Summer Internship at PIRAMAL SWASTHYA, Bihar

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BY:

Dr. Dhriti Bhagat

Under guidance from:

Dr. Tanmay Mahapatra and Dr. Shuchi Sree Akhouri
Dr. Anuradha Bhardwaj

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International Institute of Health Management Research, New Delhi

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I perceive this opportunity as a big milestone in my career development. I will strive to use the gained skills and knowledge in the best possible way and continue to work on their improvement to attain desired career objectives. Hope to continue cooperation with all of you in the future.

Sincerely,

Dr. Dhriti Bhagat

PG/23/029

TABLE OF CONTENT

ACRONYMS/ABBREVIATION

- **ASHA** - Accredited Social Health Activist
- **ARSH** - Adolescent Reproductive and Sexual Health
- **ANC** - Antenatal Care
- **AGYW** - Adolescent Girls and Young Women
- **ANM** - Auxiliary Nurse Midwife
- **CHO** - Community Health Officer
- **IIHMR** - International Institute of Health Management Research
- **IFA** - Iron and Folic Acid
- **IMNCI** - Integrated Management of Neonatal and Childhood Illness
- **IPHS** - Indian Public Health Standards
- **IPV** - Intimate Partner Violence
- **JSY** - Janani Suraksha Yojana
- **JSSK** - Janani Shishu Suraksha Karyakram
- **LBW** - Low Birth Weight
- **MCP** - Mother and Child Protection
- **NFHS** - National Family Health Survey
- **NCD** - Non-Communicable Diseases
- **NHM** - National Health Mission
- **NRHM** - National Rural Health Mission
- **NRC** - Nutritional Rehabilitation Centre
- **PHC** - Primary Health Centre
- **PPH** - Postpartum Haemorrhage
- **PTB** - Preterm Birth
- **RMNCHN** - Reproductive, Maternal, Newborn, Child, and Adolescent Health and Nutrition
- **SAS** - Statistical Analysis Software
- **SDG** - Sustainable Development Goals
- **STSC** – Skin to Skin Care
- **TIBF** - Timely Initiation of Breastfeeding
- **VHSND** - Village Health Sanitation and Nutrition Day

ORGANIZATION PROFILE

India has embarked on the 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 operational in 21 States in India through 35 innovative public healthcare delivery programs and has served more than 112 Million beneficiaries so far.

Piramal Swasthya employs 2500+ employees (including over 250 medical doctors) who work with Seva Bhav.

Core Values:

- **Respect**, upholding the dignity of each individual.
- **Integrity,** adhering to an ethical code of conduct in all actions.
- **Commitment,** fulfilling our duties and social responsibilities.
- **Excellence,** setting high performance standards and being accountable to them.

Approach:

- Gender Equality
- Knowledge, Management and Learning

OBSERVATIONAL LEARNING

My two months as an intern at the Piramal Foundation allowed me to get a deep dive into the exciting world of public health. Renowned for its dedication to improving community health via outreach, research, and education initiatives, the Piramal Foundation offered a stimulating environment that supported my growth on the personal and professional fronts. In two months at the Piramal Foundation, I gained a rich blend of theoretical knowledge and practical skills. This transformative experience was truly enriching. Weekly sessions on SAS software, data management, literature reviews, research methods, and Excel greatly expanded my skill set. These sessions proved to be very helpful, introducing me to new ideas and methods essential for efficient public health research and data analysis. The SAS software classes equipped me with crucial skills for handling large datasets, including data cleaning, statistical analysis, and manipulation. The research methodology workshops provided me with a solid foundation for conducting ethical research by delving into study design, data collection techniques, and ethical considerations. In addition to classroom learning, I embarked on field trips to district hospitals, health and wellness centres, and participated in household surveys. These visits allowed me to bridge the gap between theoretical knowledge and real-world practices. I observed firsthand how these facilities function and whether they adhere to established guidelines.

One of the major assignments during my internship at the Piramal Foundation was conducting a comprehensive literature review. My topic was the impact of social gender norms on the psychological, emotional, and physical well-being of girls and women. This research project was fascinating and difficult at the same time since it examined the various ways that deeply rooted preconceptions and societal expectations affect women's lives in various cultures and societies. After doing a thorough analysis of the current research, I discovered that women's and girls' behaviour, roles, and opportunities are determined by social gender norms. These norms frequently impose restrictive roles that hinder personal development and expression of oneself.

Furthermore, I had the opportunity to contribute to the "Girl Boss Rise" project, an innovative initiative aimed at empowering adolescent girls and equipping them with essential life skills. This project was meticulously designed to address several key areas of personal development, including instilling confidence, enhancing communication abilities, and emphasizing the importance of financial literacy, inner strength, and team coordination. The project included activities related to the specific domains which when implemented would transform the girls in a very positive way. The project is a 40 hour intervention project. Adolescent girls are the target population for the Girl Boss Rise project, although the intervention has not yet been implemented. The project is at the design stage. My specific role in this project involved a critical and foundational task: identifying and selecting appropriate scales to measure various domains such as confidence, communication skills, and financial literacy. This aspect of the project was essential for developing robust evaluation tools that could accurately assess the impact of our interventions.

This comprehensive report explores each aspect of my internship experience. It emphasises the jobs and projects I worked on, the useful skills I picked up, and the significant impact this experience had on me. In addition to expanding my knowledge, this internship gave me valuable experience that will help me in all my future public health related endeavours.

