEATHS

- Tribal health program: stand-alone model that targets the elimination of avoidable deaths.
- D.E.S.H (Detect early and save him/her) – This was concerned with the early diagnosis of cancers.

CREATING A FRAMEWORK FOR SUSTAINABILITY:

- The Transformation initiative for Aspirational Districts.
- The Sustainable Action for Transforming Human Capital (SATH) initiative.
- Accessible medical records via integrated technologies, or A.M.R.I.T., is a platform for health and wellness technology that is a public good.

MODE OF DATA COLLECTION:

During the internship period, we went to field visits including visit to the rural villages for household survey and institutional visits like sub-divisional hospital visits.

HOUSEHOLD SURVEY

Date: 25th April, 2024.

Block: Dulhin Bazar

Village: Sailauhri

Introduction: A household survey was conducted on 25th April at sailauhri village for the maternal and child health program. The aim of the survey is to gather data on maternal and child health and creating awareness about the government health programs. The targeted age groups are 0-5 months

29 days, 6-11 months 29 days, 12- 23 moths 29 days. Different questionaries were prepared according to the different age groups.

Listing Methodology:

Households are selected and listed according to the following protocol:

- We began listing houses from right side of the street and proceeded systemically.
- A random table was used to select the first house number and then every 5th number after that house was included in the survey.

Interview 1: (child age group 0-5 months 29 days)

The first interview was taken of a mother having child of 2 months old. The interview instrument comprised of four sections:

- Basic household details: All demographic information of the household was collected in this section.
- ANC and birth preparedness: Questions were asked to the mother about receiving ante natal care during pregnancy. The importance of the 4Cs were emphasized for safe delivery: Clean blade, Clean cloth, Clean thread and Clean needle.
- New born Care: This section includes questions about the primary practices performed after the delivery.
- Post natal and Breastfeeding practices: This section includes questions on postnatal care and breastfeeding practices.

Key discussion points:

- MCP card: MCP card was checked and the mother informed that she received the card in the fourth month of pregnancy from an ASHA worker.
- THR receiving: The mother was asked about she is receiving THR(Take Home Ration) or not. She answered that she began receiving THR from fourth month of pregnancy.
- Government Services: Inquiries about the receipt of government services like IFA tablets.
- Institutional Delivery: Assessment of whether ASHA or Anganwadi workers promoted institutional delivery.
- Uterotonic Drugs & Vitamin K: Exploration of the mother's knowledge and experience regarding uterotonic drugs and Vitamin K.
- Kangaroo Mother Care (KMC): Evaluation of the mother's awareness of KMC.
- Initiation of Breastfeeding: Reporting on whether the mother initiated breastfeeding within 24 hours of birth.
- Newborn Bathing: The first bath administered at home after 2 days.

Interview 2: Child (6-11 months 29 days)

- Interview Tool Sections:

    - Household and Respondent Characteristics
    - Breastfeeding and Complementary Feeding Practices

Key Discussion Points:

- Duration of Breastfeeding
- Introduction of Complementary Foods: Types and age of introduction.
- Frequency and Types of Complementary Feeding

Interview 3: Mother & Child (12-23 months 29 days)

- Interview Tool Sections:

    - Household and Respondent Characteristics
    - Immunization
    - Complementary Feeding Practices
    - Postnatal Contraception and Family Planning

Key Discussion Points:

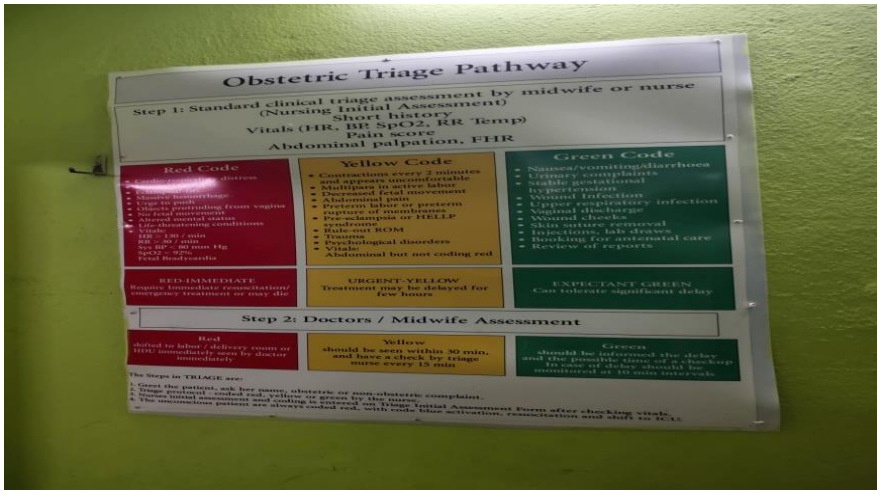
- Child's Immunization Status: Up-to-date status or specific vaccines received.
- Continued Complementary Feeding Practices
- Mother's Knowledge and Use of Postnatal Contraception Methods
- Family Planning Discussions or Practices

Conclusion: Confidentiality was maintained before and after the interview and expressed gratitude to the mothers for their participation. The survey gave us the valuable data on MCH practices in sailauhri village. The findings and observations are used to improve maternal and child health practices for future reference.

FACILITY VISIT: SUB-DIVISIONAL HOSPITAL DANAPUR

Our facility visit was organised by Piramal swastha foundation on 15th May at sub-divisional hospital, Danapur. The visit was co-ordinated by prasant sir on behalf of the organisation and he helped us to understand about how the functions are working in the SDH. We reached there at about 11 a.m. we were introduced to Mrs. seema maam who is the hospital manager and working as a pioneer and a strong pillar behind the strong functional facilities of the hospital. We asked her questions regarding the hospital functionality and roles of the different departments and she answered all our questions with proper justification and calmness. Our key learnings from the visit are described as follows:

- This sub-divisional hospital working mainly in maternal and child health as in- patient department and for out patient department all kinds of patients are treated.
- The hospital do not have any outreach facilities but they have supplied vaccines to the nearest military hospital.
- The hospital works in 24*7 days and the staffs are working in three shifts, where morning shift and after shift are for 6 hours and night shift are for 12 hours.
- The hospital caters almost 4 lakhs 60 thousand population and having 50-60 beds for in patient department.
- All diagnostic services are available and blood storage facilities are also available.
- In labour room, 4 beds are available for delivery and one additional bed is available in triage room in case of emergency.
- We are introduced to triage pathway where we observe to segregate the patients according to their need of medical care. Red code stands for immediate care, yellow



stands for urgent care and green stands expectant care where patient can tolerate significant delay.