LEARNINGS FROM SESSIONS CONDUCTED

My journey began with an orientation session where I was introduced to the organization's mission, values, and key projects they are working on. The interns were given chance to introduce themselves which made the session friendly. After that, the director, Dr. Tanmay Sir gave a perceptive speech outlining the goals of the Piramal Foundation and highlighting its dedication to enhancing community health. He gave us a thorough rundown of all the things we would be doing over the course of the next two months, emphasising the combination of theoretical instruction and real-world application that was in store for us. After that, we

received a briefing on our duties and responsibilities, with an emphasis on the secondary research projects we would be working on. Every intern was given specific public health-related subjects to work on. We were each given a mentor to make sure we had enough support and direction. These mentors, highly skilled in their fields, would offer constant feedback and support while we overcome any challenges. I was assigned a mentor, Dr. Shuchi, who provided guidance and support throughout my internship. The field visit schedule was also provided, which allowed us to apply what we had learned in class to actual situations. The purpose of these trips was to provide firsthand knowledge of community health efforts. We felt excited and well-prepared for the adventure ahead after having our questions and concerns answered during the Q&A session that wrapped up the orientation day. This initial day not only oriented us to the logistical aspects of the internship but also inspired us with the foundation's impactful work and our role in contributing to it.

Sessions on Research Methodology

There were regular classes on research methodology which were conducted by Dr Tanmay Mahapatra Sir and his gentle teaching style made all the material easy to understand. The research methodology classes were instrumental in developing a thorough understanding of study designs and key concepts crucial for conducting robust research. The sessions meticulously explored various study designs, emphasizing their differences and implications. We started with observational studies, where we learned to observe phenomena in their natural settings without intervention. In contrast, experimental studies involve manipulating variables to establish cause-and-effect relationships through randomized controlled trials (RCTs) or quasi-experiments. Interactive discussions highlighted the importance of randomization in experimental design to minimize biases and ensure that all participants have an equal chance of being assigned to different groups. This process helps control for confounding variables and strengthens the validity of research findings. A critical aspect covered in these sessions was understanding biases that can affect study outcomes. We examined selection bias, measurement bias, and recall bias, among others, and discussed strategies to mitigate these biases to enhance the reliability of research results. Furthermore, advanced concepts such as temporal ambiguity, biological plausibility, and the ecological fallacy were explored. We studied the formulas for determining incidence rates and prevalence rates, which are measures of occurrence. The knowledge of disease burden and the development of public health strategies depend on these computations. Complete explanations of the data collection procedures were given, along with comprehensive explanations of all significant methodology topics and frequent discussion sessions were also held.

All things considered, the internship gave me a thorough grounding in study design and important research ideas. My exposure to various study designs, comprehension of biases, and calculations related to measures of occurrence have furnished me with the knowledge and expertise required to carry out detailed research in the field of public health.

Sessions on Data Management

We were given classes on data management and excel also and as we know that any research project's integrity and effectiveness depend heavily on effective data management, and the thorough instruction I received really improved my Excel skills, which are critical for working with research data. I gained knowledge of complex techniques to reduce mistakes made when entering data, like making use of Excel's data validation standards to ensure accuracy. Furthermore, I received training on how to spot and fix discrepancies in datasets by using conditional formatting, VLOOKUP, and IFERROR in Excel to resolve missing values, clean up data, and standardise formats. The use of Excel for effective data storage and retrieval was another topic covered in the course. I gained knowledge on how to create and structure spreadsheets that arrange data logically and facilitate analysis and navigation. Additionally, I learned how to use Excel to secure data by establishing cell-level permissions to preserve confidentiality and password-protecting spreadsheets and workbooks. I also learned how to use Excel's basic formulas and functions for data manipulation, as well as how to create pivot tables for summarising and analysing huge datasets.

These thorough Excel abilities have given me the ability to successfully organise and handle research data, ensuring high-quality data for analysis and strengthening the validity and dependability of research findings.

Sessions on SAS Software

The theoretical foundations and practical uses of SAS data analysis were discussed in these classes. We gained knowledge about how to use the SAS interface, carry out fundamental commands, and use coding strategies that are necessary for importing, manipulating, and cleaning data. During the training, we learned how to compute important descriptive statistics including mean, median, standard deviation, minimum, and maximum values using programmes like PROC MEANS and PROC UNIVARIATE. We also looked into using PROC FREQ to create frequency tables for data that is categorical. The PROC PRINT procedure, which is necessary for displaying data in a comprehensible and organised style, was thoroughly explored in SAS lectures. Especially after data cleaning and processing procedures, PROC PRINT gives users an easy way to see and validate data by listing the contents of an SAS dataset. The PROC CONTENTS technique, which is essential for analysing the properties and structure of SAS datasets, was thoroughly discussed in our classes. We were given hands-on assignments that required us to independently build SAS code and produce thorough data summaries and visualisations in order to solidify our understanding. Our ability to use SAS for descriptive statistics was much improved by these practical exercises and the ongoing feedback from our mentors, ensuring that we could analyse and interpret difficult data sets accurately.

Sessions on Literature Review

The literature review classes were crucial in providing us with the deep understanding and abilities we needed to perform comprehensive and systematic assessments of previous research during our internship. Every step of the literature review process was thoroughly explained to us, from creating specific research questions to choosing the right databases and search techniques. A significant focus was placed on PubMed, a widely used database where we learned its interface. It highlighted how important it is to use Medical Subject Headings (MeSH) phrases appropriately. This allowed us to create specific search queries that minimised noise and found relevant research. In order to focus our searches on study types, publication dates, and other factors, we also explored the use of filters and sophisticated search strategies inside PubMed. Understanding these filters was crucial in ensuring that our literature reviews were both thorough and targeted to our specific research needs. With all of these insights, I was able create an evidence table of papers that were related to my topic, and my mentors were always available to assist me when I needed it. Through regular practice and feedback from instructors, we honed our ability to extract meaningful insights from the literature and present them in a clear and structured manner. All things considered, the literature review classes provide an organised structure and useful tools that are necessary for carrying out evidence-based research. They gave us the skills to successfully synthesise findings, navigate complex databases, and assess research articles critically. These abilities are essential for any researcher hoping to advance their subject by enhancing current understanding and influencing evidence-based practice.

FIELD VISITS

1. Report on Visit to Health and Wellness Centre, Danapur District, Bihar

Introduction

On 18th June, 2024, we visited the Health and Wellness Centre (HWC) in Danapur district, Bihar. The primary objective of our visit to the Health and Wellness Centre (HWC) in Danapur was to bridge the gap between theoretical knowledge and practical application. This visit aimed to observe and understand how the concepts and principles we have studied in our academic subjects are implemented in a real-world healthcare setting. By connecting theoretical frameworks to actual practices, we sought to gain a comprehensive understanding of the HWC's operations, challenges, and successes. This detailed report presents the findings and observations, emphasizing the HWC's capabilities in serving the local population of Danapur district.

Services Provided

The Health and Wellness Centre (HWC) in Danapur provides a comprehensive range of services designed to address the health needs of the local population, which stands at 10,206

Care in Pregnancy and Childbirth

The HWC provides thorough antenatal and postnatal care, ensuring the health and safety of both mothers and babies. Services include regular check-ups, nutritional support, iron and folic acid supplementation, and health education. The centre's efforts in promoting safe childbirth and maternal health are commendable.

Neonatal and Infant Health Care Services

Neonatal and infant health services at the HWC are robust, with a focus on early childhood immunizations, growth monitoring, and health check-ups. The centre's dedication to reducing infant mortality and ensuring healthy early development is evident.

Childhood and Adolescent Health Care Services

Comprehensive health care for children and adolescents includes immunizations, nutritional support, and health education. The HWC also addresses adolescent health issues, providing counselling and education on puberty, mental health, and hygiene.

Family Planning, Contraceptive Services, and Other Reproductive Health Care Services

The HWC offers a range of family planning services, including counselling and provision of contraceptive methods. Reproductive health services are accessible and well-promoted, contributing to better family health and well-being.

Screening, Prevention, Control, and Management of Non-Communicable Diseases

The dedicated corner for NCD screening highlights the centre's proactive approach to early detection and management of chronic diseases like diabetes, hypertension, and cardiovascular conditions. The follow-up care and management plans are well-organized and impactful.

Emergency Medical Services

The HWC is equipped to handle medical emergencies, providing first aid, stabilization, and referral services to the Community Health Centre Pulwasharif. This readiness to respond to emergencies significantly enhances community health security.

Maintenance of the centre

The maintenance of the Health and Wellness Centre is exemplary, reflecting a high standard of care and organization. The facility is impeccably clean and well-kept, with all areas, including waiting rooms, consultation rooms, and examination areas, maintained to ensure a hygienic environment. The use of colour-coded dustbins for waste segregation and proper disposal underscores the centre's commitment to infection

control and environmental hygiene. Medical equipment and supplies are well-organized, easily accessible, and stored in a manner that ensures they remain in optimal condition. The charts and educational boards are neatly displayed, providing clear and valuable information to beneficiaries about the available programs and services. Furthermore, the stocked essential medicines adhere to the Indian Public Health Standards (IPHS), ensuring that the centre can meet a wide range of medical needs promptly. The overall maintenance of the HWC not only enhances the efficiency of service delivery but also ensures a welcoming and safe environment for both patients and healthcare providers.

Patients flow

The HWC efficiently manages a steady patient flow, ensuring that each patient receives timely and comprehensive care. On average, the centre sees between 20 to 30 patients daily, with a recorded outpatient department attendance of 633 patients in the last month. This indicates a high level of trust and reliance on the HWC's services within the community. Patients are treated with great care and professionalism by the dedicated healthcare team, led by the Chief Health Officer. The CHO, with a background in BSc Nursing and being a local, ensures there are no language barriers, facilitating clear communication and understanding between patients and providers. The responsibilities of ANMs include providing maternal and child health services, such as antenatal and postnatal care, immunizations, and family planning counselling. ANMs conduct health education sessions on topics like hygiene, nutrition, and disease prevention, and they screen for non-communicable diseases. The HWC in Danapur is supported by eight Accredited Social Health Activists (ASHAs), who play a vital role in bridging the gap between the community and the healthcare system. ASHAs are deeply integrated into the community. Upon arrival, patients are registered and directed to the appropriate service area, whether it be for consultation, NCD screening, teleconsultation, or follow-up care. Patients are ranked according to the severity of their conditions, giving priority to those who require emergency care. The presence of teleconsultation services and a dedicated NCD screening corner facilitate efficient patient load distribution, enabling the centre to rapidly address a wide range of health conditions. Last month, the centre managed 250 NCD teleconsultations and conducted follow-ups for 33 patients, ensuring continuity of care and effective management of chronic conditions. The availability of essential medicines and the CHO’s proactive approach to patient care further enhance treatment outcomes.

Infrastructure and Layout

The HWC consists of a single main room that is well-ventilated. It allows for a smooth flow of patients and staff. The structure is designed to ensure privacy and comfort for patients during consultations and treatments. There is one main consultation room where the Chief Health Officer (CHO) attends to patients. This room is equipped with essential medical instruments and comfortable seating arrangements for patients. A dedicated corner for Non-Communicable Disease (NCD) screening is available. This area is equipped with necessary screening tools and provides privacy for patients undergoing assessments. The presence of handwashing stations and hand sanitizers promotes hygiene among staff and patients.