- New born stabilization unit (NBSU) are also for keeping the baby after birth and Kangaroo Mother Care (KMC) unit has two beds for taking care of pre term babies.
- JSY(Janani Suraksha yojana) and JSSK(Janani sishu Suraksha karyakram) schemes are available for the beneficiaries where mothers can get upto 2400 rupees.
- Pregnant women can have the ante natal check ups before the delivery. There is a department who can track the ante natal check ups and give the pregnant women diet plan for having a healthy baby.
- An immunization department are also there for immunization of new born babies and make sure that all babies can get the initial vaccine doses. All vaccines are kept in cold chain machines to $2\text{-}8^0$ c. The sister in charge have tracker in her phone where she can

track the stock of the vaccines and if there is any issue in maintenance of the temperature she can get an sms alert on her mobile.

- A family planning department is also in the hospital who counsel the eligible couple about family planning methods. Make them understand about having second baby after almost three years of the birth of the first baby. They also promote about having contraceptive pills like MALA-N and CHHAYA. Women can also get money using contraception methods like IUCD and having tubectomy.

After visiting the hospital we got a basic understanding of the functionality of the hospital. We understand that how an SDH is important for the population who does not have the enough resources to get a better treatment. Even with the limited space, limited workforce and limited resources how a system can be worked smoothly by only co-ordination and smooth transitioning of the services.

VISIT TO HEALTH AND WELLNESS CENTRE : BHAUSAULA, DANAPUR

Date of visit- 18.06.2024

Location- Health and wellness centre, Bhausaula, Danapur near AIIMS.

Population covered- 10,206(Covering 6 villages)

Staff-

- Community Health Officer(CHO) (1)
- Auxillary Nurse midwives(ANM) (2)
- ASHA workers (8)

Principal Results:

Offerings of Services:

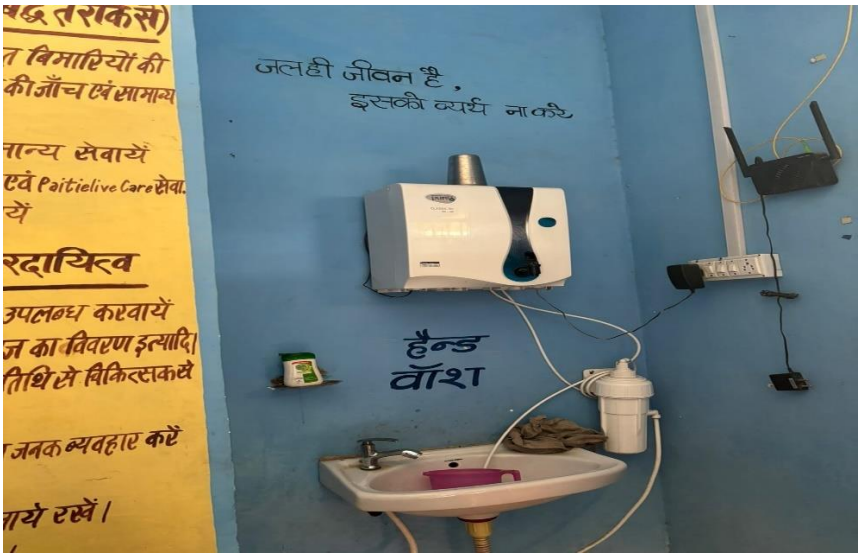
i)Services offered by the Outpatient Department (OPD)

o Vital medications

o Childhood immunisations and vaccinations (0-5 years)

ii)The corner of non-communicable diseases (NCDs)

iii) Standard laboratory testing (weighing machine, nebulizer)



• Function of an ASHA Worker:

- The Janani Bal Suraksha Yojana (JBSY) initiative for children and pregnant mothers (0–5 months)
- Visits to expectant mothers at home
- Essential supplies (calcium tablets, IFA tablets) Follow-up care
- Encouraging institutional delivery

- Counselling for family planning
- Distribution of free condoms

250 consultations were made using the e-Sanjeevani programme for telemedicine last month.

Manages vaccination drives and keeps track of due dates o Offers home visits and follow-up care for the JBSY programme o Informs mothers about child care and nutrition.

All things considered, the tour of the Bhusaula Danapur Health and Wellness Centre emphasises the vital role that these facilities play in offering basic medical treatment to India's rural populations. A dedication to preventative and promotive healthcare is shown by the emphasis on immunisation, NCDs, and mother and child health. The use of telemedicine services improves access to care even more.

SESSIONS LEARNINGS DURING INTERNSHIP PERIOD:

TIME FRAME	ACTIVITY
WEEK 1 (22 APRIL 2024- 26 APRIL 2024)	• Get basic introduction about the research topic • Basic idea about SAS software and function of it regarding the analysis • Have meeting with mentors regarding my research topic • Went to household survey observation with our field supervisor Prashant sir • Attended Research methodology class regarding prevalence, incidence rate, Risk ratio. • On Friday, attended data cleaning and management class regarding pivot table insert of a large dataset.
Week 2 (29 APRIL 2024- 03 MAY 2024)	• Creation of SAS profile in online and got a basic idea of how to use it. • Engaged in a meeting regarding using literature review search engine and MESH terms. • Attended session on household survey slide deck preparation. • Attended Research methodology class on continuation of the lecture on Risk ratio, Incidence proportion, exposed and unexposed group and calculation of population at risk. • On data cleaning and management class we have learnt about functions of conditional formatting in excel.
Week 3 (06 MAY 2024- 10 MAY 2024)	• We have learnt about identifier observation, nodup key function and processing of tables of different variables in SAS program. • Started literature review on research papers according to the topic. • Have access about maternal and child health topic related documents, MCH toolkit.
Week 4 (13 MAY 2024- 17 MAY 2024)	• Attended session on SAS and learnt about finding of mean, median, mode, standard deviation from a dataset. • Also learnt about how to change wrong values in a dataset regarding SAS by using mean and median. • Completion of 10 papers for literature review. • Went to first facility visit to Danapur Sub Divisional Hospital with Prashant sir. • On facility visit, we learnt about family planning methods, institutional delivery facilities, newborn care facilities, skin to skin care and Kangaroo mother care. • On Friday session, we learnt about how to prepare different charts i.e. bar chart, column