Meeting with ASHA

During this field visit to Danapur, we had the opportunity to interact closely with an Accredited Social Health Activist (ASHA) who has been serving the community diligently for the past 19 years. Her name was Hemanti Devi and she was a graduate. ASHAs are pivotal in bridging the gap between healthcare services and rural populations, particularly focusing on maternal and child health, nutrition, and preventive care.

ASHA shared her extensive responsibilities which include:

Maternal and Child Health: She provides crucial support to women during pregnancy, emphasizing birth preparedness, safe delivery practices, and postnatal care. She ensures women attend Ante Natal Check-ups and Post Natal Check-ups and promotes breastfeeding, immunization, and nutrition for both mothers and young children.

Community Mobilization: She mobilizes the community to utilize government health services available at Anganwadi centres, sub-centres, and primary health centres. This includes facilitating immunization drives, supplementary nutrition programs, and promoting sanitation and hygiene practices.

Health Education: She educates the community on health determinants such as nutrition, sanitation, and healthy living. She also provides information on family planning methods, contraception, and prevention of infections. She visits door to door to provide the “Nayi pahel kit” to the newly wed couples to promote family planning.

Special Initiatives: She organizes events like 'Godhbharai' to enhance maternal nutrition and 'Saas Bahu Sammelans' to educate young brides about family planning.
Additionally, she coordinates Village Health Sanitation and Nutrition Day (VHSND) for immunization and health monitoring.

Reporting and Training: Every month, on the first Thursday, the Asha facilitator and the BMC of the district come together. They discuss topics such as reporting on ASHAs, giving feedback, introducing new programs or schemes for implementation, and ensuring the distribution of necessary instructions and supplies for Health and Wellness Centers (HWC).

Data Collection and Reporting: She maintains records of health-related information such as births, deaths, immunizations, and health status of community members. This data is crucial for monitoring health trends, planning interventions, and evaluating health programs.

Newborn and Child Care: ASHA monitors the growth and development of newborns and young children, promotes timely immunization, and provides counselling on child nutrition and care practices to mothers and caregivers. She also assists in identifying malnourished children in the community and refers them to the Nutrition Rehabilitation Centre (NRC). Here, both the mother and child receive necessary care, observation, and nutritional support to facilitate their recovery. Typically, beneficiaries stay at the NRC for a minimum period of 15-21 days to ensure they receive adequate treatment and rehabilitation.

Technological Use: She was trained in using a government app for reporting her work during each month so that she must be provided with the incentives while earlier she used to maintain a register of her work. Currently technical issues have impacted functionality for the past two months.

- While ASHA plays a critical role in rural healthcare delivery, but they encounter several challenges that impact their effectiveness and well-being and same was the case of Hemanti Devi.

Financial Instability: ASHAs are compensated based on incentives rather than a fixed salary. This financial model, while intended to motivate performance, often results in inconsistent earnings that are insufficient to cover their expenses. She told us about her earnings. For instance, she earns Rs. 100 for ANC and Rs. 600 for the entire delivery process which does not adequately support her livelihood, especially considering the extensive time and effort she invests in her duties.

Community Resistance and Cultural Barriers: She told us about the resistance she faces from certain segments of the community, particularly regarding cultural beliefs and traditions that influence health-seeking behavior. Overcoming these barriers requires not only persistence but also sensitivity and cultural competence to build trust and acceptance which she had overcome as she is serving the community from the past 19 years and now everyone in the community is well aware about her performance and they all appreciate her efforts.

Workload: She often manages large caseloads and faces demanding work schedules that include home visits, community mobilization, health education sessions, and administrative tasks. The cumulative stress and physical demands contribute to burnout, affecting her morale and performance over time.

Recognition and Support: Despite her pivotal role in improving maternal and child health outcomes, she sometimes lacks adequate recognition and support from local authorities and healthcare systems. This

includes insufficient logistical support, delayed reimbursements, and limited opportunities for career progression or advancement within the healthcare sector.

In conclusion, our visit to the Health and Wellness Centre in Danapur, Bihar, highlighted the crucial role of healthcare facilities and dedicated individuals like Hemanti Devi, an ASHA. The centre provides essential services such as maternal and child health, neonatal care, family planning, non-communicable disease management, and emergency care. Despite their significant contributions, ASHAs face challenges like financial instability, community resistance, and heavy workloads, underscoring the need for more support and recognition. Additionally, the Chief Health Officer plays a vital role in ensuring efficient operations and patient satisfaction, emphasizing the importance of investing in skilled healthcare personnel to improve grassroots healthcare services in Danapur.

2. Report on Household survey Day 1, Bihar

Date: 26th April 2024

Location : Pandarak , Patna, Bihar

Introduction: This report describes a household survey carried out on April 26, 2024, in Pandarak, Bihar, for the Maternal and Child Health (MCH) programme.

I observed the use of three distinct questionnaires designed for children 0–5 months, 6–11 months, and 12-23 months during this visit. I've included my observations and takeaways from the visit in this report.

Listing and mapping : The following procedure was followed for listing:
A systematic technique was employed for the mapping and listing of households, guaranteeing an organised selection procedure. Right hand rule was used to select the households for the interview wherein we chose the 30th house number as our first home for the survey, starting on the right side. We determined that four households would be excluded in between selections. We counted four households to the right of the main door after starting with the first one, and then we chose the fifth one to survey. This procedure was followed precisely; after surveying every chosen household, we skipped the following four and chose the fifth to be surveyed.

INTERVIEW 1

Mother of infants aged 0-5 months

Tool sections:
-Basic Household Details
-ANC & Birth Preparedness
-Newborn Care (NBC)
-Postnatal & Breastfeeding Practices

Key findings:

- The household was utilising tap water only for drinking because there was no facility for clean drinking water.
- The infant was born in a government hospital, but the government did not supply any of the necessities, including transportation and vaccinations. Due to the baby's gender, a boy and the regrettable belief that a boy's birth is superior to a girl's birth, the family was compelled to provide money to every employee there.
- They went to Anganwadi for the immunisation process, but because the service was improperly administered, they were made to visit the hospital after four months to finish the remaining shots.
- The baby's body weight was not measured by Anganwadi workers, despite the fact that this should be done each month to view the weight-age graph and assess the child's overall health.

- The mother was getting IFA syrup for the baby from the hospital on her own since she knew how important it was for the baby as the Anganwadi staff weren't providing any IFA supplements. The IFA tablets were also not provided for the mother by the Anganwadi but she had to take during her pregnancy period as she was anaemic.
- The mother was not given the ration by the Anganwadi during her pregnancy, nor was it given to the child until recently, as per the "take home ration" policy. The mother-in-law informed us about the dislike that existed between their family and an Anganwadi employee, and they believed that they were being unfairly excluded from the facility's services.
- ASHA's primary objective was to provide ANC services, and since this was not accomplished, the mother was quite dissatisfied with ASHA's performance.
- The ANM provided information about family planning only; she made no mention of pregnancy safety measures or advice on how to care for the newborn baby.
- The mother took action to obtain the money provided by the government under the JSY programme because she was aware of it, and as a result, she received two installments, one of which is still waiting.
- The respondent informed us about the family planning strategy that her physicians had recommended, and she had followed their advice to use the copper T technique.

INTERVIEW 2

Mothers of infants aged 6-11 months

Tool sections:

-Household and Respondent Characteristics
-Breastfeeding and Complementary Feeding Practices
-Immunization And Childhood Disease
-Postnatal Contraception and Family Planning

Key findings:

- The baby was exclusively breastfed until he was nine months old, at which point he was supposed to start receiving semi-solid food in the sixth month.
- The birth of the baby took place in a private hospital since the family was dissatisfied with the government hospital’s facilities and chose to give birth there instead.
- The family was getting their ration on schedule, as part of the "take home ration" programme.
- The baby's vaccinations were administered by ASHA in a proper manner, however neither ASHA nor ANM provided any guidelines or recommendations for newborn care or necessary dietary measures for both the mother and the child.
- The ASHA completed three visits for the ANC, all of which were completed on schedule, and the family reported that the ASHA's services were satisfactory.
-IFA tablets were not provided by the ASHA or ANM and the mother was also not aware about the importance of the supplements, therefore she didn’t take any IFA tablets during her pregnancy.
- The mother was unaware of any programmes under the women and child health and development department that would be advantageous to both her and her child.
- When the immunisations were administered, the baby's height and weight were not recorded.

INTERVIEW 3

Mothers of children aged 12-23 months

Tool sections:

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

Key findings:

- The mother previously gave birth to two children who passed away from low birth weight and preterm births.
- The family was not satisfied with the care they received from the government facility during the mother's previous pregnancy, therefore the baby was delivered in a private hospital.
- Every vaccination was given at Anganwadi, however as we could see from the MCP card, they weren't given on time.
- The mother knew that the Anganwadi staff was not providing vitamin A doses, therefore she proceeded to a private facility for the same.
- For the mother and child's adequate nourishment, the ASHA promptly gave the ration under the "take home ration" system.
- The baby's weight and height were never recorded during any of the visits, but the grandmother watched the infant because she knew how important it was to monitor the child's weight and height in order to assess the child's development based on age.
- The mother received IFA tablets from ASHA during her pregnancy, but she didn't finish them all because they gave her nausea every time she took them.
- The baby always has a fever after receiving vaccinations, and at first the family believed that the shots had not been given correctly. However, once the family learned that it is common for the baby to have a high temperature after receiving vaccinations, they were relieved, and the fever usually went away on its own in a day or two.
- The infant was not receiving enough nourishment; even at nearly 19 months old, she was not receiving any fruits or green vegetables. The infant continued to drink milk from a bottle.
- We instructed them on how to correctly feed the child and first what steps to follow to help her learn to like the food and ensure that it is properly absorbed by her. We also educated them on the significance of nutrients for the baby's growth and development.

Conclusion:

We were able to obtain useful knowledge about the collection and interpretation of mother and child health data by taking part in the survey. A better understanding of the difficulties and ideal procedures for gathering field data was obtained by watching the interactions between surveyors and respondents.

The survey's results are extremely significant as they highlight important areas that require development. These realisations can help direct the creation of focused interventions meant to improve community-wide outcomes for mother and child health. The need for careful data collection and analysis in guiding successful health treatments was further highlighted by this field visit. Through informed decision making based on accurate data, we can implement strategies that address specific needs and improve overall health and well-being for mothers and children in Pandarak.

3. Report on household survey day 2, Bihar

Date: 29th April 2024

Location 1: Parsawa , Patna, Bihar

Location 2: Madadpur, Patna, Bihar

Introduction: This report describes a household survey carried out on April 29, 2024, in Parsawa, Bihar, for the Maternal and Child Health (MCH) programme.

During this field trip, I saw the application of three different questionnaires created for children aged 0–5 months, 6–11 months, and 12-23 months. In this report, I've incorporated my observations and learnings from the visit.

Listing and mapping: The following procedure was followed for listing:
A methodical approach was utilised to map and list the households, ensuring a well-structured selection process. Starting on the right side, we selected the 30th house number as our initial residence for the survey. Between selections, we decided that four households would be left out. Beginning with the first household, we counted four more to the right of the main door before selecting the fifth house to survey. This process was strictly adhered; after surveying each selected household, we bypassed the next four and selected the fifth for survey.