	chart, pie chart, combo chart in an excel by using excel data of different districts.
Week 5 (20 MAY 2024- 24 MAY 2024)	• On SAS we have learnt about creating a new variable with combination of two or more variables and started age recoding, caste recoding and religion recoding. • Prepare a first draft on background and rationale of the research topic and mail to the mentor for required correction. • On research methodology class, qualitative study and quantitative study were discussed. • Engaged in a meeting regarding creating variables of different age group related questionaries in SAS program with the help of codebook and questionnaire tool. • On data cleaning and data management we have learnt about data validation using excel dataset.
Week 6 (27 MAY 2024- 31 MAY 2024)	• Practice of SAS coding by creating new variable and practice of recoding of different variables like age, caste, religion. • Worked on the background and rationale of the research topic according to the mentioned correction needed. • Attended class on SAS regarding coding of the new variables created from questionnaire of different age groups • On data cleaning and data management, subtotal function was discussed and sum, average, count, maximum, minimum functions were discussed in excel dataset.
Week 7 (03 JUNE 2024- 07 JUNE 2024)	• Engaged in the SAS session about preparing the indicator definition and searching about the own individual research topic related questionnaire from different age groups in an excel file. • Attended a meeting on research topic related findings with the topic mentor and was advised to do SAS coding for finding topic related indicator and questionnaires. • On research methodology remaining parts of the incidence rate and confounding factors were discussed. • On Friday session of data management and data cleaning Vlookup and Hlookup functions were discussed in an excel dataset.
Week 8 (10 June 2024-14 June, 2024)	• On SAS session we have identified around 16 indicators related to RMNCHN topic and we have measured the frequency, percentage, lower confidence limit and upper confidence limit with the help of SAS code. • On research methodology class we have learnt about induction period, latency period of a disease.

	• In data cleaning and management we have understood about if, sum if, count if functions in excel. • Project report draft based on RMNCH practices in rural Bihar was submitted to my topic mentor.

CONCLUSIVE LEARNINGS:

During the internship period of two months we have learnt about different programs and various key roles which includes:

- Powerpoint template development for household survey.
- Engaged in study data quality control.
- Involved in understanding about questionnaire on tool development.
- Went to field visits for understanding about ground knowledge on the health of mothers and children and how the government programs are implemented.
- Basic understanding about excel functions.
- Basic knowledge on SAS program by using data compilation and creating variables according to the respected age group.
- Engaging with people from different areas of experience and learning from their expertise.

LIMITATIONS:

In our internship period of two months, it is difficult to complete a research project within this time frame. Though we have access to the necessary data collection according to our research topic but proper analysis is difficult to process in such a short time frame. In observational learnings, we visited institutional delivery place and rural village for household survey. In accordance to that we have worked under the questionaries tool for particular age group but do not know about the development the questionnaire tool. As reference to my research project on child health- history of diarrhea and ARI, its care seeking and management among infants aged 0-11 months of age some limitations are observed during the study. As we are collecting data basically from mothers or primary caregivers so there is a possibility of recall bias. As there is no confirmation from any medical professionals about having the symptoms of diarrhea and ARI and the findings are listed basically on the assumptions of the mother so there might be some error in the findings.

DESK REVIEW ON CHILD HEALTH- HISTORY OF DIARRHOEA & ARI, ITS CARE SEEKING AND MANAGEMENT AMONG INFANTS AGED 0-11 MONTHS OF AGE

BACKGROUND:

Health is defined by the World Health Organization (WHO) as a position of entire physical, mental and social well-being and is therefore not simply the absence of disease or disability [1]. Even with emphasis on child health on the global agenda, the determinants of health of preschool aged children in LMICs are still heterogeneous [2]. Globally for diarrhea and ARI about 40% & 60% children get appropriate care. However, diarrhoea and ARI are among the most leading causes of under five children mortality [3]. The WHO estimated in its report in 2019 that about 149 million episodes of diarrhea under five years of age occurred leading to an estimated 1.4 million deaths worldwide, and the same source estimated that approximately 42 million episodes of ARI occurred in under five years resulting in almost 630 000 deaths. Under five disease burden subjects, mortality rate of diarrhea and pneumonia is comparatively higher [4]. The recent UNICEF statistics presented a persona that more children under the age of 5 die due to malnutrition (45%), pneumonia (15%), diarrhea (8%), malaria (5%) and other diseases (9%).) [5]. In India, children aged 0-6 years was estimated around 158209 deaths due to diarrhea accounting for almost 9.1% of the mortality in this age group [6]**.** On concern in the national level, approximately 400000 children aged under 5 die each year due to ARI related diseases which accounts for 13-16 % of all child deaths among pediatric hospital admissions [7]. In accordance to a study under National Family Health Survey 4 & 5 (2015-2016 & 2019-20) around 7.3 % children have diarrhea in India. While Bihar has the highest prevalence(13.7%) and Lakshadweep has the lowest prevalence(2.3%) [8]. NFHS-4 estimates a 2.7% prevalence of ARI in under 5 children. In a study under Bihar chapter 6 Mortality, morbidity and immunization it is estimated that around 45.4% and 63.3% children under age of 1-5 months and 6-11 months taken to a health facility or provider due to ARI [9]. Another study was found which indicates that central region has higher percentage (3.8%) than in northeast region (1.6%) and south region (1.7%) of India in the incidence of childhood ARI. Among states, Jammu and Kashmir(6.4%) , Uttarakhand (4.9%) , Uttar Pradesh (4.7%), West Bengal (3.3%) and Meghalaya (5.8%) has higher percentage of children suffering from ARI [10]. In order to control the mortality and

morbidity for both the diarrhea and Acute Respiratory Infections (ARI) for under 5 children, certain guidelines are to be followed as per the Government of India.

- India introduced a low osmolarity Oral Rehydration Salt (ORS), as recommended by WHO for the management of diarrhea.
- Zinc has been approved as an adjunct to ORS for the management of diarrhea. The cases would reduce and the severity of episodes and the duration would also reduce in addition of Zinc.
- Based on the latest available scientific evidence new guidelines on management of diarrhea have been modified [11].

ARI is also responsible which forms around 19% of all under five mortalities in India alongside with diarrhea. With having 4400000 cases of pneumonia in every year appropriate case management and effective interventions are required to prevent deaths due to pneumonia. SAANS (Social Awareness and Actions to neutralize Pneumonia Successfully) initiative was launched in 2019 to prevent childhood deaths due to pneumonia. There are 3 approaches or interventions implemented in reduction of pneumonia mortality. It is known as the PPT approach (PROTECT, PREVENT AND TREAT).