INTERVIEW 1

Mothers of infants 0-5 months

Tool sections:

-Basic Household Details
-ANC & Birth Preparedness
-Newborn Care (NBC)
-Postnatal & Breastfeeding Practices

Key findings:

- The ASHA provided IFA tablets during the third trimester after the mother requested them on her own, following the recommendation of the private hospital's gynaecologist.
- Three ANC visits were completed in total, however the first two were from the private hospital and the remaining was conducted by the ASHA of the community.
- The baby was delivered at a government hospital, but the ambulance service was inadequate; the family had to wait nearly an hour for an ambulance, and since it was taking so long, they had to take the mother, who was in pain, to the hospital by rickshaw.
- After giving birth, the mother needed the IFA tablets as well, but the ASHA could not supply them, so she had to get them from the pharmacy.
- Despite being delivered in a government facility, the baby was not given vitamin K immediately after birth.
- The mother did not receive money under the JSY scheme for the first as well as the second child . She had applied for the same and had received only 2000 in total.
- At none of the appointments was the baby's weight checked.
- Even after the child was born, the mother did not receive the MCP card. The OPD card was the only record of her baby.
- The mother had visited the doctor since the baby was struggling to practise breastfeeding, and on the doctor's suggestion, the baby was bottle-fed sometimes.
- The Anganwadi centre did not perform the Godbharai ceremony for the pregnant woman, nor was she aware that any such ceremony was meant to be done. The Godbharai ritual provides the pregnant mother with necessary fruits, medications, and counsel.

INTERVIEW 2

Mothers of children 12-23 months

Tool sections:

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

Key findings:

- The mother was surrounded by two of her father-in-laws, and it was traditional for them to be quiet in front of the head of the family, so she was unable to respond to the questions appropriately.
- At the time, the mother was expecting her fourth child. She was unfit for pregnancy because she was only 21 years old, had no break between her pregnancies, which left her extremely weak and low in essential vitamins and minerals.
- When asked whether she tried any family planning method, the father in law interrupted and said that they are in need of children.
- Their practice of excreting in a neighbouring field due to the lack of sanitary facilities is a significant factor in determining her hygiene and overall welfare, which was rapidly declining.
- They were not given rations under the "take home ration" plan because they were having disagreements with the anganwadi workers, but they were also aware of all the current policies and programmes for the growth of their children.
- The mother's lack of knowledge and responsibility was evident since she did not possess any birth certificate or other documentation for any of her children.
- Due to her lack of knowledge and disagreement with the anganwadi worker, the infant was not given any of the immunisations listed on the MCP card, which was also not given to her.
- During her previous pregnancy, she did not receive any ANC from ASHA.
- When questioned about their eating habits, the mother only identified two or three foods that were largely deficient in nutrients, indicating that kids weren't fed enough and were vitamin and nutrient deficient.
- We had to discontinue the survey because she was not honestly answering any of our questions and was depending on her father-in-law for the answers, even though we had warned her that the session would be recorded and assured her that it would be kept confidential.

INTERVIEW 3

Mothers of infants 6-11 months

Tool sections:

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

Key findings:

- The family was quite aware about the schemes which are run for women and child development.
- After the delivery in a private hospital, the infant's weight was determined to be 2.75 kg.
- Although the ASHA or ANM did not make any visits, the family was aware of the value of taking the baby's weight, which can be used to evaluate their general growth and development. As a result, they scheduled regular examinations that included taking the baby's weight. The infant weighed about 7 kg at that time.
- Since he was 10 days old, the infant has only been fed cow milk from the bottle because he was completely incapable of suckling.
- The mother had experienced two miscarriages before the birth of the child, but the family was very supportive of her and took extra care of her this time around.
- The infant was exclusively given cow milk and he was about eight months old. We advised them to start

giving him semi-solid food initially and then progressively introduce some fruits and proper food. The family members said that they tried feeding him food, but he didn't digest it, and after attempting two or three times, they didn't take much pressure about it either.
-The family members had to buy IFA syrup from the pharmacy because the ASHA did not supply any for the baby.

INTERVIEW 4

Mothers of infants 0-5 months

Tool sections:

-Basic Household Details
-ANC & Birth Preparedness
-Newborn Care (NBC)
-Postnatal & Breastfeeding Practices

Key findings:

- The mother wasn't sufficiently conscious during the interview because she had only arrived the day before the survey with her 10-day-old baby.
- The respondent's elders supported her younger sister-in-law's dominating behaviour because she had a boy and the respondent had only daughters. During the interview, the responder would make eye contact with her sister-in-law to obtain permission to answer questions.
- Despite having undergone a painful C-section, the family members displayed insensitivity towards her, not offering any comfort and making her sit on the floor for the interview. We were the ones who provided her with a chair and changed positions to ensure she was comfortable enough to answer all the questions, given the lengthy duration of the interview.
- During the interview, when asked about her antenatal care (ANC), she mentioned that she had gone for a checkup at a private facility and paid a substantial amount of money. This raised suspicion among the interviewers, and when they asked for the checkup reports, it was revealed that she had indeed undergone a sex determination test.
- They were not given rations under the "take home ration" plan by the Anganwadi workers, but they were aware of all the current policies and programmes for the growth of their children.
- The respondent's husband was eavesdropping from the next room. When he discovered that she had revealed the sex determination test to us, he burst in angrily and ordered her to stop answering questions. Despite his anger, she continued to speak, hurting his ego. In a rage, he violently slapped her in front of us. Shockingly, the family members stayed silent, implicitly supporting his violent behaviour.
- After this insensitive act, the mother-in-law intervened, asking her son to go back inside the room and allowing us to continue the interview. However, seeing that the respondent was in pain and frightened, we decided to discontinue the interview. It was clear that she was regularly subjected to domestic violence, as her family believed she was incapable of delivering a baby boy. Continuing the interview might have led to more violence, especially since the neighbours informed us that the respondent's husband was mentally unstable.