❖ PROTECT: They are protected by putting up good health practices right from the time they are born.

• Breast feeding: exclusive up to the age of 6 months.

• Enough samples for complimentary feeding by establishing good health practices from birth. Some of the practices are-

✓ Exclusive breastfeeding for 6 months.
✓ Adequate complimentary feeding.
✓ Vitamin A supplementation.

❖ PREVENT: Children Who are becoming ill due to both Pneumonia and Diarrhea.

✓ Vaccination of pertussis, measles, Hib, PCV and Rotavirus
✓ Handwashing with soap.
✓ Safe drinking water and sanitation.
✓ Reduce household air pollution.

❖ TREAT: Children infected with pneumonia should be given the right treatment.

✓ Health seeking should be enhanced while a referral system should be adopted each time there is an emergency condition.
✓ There should have appropriate infrastructure at the health facility and community level in case management.

- ✓ The delivery of oxygen should be related to the situation.
- ✓ Recovery with including continued feeding should be put in practice.

This is the general framework of childhood pneumonia adapted from GAPPD (Global Action Plan for the Prevention and Control of Pneumonia and Diarrhea). For infants <2 months of age, Antibiotic therapy should be given with different doses of injection Ampicillin, Gentamycin and amikacin.
For children between 2-59 months, different strategies are used in accordance with the severity of the patient.

- In severe pneumonia, intravenous Ampicillin, gentamycin are administered and give oxygen if saturation<92%.
- For normal pneumonia, home treatment is enough with administration of amoxicillin for 5 days and soothe the throat and relieve cough with safe remedy [12].

RATIONALE OF THE STUDY:

As infancy which is 0-11 months of age is the most important and crucial period of development of any child, they are also vulnerable to infectious diseases like diarrhea, pneumonia and others during this time. Particularly in lower and middle income countries like India both diarrhea and ARI are the leading causes of morbidity and mortality in under 5 age children. But most vulnerable age group is 0-11 months as they have highest percentage of mortality among the other age groups. So one should understand the incidence and management of these conditions to reduce child mortality rates and improve health outcomes. While discussing about the disease burden and impact, both diarrhea and ARI including pneumonia are the common causes of illness and death in infants. During diarrhea some episodes can affect in chronic malnutrition with physical and cognitive development leads to stunted growth while in ARI, infants have severe respiratory distress which may lead to fatal outcomes. Some barriers in prevention of the healthcare access are due to economic conditions of many poor families, lack of awareness and education about the treatment regarding diarrhea and ARI and some rumors and cultural constraints while practicing treatment for diarrhea and ARI. Some management strategies can be made by using ORS and zinc supplements to manage diarrhea episodes and emphasizing guidelines by using antibiotic and oxygen therapy to prevent ARI among infants. So, while we conducting our study in Bihar, we need to understand the gaps and challenges in preventing diarrhea and ARI episodes and promote new initiatives to reduce mortality rates in Bihar. Bihar has the higher mortality rates under 5 children than the national average. Many socioeconomic factors like high levels of poverty, low literacy rates and limited access to healthcare are the barriers for disease prevention and management. The healthcare infrastructure is underdeveloped in many districts of Bihar and lack of professional healthcare providers is also another important factor. Central Government with the help of state government started many initiatives in combating pneumonia and diarrhea by NHM and SAANS campaign. Our study can identify the

challenges and promote health seeking behaviour. It can also provide an insightful thought for the policymakers for future perspectives in management of both diarrhea and ARI in infants.

KEY FINDINGS FROM LITERATURE REVIEW:

we have studied around 15 different literatures on the topic "child health- history of diarrhoea & ari, its care seeking and management among infants aged 0-11 months of age" and observed the following findings.

- The study undercovers the effectiveness of using the on-premise water and sanitation intervention in rural India. This study helps in achieving the target outputs of many WASH initiatives.
- Another study observes in hotspot districts for ARI in India and how population density, tobacco smoking and unclean fuel use along with literacy levels, diarrhea in children and maternal body mass index were important factors associated with ARI.
- There was another study which shows diarrhea distribution among children in different caste, religion, gender of the children, education of the mother and weight of the baby.
- A study reveals about knowledge practice gap of the practitioners for the treatment of diarrhea and pneumonia in Bihar.
- Studies also show that higher incidence of diarrheal diseases in young children are associated with factors like young age, low socioeconomic status, poor maternal literacy, presence of under 5 sibling in the family, birth weight, inadequate breastfeeding, malnutrition, poor sanitation and hygiene practices of the mother. In summer months diarrheal disease incidence rate is increasing followed by rainy or winter months. Risk factors of diarrhoea are poor sanitation and unhygienic conditions. For management strategies the studies shows that ORS, zinc and continuous breastfeeding, Oral rehydration therapy are important case management of diarrhoea.
- Another study report estimated around 446 live births and 37 deaths were registered under one year of age. 49.4 and 83.0 are the neonatal and infant mortality rates per thousand live births respectively. Asphyxia, Diarrhoea, Pneumonia and prematurity are the main reasons for infant deaths. In the neonatal and post neonatal age groups more number of female deaths were registered. The age group of mothers between 15-20 years and 35 years and above has registered highest IMR. IMR was also high in first order birth and in the birth order fourth and above.
- In District hospitals under the survey no separate diarrhoea treatment unit was allotted. Adequate management score was 2 and 2.2 for diarrhoea and pneumonia which were poor. Pediatric beds were also below the average number(6.8%) required which is 8-10 %. There is also short of manpower including nurses and doctors which is around 48% (nurses) and 65%(medical officers). Other issues were the availability and utilization of drugs and equipment at appropriate places. All the facilities do not have triage for sick children.
- A research conducted presented a percentage prevalence of 8 percent and 8.5 percent for both diarrhea and ARI.. It is also identified that some predictors are age, birth weight, improved water, improved toilet and region influencing diarrhea prevalence among the

slum children. Essentially, safe drinking water decreases the odds of diarrhea by approximately 19% than unsafe water. Go to normal birth weight, children are 51 percent less likely to experience diarrhea relative to children whose birth weight is unknown. Only 37 % of children above 5 years of age suffer from diarrhea compared to the under 5 children. Infants from the southern cities are fifty percent less likely to be suffering from diarrhea than children from the northern city slums. ARI is determined by age, birth weight, religion, cast, education, type of family, availability of safe water and better toilet facilities, exposure to mass-media, region and use of a separate kitchen. ARI is rarer among older children and those babies who were within normal birth weight. The relationship between extent of parents education and ARI is very closely related. Mass media exposure reduces the odds of ARI by half that of having no exposure. Special attention should be paid to the factors that might affect ARI rate, including non-flush toilets and no separate kitchen. Poisson regression results indicate that children living in slum areas of Southern region are at lower risk of ARI.

SECONDARY DATA ANALYSIS ON RNMCHN IN CONTEXT OF BIHAR

INTRODUCTION:

The reproductive, maternal, newborn, child health and nutrition programs are the central components of flagship initiative under National Rural Health Mission(NRHM). Government of India have taken significant measures to enhance maternal health and child survival by the development of a comprehensive approach. This strategy links various initiatives and actions targeting each stage of life, from conception through to healthy survival into the future. The efforts are particularly focused on creating programs for previously underserved groups, such as

adolescents, tribal communities and economically disadvantaged individuals in urban areas. The reproductive, maternal, newborn, child health and nutrition programs are the central components of flagship initiative under National Rural Health Mission(NRHM). Government of India have taken significant measures to enhance maternal health and child survival by the development of a comprehensive approach. This strategy links various initiatives and actions targeting each stage of life, from conception through to healthy survival into the future. The efforts are particularly focused on creating programs for previously underserved groups, such as adolescents, tribal communities and economically disadvantaged individuals in urban areas [13]. In February 2013, the ministry of health & family welfare launched the reproductive, maternal, newborn, child, adolescent health and nutrition(RMNCAH+N) initiative with following by Government of India's "call to action(CAT) summit". This program aims to implement key interventions to reduce maternal and child morbidity and mortality.

The RMNCAH+N strategy is grounded in the continuum of care concept, offering a holistic design that encompasses all interventions related to reproductive, maternal, newborn, child, adolescent health, and nutrition under one comprehensive framework. It emphasizes a strategic lifecycle approach.

The strategy promotes integration across various interventions to enhance coverage throughout the lifecycle, thereby improving child survival rates in India. The "plus" in RMNCAH+N highlights:

- Establishing adolescent as a sub-strand of the broader life stage within the big picture approach.
- Integrating maternal and child health with reproductive health and other parts including, family planning, adolescent, HIV/AIDS, gender and preconception and prenatal diagnostics.
- Of relative care, where clients connected home and community-based services with facility-based services.
- Coordinating and cascading of various levels of the health system to provide and create the full cycle of care and care interactions to create an optimum cumulative effect.

Key features of the RMNCAH+N strategy include:

- Health Systems Strengthening (HSS): Focusing on infrastructure, human resources, supply chain management, and referral transport measures.
- Prioritization of High-Impact Interventions: Targeting different lifecycle stages.
- Increasing Investment Effectiveness: Prioritizing geographical areas based on evidence.
- Integrated Monitoring and Accountability: Promoting good governance, utilizing available data sets, involving the community, and addressing grievances.
- Broad-Based Collaboration: Partnering with various ministries, departments, development partners, civil society, and other stakeholders.

The RMNCAH+N strategy offers a robust platform for delivering services across the entire continuum of care, from community settings to various levels of the healthcare system [14].

Our study aims to understand about the effectiveness of RMNCHN programs and initiatives in Bihar state, India. Being one of India's poorest and most densely populated states, the health

system in Bihar has faced systematic deficiencies for decades. In 2010, Ananya program was launched with the help from Bill gates and Melinda foundation and this program was implemented by CARE India along with Government of Bihar to improve RMNCHN services in 38 districts of Bihar. At that time, the delivery of health services in public health facilities were very poor due to fragile and inadequate healthcare infrastructure. There was also lack of skilled healthcare providers and shortage of essential supplies and equipment. It was observed that across the state that reproductive, maternal, newborn, child health and nutrition services are extremely poor especially in rural areas where 90% of the population resides. Alarmingly high maternal and newborn deaths (305 per 100000 mothers and 35 per 1000 babies) were reported in 2010-2011, because of very poor emergency obstetric and newborn care (EmONC) services. So, this initiative focused on making EmONC services in hospitals more effective, aiming to bring down mortality rates. It worked alongside other efforts to expand healthcare access, improve outreach better health practices within families. Initially, launched in 8 districts the program successfully covered the entire state by 2014 with additional support [15].

In 2024, despite advancements over the years, rural Bihar still faces substantial hurdles in several areas.

Context and challenges

One of the most populous and socioeconomically deprived states in India, Bihar suffers from high rates of malnutrition, maternal and child mortality, and restricted access to high-quality healthcare, especially in its rural areas. Poverty, insufficient healthcare facilities, and sociocultural variables all make these problems worse.

Maternal Health

Maternal health is a major concern in rural Bihar. Maternal death rates are frequently ascribed to elements including insufficient prenatal care, a dearth of emergency obstetric services, and restricted access to trained delivery attendants. Even with initiatives to boost institutional birth rates, a sizable portion of births still take place at home without sufficient medical assistance.

Infant and Child Health

Indicators of newborn and child health in rural Bihar show significant opportunities for improvement. Because of things like poor mother health, inadequate postnatal care, and inadequate infant care practices, the rates of neonatal mortality remain high. Furthermore, pneumonia and diarrhoea are two common paediatric ailments that have a substantial impact on child death rates.

Nutrition

In rural Bihar, malnutrition is a widespread problem that affects children, adolescents, pregnant women, and infants. Children experience high rates of anaemia, wasting, and stunting, while mothers and adolescents also experience deficits in several micronutrients. Take-Home Rations (THR) and Iron-Folic Acid (IFA) supplements are two important programmes, but they need to be expanded and improved.

Governmental and Non-Governmental Initiatives

The Bihar government has taken a number of steps to address these issues, working with different international organisations and non-governmental organisations (NGOs). Improved maternal and child health outcomes are the goal of initiatives like the National Health Mission

(NHM), Integrated Child Development Services (ICDS), and Janani Suraksha Yojana (JSY), which provide financial incentives for institutional deliveries, enhanced access to healthcare services, and nutrition programmes.

As of 2024, the rural Bihar RMNCHN environment is a testament to the substantial obstacles that persist in addition to the progress that has been made. Sustained endeavours are necessary to augment the healthcare infrastructure, elevate community consciousness, and guarantee the efficacious execution of health and nutrition initiatives. Bihar can significantly improve the health and well-being of its rural population by tackling these important issues.