INTERVIEW 5

Mothers of children 12-23 months

Tool sections:

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

Key findings:

- The baby was delivered in the nearby government hospital.
- At first, the mother was shy, and her mother-in-law was providing all the answers. However, we asked her to leave, and we reassured her that this interview would remain private and that nobody would bring up any sort of issues against her.
- Since the ASHA was a close relative of the mother, every ANC was performed on schedule with careful attention to detail.
- The mother received all of her ration on schedule, as part of the "Take Home Ration" initiative.
- Despite the ASHA providing her with IFA tablets, the mother chose not to take them since she could not handle its few side effects, which included headaches and nausea.
- Although the baby was delivered prematurely, the baby's health was excellent because her family had been caring for her well.
- The baby's height and weight was checked regularly
- The MCP card listed every vaccination that the baby received, and they were all administered on time.
- While the baby continued to be breastfed, we suggested that the mother give her child more semi-solid or solid food in place of breastfeeding.
- The respondent was given information regarding the family planning methods by the local ASHA.

INTERVIEW 6

Mothers of infants 6-11 months

Tool sections:

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

Key findings:

- The mother did not have MCP card and was only having birth certificate which was provided by the hospital in which the baby was delivered.
- The baby was delivered at the government hospital nearby.
- The newborn did not receive a vitamin K dosage.
- The mother received six thousand rupees as part of the JSY initiative as this was her first child.
- The mother was provided with IFA tablets, and the infant was given IFA syrups by the local ASHA.
- The infant was being fed semi-solid food along with fruits and dry fruits because the mother was very particular about consuming a nutritious diet.
- In order for the baby's vaccinations to be given on time and for the family members to be aware of the scheduled immunisations, we advised the mother to begin the process of obtaining an MCP card.

INTERVIEW 7

Mothers of infants 0-5 months

Tool sections:

-Basic Household Details
-ANC & Birth Preparedness
-Newborn Care (NBC)
-Postnatal & Breastfeeding Practices

Key findings:

- Despite having an MCP card and being well educated, the responder was unaware of the vaccination schedules and was unable to provide the child with the necessary nourishment since she had never looked through the card.
- She knew when the next scheduled checkup was and was attending her ANC appointments on time.
- When questioned about what she had eaten in the past 24 hours, she revealed that she had been eating in fact healthy. She had been eating green vegetables, nuts, and milk, which indicated that the mother was being fed appropriately. To our surprise, this was the only home where the mother was receiving a healthy, balanced diet.
- The baby was delivered at the government hospital nearby.
- The newborn did not receive a vitamin K dosage.
- The ambulance wasn't provided, and the respondent had to use her own vehicle to reach to the nearby facility.

INTERVIEW 8

Mothers of infants 6-11 months

Tool sections:

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

Key findings:

- When we arrived, the respondent declined our interview because her mother-in-law, who was also the ASHA of the Madadpur block, wasn't home. This demonstrated to us the influence the mother-in-law had over family decision-making.
- When we returned, the mother-in-law was there, so we were allowed to interview the respondent. However, the respondent was interrupted repeatedly by the mother-in-law, who also stopped the interview and began answering the questions herself, making it impossible for her to respond coherently.
- The child received their vaccines on schedule, and the mother had an MCP card.
- When we interviewed the neighbours in that same block, we learned that they had received rations under the same system, therefore the ASHA, or mother-in-law, had lied to us about not having received any herself under the "take home ration" scheme.
- The mother-in-law's responses made it clear that the mother and kid were receiving a healthy diet; she also said quite clearly that the mother and child are regularly fed fruits, milk, and raisins.
- The respondent has not received any funds under the JSY system, which is offered to the second kid, according to the mother-in-law.

INTERVIEW 9

Mothers of children 12-23 months

Tool sections:

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

Key findings:

- When responding to the interviewer's queries, the respondent displayed confidence.
- The respondent was able to speak freely because she was providing for her family and making money.
- The mother told us that because this was her first kid, she was given two instalments' of 2000 rupees each under the JSY plan, but the third instalment was still pending. She was aware of all the government programmes and schemes.
- The infant was not given enough food. In response to our inquiry regarding the child's diet, the mother said that they just give her milk in a bottle and don't give her any semi-solid or solid food on its own.
- We advised her to feed the infant semi-solid food because she is now a grownup and requires the right nutrition for healthy growth and development.
- Because I have experience in dentistry, I examined the baby's teeth, which were beginning to decay, and I educated them about early childhood caries, which is caused by prolong use of milk bottle and can seriously decay teeth. The mother said she will work on it and was open to the recommendations.
- She kept an accurate record of the planned visits and was quite careful about the baby's immunisations.
- The block's ASHA correctly completed the vaccination column of the MCP card, and every immunisation was given on schedule.
- The respondent's four ANC visits were scheduled and completed by the local ASHA in a timely manner.
- The baby's weight and height were not recorded at any of the appointments, which is crucial information for determining how the infant is developing in relation to their age.

Conclusion
Our field trip offered a valuable view into the world of maternal and child health information. Witnessing surveyors interact with participants firsthand shed light on the challenges and best practices of collecting data in the field. The survey produced important findings that identified critical areas where Parsawa and Madadpur women and children can benefit from improvements. With this newfound knowledge, we may create focused interventions that directly meet these requirements. The visit was a potent reminder that careful data gathering, and analysis are essential components of well-run healthcare programmes. We can put into practice efficient methods that eventually enhance the general health and wellbeing of women and children in these communities by using reliable data to inform our decisions.