OBJECTIVE OF THE STUDY

- To get an insight about some key RMNCHN practices among recently delivered women and children aged 0-23 months in rural Bihar during 2024.

METHODOLOGY:

Secondary data analysis was done from NFHS study conducted in Bihar.

STUDY AREA- 13 districts of Bihar selected randomly from 9 Commissionerate.

TARGET POPULATION- mothers of 0-5, 6-11, 12-23 months old children.

SAMPLE SIZE- 2,250 interviews per category (0-5 months, 6-11 months, and 12-23 months).

SOCIO DEMOGRAPHIC VARIABLES:

- **Gender-** Gender of the children was categorized into two labels i.e boys and girls. Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **Religion-** Religion of the recently delivered mothers was calculated according to the category of Hindu and Others. Similarly Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **Age of the mother-** Total age group of the mother was distributed into three different age groups i.e less than 24 years, 25-34 years of age and 35 years of age and above. Then their Frequency, percentage, lower confidence interval and upper confidence interval were calculated in total number of observations.

- **Caste-** The variable caste was divided into two different labels categorized as marginalized and non- marginalized and distribution of Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **Family type-** Under socio-demographic variables type of family is another significant part. It was distributed into joint family and nuclear family type and similarly Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **Education of the mother-** The categories of distribution of mother's education was divided into three labels and those are illiterate, upto 8^{th} class and more than 8^{th} class. Frequency, percentage, lower confidence interval and upper confidence interval were calculated in total number of observations.

- **Education of the father-** The same categories were also followed in father's education as illiterate, upto 8^{th} class and more than 8^{th} class. Similarly Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **Occupation of the mother-** Mother's occupation was categorized into five sections such as unemployed, agricultural, non- agricultural, business and salaried employee. Under total observations Frequency, percentage, lower confidence interval and upper confidence interval of the labels were calculated.

- **Occupation of the father-** Similarly father's occupation was divided into unemployed, agricultural, non- agricultural, business and salaried employee sections. Distribution of Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **Migration of the husband-** Women under the studied age group answered about whether their husbands are migrant or non-migrant. In accordance with the answer Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **SHG membership-** Women of the studied age group or any women of their family have membership in any social health group or not. Again, with the different labels Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **Living children-** It determines whether the women having one living child, two living children, three living children or more than three living children. With similar observations Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **Place of the delivery-** It shows the distribution of delivery place of the children whether it was in public facility, private facility or home delivery. Again, Frequency, percentage, lower confidence interval and upper confidence interval were determined.

- **Type of the house-** House type was divided into three different category whether it was kachcha, pucca or semi-pucca. Under total observations Frequency, percentage, lower confidence interval and upper confidence interval of the labels were calculated.

RMNCHN INDICATORS:

Different RMNCHN indicators were observed which are the important factors in determining the frequency and percentage under total observations.

- **MCP(mother and child protection) card-** It is defined as the percentage of pregnant women who received the MCP cards or not. The frequency and percentage were calculated under different label.

- **ANC(Ante natal care)-** This is described as the percentage of pregnant women received any ante natal check up during her last pregnancy or not. Along with frequency and percentage were determined to observe the distribution.

- **Received ANC for 3 or more times-** Here total percentage of pregnant women were calculated whether they received ante natal check up for 3 or more times. Also frequency, lower confidence interval and upper confidence interval were measured.

- **Received ANC for 4 or more times-** It is defined as the percentage of pregnant women who received antenatal check ups for 4 or more times. Similarly, Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **Received IFA tablet-** This is counted as the percentage of pregnant women who received IFA tablets during her last pregnancy. In accordance to that Frequency, percentage, lower confidence interval and upper confidence interval were observed in different labels.

- **Received 90 or more number of IFA tablets-** It is described as percentage of pregnant women received 90 or more IFA tablets under 0-5 month age group of babies. Again Frequency, percentage, lower confidence interval and upper confidence interval were determined under total observations.

- **Consumed 90 or more IFA tablets-** It is defined as the percentage of pregnant women who consumed 90 or more IFA tablets or not. Frequency, percentage, lower confidence interval and upper confidence interval distribution were calculated in different labels.

- **Received THR(Take Home Ration)-** It is counted as total percentage of pregnant women received THR during her last pregnancy. Similarly, Frequency, percentage, lower confidence interval and upper confidence interval were measured.

- **Institutional delivery-** It is described as percentage of birth in any institution like government and private under 0-5 age group mothers. Again Frequency, percentage, lower confidence interval and upper confidence interval were determined under total observations.

- **Skin to Skin care(STSC)-** It is defined as percentage of children aged 0-5 month who received skin to skin care after birth. In accordance to that Frequency, percentage, lower confidence interval and upper confidence interval were observed in different labels.

- **Weight of the baby-** It is determined as percentage of child aged 0-5 month who weighted at birth. Frequency, percentage, lower confidence interval and upper confidence interval were calculated on different labels.

- **Timely initiation of breast feeding-** It is defined as percentage of child aged 0-5 month received timely initiation of breastfeeding within 1 hour of birth. Similarly, Frequency, percentage, lower confidence interval and upper confidence interval were measured.

- **Exclusive breastfeeding-** Here it is counted as the percentage of child aged 0-5 month received exclusive breastfeeding in the last 24 hours. The distribution of Frequency, percentage, lower confidence interval and upper confidence interval were calculated under different labels.

- **Breastfeeding under 6-11 month age group-** It is defined as the percentage of child aged 6-11 month received breastfeeding or not. Frequency, percentage, lower confidence interval and upper confidence interval were determined.

- **Complimentary feeding-** It is described as percentage of children aged 6-11 months of age who initiated complimentary feeding. That means child who used to take their first meal other than breastfeeding. Under total observations Frequency, percentage, lower confidence interval and upper confidence interval distribution were calculated.

- **Contraceptive method-** It is counted as percentage of recently delivered women having 12-23 month age group of children currently using any contraceptive method or not. Similarly, Frequency, percentage, lower confidence interval and upper confidence interval were measured under different labels.

- **Use of modern contraceptive method-** It is defined as the percentage of recently delivered women with 12-23 month age group of children using modern contraceptive method or not. Again Frequency, percentage, lower confidence interval and upper confidence interval were calculated.

- **Use of traditional method-** It is described as percentage of recently delivered women having 12-23 age group of children currently using any traditional contraceptive method or not. Similarly Frequency, percentage, lower confidence interval and upper confidence interval were measured in different labels.

All the results were calculated with SAS software and the analysis findings were listed in the result section.

RESULTS:

The observation findings are based on the data collected from the recently delivered mothers of three different age groups (0-5 months of age, 6-11 months of age and 12-23 months of age). We divided the findings into two categories based on the indicators i.e. sociodemographic indicators and RMNCHN indicators.

Sociodemographic variables:

Description	Frequency(n)	Percentage (%)	Lower confidence limit (LCL)	Upper confidence limit (UCL)
Age of mother				
<=24	1426	63.38	61.39	65.37
25-34	770	34.22	32.26	36.18
>=35	54	2.40	1.77	3.03
Gender of child				
Boys	1194	53.07	51.00	55.13
Girls	1056	46.93	44.87	49.00
Religion				
Hindu	1930	85.78	84.33	87.22
Caste				
Marginalized	685	30.44	28.54	32.35
Family type				
Nuclear	883	39.24	37.23	41.26
Mother's education				
Illiterate	782	34.76	32.79	36.72
Upto 8th	510	22.67	20.94	24.40
More than 8th	958	42.58	40.53	44.62

Father's education				
Illiterate	687	33.16	31.13	35.19
Upto 8th	487	23.50	21.68	25.33
More than 8th	898	43.34	41.20	45.48
Mother's occupation				
Unemployed	2140	95.11	94.22	96.00
Agricultural	23	1.02	0.61	1.44
Non-agricultural	38	1.69	1.16	2.22
Business	22	0.98	0.57	1.38
Salaried	27	1.20	0.75	1.65
Father's occupation				
Unemployed	79	3.54	2.77	4.31
Agricultural	189	8.48	7.32	9.63
Non-agricultural	1063	47.67	45.59	49.74
Business	308	13.81	12.38	15.24
Salaried	591	26.50	24.67	28.34
Husband's migration				
Non-migrant	1966	87.38	86.00	88.75
	284	12.62	11.25	14.00

Migrant				
SHG membership				
Yes	1120	49.78	47.71	51.85
No	1130	50.22	48.15	52.29
Living child				
1 child	758	33.69	31.73	35.64
2 children	674	29.96	28.06	31.85
3 children	461	20.49	18.82	22.16
More than 3 children	357	15.87	14.36	17.38
Place of delivery				
Public	1457	64.76	62.78	66.73
Private	484	21.57	19.81	23.21
Home	309	13.73	12.31	15.16
Type of House				
Kachcha	398	17.69	16.11	19.27
Semi-Pucca	1270	56.44	54.39	58.49
Pucca	582	25.87	24.06	27.68

The socio-demographic characteristics of the study participants are outlined in Table 1.

Gender Distribution

Boys constituted 53.07% (n=1194) of the total participants, while girls made up 46.93% (n=1056).

Mother's Age

A majority of the mothers, 63.38% (n=1426), were aged 24 years or younger. Those aged between 25 to 34 years comprised 34.22% (n=770), and 2.4% (n=54) were aged 35 years or older.

Religion

The majority of participants identified as Hindu, representing 85.78% (n=1930) of the sample. The remaining 14.22% (n=320) were from non-Hindu religious backgrounds.

Caste

Regarding caste distribution, 30.44% (n=685) were from marginalized castes, while 69.56% (n=1565) belonged to non-marginalized castes.

Family Type

Most participants came from joint families (60.76%, n=1367), whereas 39.24% (n=883) lived in nuclear families.

Mother's Education

In terms of mothers' educational attainment, 34.76% (n=782) were illiterate, 22.67% (n=510) had education up to the 8th grade, and 42.58% (n=958) had education beyond the 8th grade.

Mother's Occupation

A large majority of the mothers, 95.11% (n=2140), were unemployed. Among those employed, 1.02% (n=23) were agricultural laborers, 1.69% (n=38) were non-agricultural laborers, 0.98% (n=22) were involved in business, and 1.2% (n=27) held salaried positions.

Father's Education

For fathers' education levels, 33.16% (n=687) were illiterate, 23.5% (n=487) had education up to the 8th grade, and 43.34% (n=898) had education beyond the 8th grade.

Father's Occupation

Among fathers, 3.51% (n=79) were unemployed. A significant portion, 47.24% (n=1063), were non-agricultural laborers, 8.4% (n=189) were agricultural laborers, 13.69% (n=308) were involved in business, and 27.16% (n=611) held salaried positions.

Place of Delivery

Regarding place of delivery, 64.76% (n=1457) of births occurred in public health facilities, 21.51% (n=484) in private health facilities, and 13.73% (n=309) took place at home or in transit.

House Type

Concerning housing type, 17.69% (n=398) lived in kachcha (temporary) houses, 56.44% (n=1270) in semi-pucca (semi-permanent) houses, and 25.87% (n=582) in pucca (permanent) houses.

Self-Help Group Membership

The distribution of Self-Help Group membership was almost even, with 49.78% (n=1120) being members and 50.22% (n=1130) not being members.

Number of Living Children

Examining the number of living children per family, 33.69% (n=758) had one child, 29.96% (n=674) had two children, 20.49% (n=461) had three children, and 15.87% (n=357) had more than three children.

RMNCHN indicators:

Different indicators were identified on reproductive, maternal, newborn, child health and nutrition based questionnaires. Key findings are calculated in the following table

Description	FREQUENCY(n)	PERCENTAGE (%)	LCL	UCL
pregnant women received MCP cards	1851	82.2667	80.6873	83.8461
pregnant women received any antenatal checkup during your last pregnancy	2221	98.7111	99.2447	99.1775
pregnant women received 3 or more antenatal checkup during your last pregnancy	1519	68.3926	66.4575	70.3277
pregnant women received 4 or more antenatal checkup during your last pregnancy	964	43.4039	41.341	45.4667
pregnant women received IFA tablet during your last pregnancy	2035	90.4444	89.2288	91.6601
pregnant women received 90 or more IFA tablet during your last pregnancy	591	26.6096	24.7704	28.4489
pregnant women consumed 90 or more IFA tablet during your last pregnancy	339	83.1762	81.5415	84.8109
pregnant women received THR during your last pregnancy	908	40.3556	38.3268	42.3843
institutional delivery	1941	86.2667	84.8434	87.69
child aged 0-5 month received immediate Skin to skin care after birth	1295	65.4371	63.34	67.5342
child aged 0-5 month weighted at birth	1801	82.9572	81.3742	84.5401
child aged 0-5 month received Timely Initiation of Breast Feeding (TIBF) within 1 hrs.	1491	66.2667	64.3116	68.2217
child aged 0-5 month received exclusive breastfeeding (last 24 hours)	1136	50.4889	48.4214	52.5563
child aged 6-11 month Currently receiving breast feeding	2104	93.5111	92.4925	94.5297

children aged 6–11 months who Initiated complementary feeding	1472	65.4222	63.4555	67.389
recently delivered women currently using any contraceptive method	452	22.8629	21.0102	24.7157
recently delivered women currently using modern contraceptive method	438	22.1548	20.3226	23.987
recently delivered women currently using traditional contraceptive method	15	0.7587	0.3759	1.1416

Key observations:

The study found that the majority of pregnant women were highly engaged in antenatal and postnatal health practices.

During their most recent pregnancy:

- 98.71% of women attended at least one antenatal checkup.
- 68.39% had three or more checkups.
- 43.40% had four or more checkups.
- A significant number of women, 90.44%, received iron-folic acid (IFA) tablets:
- Only 26.61% received 90 or more tablets.
- Among those who received 90 or more tablets, 83.18% took all of them.
- Approximately 40.36% of pregnant women benefited from nutritional support through the Take-Home Ration (THR) program.
- Most births, 86.27%, occurred in medical institutions.

Post-birth period:

- 65.44% of babies aged 0-5 months received immediate skin-to-skin care.
- 82.96% newborn were weighed at birth.
- About 66.27% of mothers initiated breastfeeding within the first hour.
- Half of the mothers (50.49%) exclusively breastfed their infants aged 0-5 months in the past 24 hours.

Among infants aged 6-11 months:

- 93.51% were still being breastfed.
- 65.42% of mothers had begun complementary feeding.

Among women who recently gave birth:

- 22.86% reported using some form of birth control.
- 22.15% used modern methods.
- 0.76% relied on traditional methods.

These figures indicate that while many women are utilizing modern contraceptives, there is still room for improvement in maternal and child healthcare within this population.

DISCUSSION:

The study's data highlights important aspects of maternity and child healthcare practices and offers a thorough overview of the participants' health-related and demographic variables. The results allow for the derivation of several significant conclusions that are essential for shaping future healthcare policies and initiatives.

Distribution of Gender

There is a minor gender difference in the participants' gender distribution, with boys slightly outnumbering girls (46.93%). In order to resolve any gender-based discrepancies and understand the underlying causes, this gap deserves additional examination. It may represent underlying cultural biases or preferences.

Mother's Age

The majority of mothers (63.38%) were 24 years of age or younger, indicating a trend in the population towards earlier parenthood. This pattern highlights the need of providing younger moms with specialised health education and services, as they might need more assistance when expecting or giving delivery. The very low percentage of moms (2.4%) who are 35 years of age or older suggests that late parenthood is less typical in this region.

Caste and Religion

The vast majority of participants (85.78%) identified as Hindu, whereas a lesser percentage (14.22%) came from non-Hindu backgrounds. Furthermore, the distribution of castes reveals that 30.44% of the population belonged to marginalised castes, underscoring the need for culturally competent healthcare treatments that cater to the unique needs and difficulties encountered by these communities.

Type of Family

The majority of participants (60.76%) were from joint households, which may have an impact on support resources and childcare methods. The existence of extended family members can offer more help and resources, which is a benefit that health programmes can take advantage of.

Parental education and occupation
The educational attainment of parents differed, with a notable segment of mothers (34.76%) and fathers (33.16%) lacking literacy. This emphasises how crucial it is to implement educational initiatives to raise literacy rates because they are directly associated with improved health outcomes. Parents' job statuses differed as well; fathers worked primarily as non-agricultural labourers (47.24%), while mothers were unemployed in significant numbers (95.11%). These work trends point to potential financial barriers that could limit access to healthcare treatments.

Place of the Delivery
64.76% of births took place in public health facilities, which is a sign that institutional delivery methods are working well. The 13.73% of births that take place at home or while travelling, however, emphasises the necessity of better access to medical facilities—especially in rural regions.

Housing and Self-Help Group Membership
The housing situation differed, with 17.69% of the population residing in kachcha homes, suggesting that some people do not have ideal living conditions. The almost equal distribution of membership in self-help organisations (49.78%) indicates that these organisations play a significant role in distributing health information and support and are an essential component of the community.

Prenatal and Postpartum Healthcare
Good participation with maternal healthcare services is indicated by the high percentage of prenatal visit attendance (98.71%). The decrease in the proportion of women attending four or more checkups (43.40%), however, indicates that ongoing participation must be reinforced. While it is reassuring that a large majority of women (90.44%) received iron-folic acid tablets, the fact that only 26.61% received 90 or more tablets suggests that there may be gaps in the supply or adherence that require attention.

Breastfeeding and Infant Care
With high rates of early skin-to-skin care (65.44%) and breastfeeding initiation within the first hour (66.27%), breastfeeding habits are typically positive. Nonetheless, there is potential for improvement in breastfeeding teaching and assistance, as seen by the 50.49% exclusive breastfeeding rate for infants 0–5 months. Given that only 65.42% of mothers had started complementary feeding for infants aged 6 to 11 months, complementary feeding practices also require attention.

Use of Contraceptives
The comparatively low rates of use of current methods (22.15%) and birth control (22.86%) suggest that family planning services should be made more widely available and socially acceptable. To increase uptake, there is a clear opportunity to improve education and make contraceptive alternatives more accessible.

CONCLUSION:

This study identifies a number of areas where maternity and child healthcare may improve as well as its strengths. The majority of people connect with healthcare services, especially for prenatal care, but there are still large gaps in ongoing care, the use of contraceptives, and dietary support that need to be filled. Improving health outcomes will require customized interventions that take into account the distinct demographic and socioeconomic background of the population. Improving mother and child health in this community will require supporting community institutions like Self-Help Groups, improved education, and easier access to medical facilities.

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सुरक्षित मातृत्व आश्वासन
अनुमंडलीय अस्पताल, दानापुर
GPS Map Camera
Danapur, Bihar, India
266, Bibiganj, Danapur Cantonment, Danapur, Patna, Bihar 801503, India
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Google


एन.सी. डी
स्क्रीनिंग कार्नर
विशेष सेवायें
1. स्वच्छ पेयजल की सुविधा
2. शौचालय की सुविधा (लड़के एवं लड़कियों)
3. सामान्य प्रयोगशाला - रक्त, मूत्र, बलगम की जां
शिकायत एवं सुझाव

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