4. Report for visit to sub divisional hospital, Danapur district, Bihar

Date of Visit: May 15, 2024

Location: Danapur, Patna, Bihar

Population Served: Approximately 450,000 per month, covering 4 blocks

I. Introduction
This report details a field visit to Sub Divisional hospital Danapur in Patna facilitated by Piramal foundation on 15th May and it was an enlightening experience. We were apprised of the policies and procedures as well as the operational procedures of the hospital. The hospital's patient population and departmental responsibilities were all explained in detail by the kindly hospital manager, who made time for us despite her hectic schedule.

II. Observations

-OPD
The monthly footfall at the hospital OPD ranged between 15000-16000 patients. This busy department serves as the initial point of contact for those seeking care for a wide range of medical conditions. A variety of services are provided, and experts are on hand. Despite the large patient load, the hospital's opd operates very effectively since there is no time waste for the doctors because the patients are arranged in accordance with their assigned numbers and are properly managed without any issues.

-Pharmacy
The hospital should have a minimum of two pharmacy windows in accordance with IPHS recommendations; however, in this kind of situation, where the patient load was excessive, the number of windows can be raised for effective operation. There were currently two operational windows and patient seating was available in case there was a waiting line.

-ANC
Four ANC should be performed in accordance with the standards, and a systematic method was in place to verify the dates of each patient's checks in their records. All the necessary equipment was available for the mother's examination, including blood pressure, weight, abdomen palpation, and heart monitoring. The early detection and management of problems including PPH and PIH was handled by the ANC department. All of the important records were listed in the register, which the staff diligently kept up to date. A new method of keeping track of all the records was also implemented, utilising the BHAVYA site. Very few cases progressed to eclampsia, and all blood tests necessary for pre-eclampsia were completed correctly. Mothers and their families were routinely informed by the ANC department staff about the kinds of diets to follow and the nutrition and nutritional requirements that must be met during pregnancy. To prevent anaemia and other deficiencies, calcium supplements, iron and folic acid supplements, and deworming tablets were provided. Periodically, all required immunisations were administered. Even counsellors were available to provide psychological and emotional help to expectant women.

-Triage room
The expectant mothers were first examined using a standard clinical triage method by a midwife or nurse, and they were categorised into three groups: red, yellow, and green. These classifications indicate that the expectant mothers required immediate attention, that treatment may be delayed, and that they could withstand a large wait. The mother was not classified until all her vital signs had been correctly taken and her condition had been assessed. Sometimes, the bed used for the evaluation would double as an emergency labour bed when the babies needed to be delivered.

-Labour room
The hospital births 250–300 newborns a month. The labour room had three beds regarding all four zones. Every piece of necessary medical equipment and supply was well-maintained and promptly sterilised. One incubator was present for the baby's monitoring, infection prevention, and temperature control. For better thermal care, a separate cabin was available for practicing Kangaroo mother care.

-Central sterilised supply department
The autoclaving procedure was carried out in a special chamber at the hospital. The hospital did not autoclave any equipment or supplies for any other hospital or organisation; instead, they sterilised their own tools and equipment. The personnel were also in charge of the hospital's overall fumigation procedure.

-Immunisation model room
Every month, the hospital provides 700–800 immunisations. There was a dedicated room for the vaccination and the personnel administered every kind of immunisation in a very organised manner. The immunisation room was constructed in compliance with the regulations. Children were given vaccinations according to the schedule and dosage specified on the card. Accurate documentation of vaccinations in patient records was done.

-Cold chain maintenance
A specialised refrigeration device called an Ice-Lined Refrigerator (ILR) was used to preserve vaccinations and the temperature maintained was 2 to 8 degrees. The attendant is required to monitor the machines around-the-clock, and Uwin is a specific app made to do just that. It alerts the user anytime the temperature rises or falls outside of the designated range. Vaccine vial monitors were also present that displayed the colours of the vials to keep an eye on them.

-Family planning counselling room
In order to help the families support family planning methods and inform them about proper spacing and population management, a family planning counsellor was also on hand. There were charts on display, along with a basket of options that included every method available, including injections under the brand name ANTARA, oral pills provided by the government under MALA, and condoms under NIRODH. To encourage family planning, the hospital itself provides all of these.

Conclusion:
The Danapur Sub Divisional Hospital is an essential resource for meeting the medical needs of a significant community. The emphasis on curative, preventive, and emergency treatment points to a comprehensive strategy for the provision of public health services. The hospital has excellent management, and the cleanliness was also quite high. It was even evident that the personnel valued teamwork. For the benefit of the employees and the recipients' convenience, they even introduced a few new techniques. Additionally, the referral mechanism is handled quite well. One of the key elements that must be highlighted for the hospital is their transportation system.

EXPERIENCE FROM THE PROJECTS I WAS ENGAGED IN

I had the honour of working on the "Girl Boss Rise" project during my internship at the Piramal Foundation. It is a comprehensive intervention designed to empower adolescent girls by equipping them with essential 21st-century skills, entrepreneurial mindsets, and work-readiness capabilities. Targeting young women aged 15-25 from underprivileged backgrounds, the project aims to address gender disparities in education and employment. The primary goal is to provide these young women with the tools and knowledge necessary to succeed both personally and professionally, despite the socio-economic challenges and societal norms they face.
The Girl Boss Rise program spans one year and includes 40 hours of interactive sessions divided into Launch Sessions, Main Sessions, and Wrap-Up Sessions. These sessions are designed to progressively build the skills and confidence of the participants. The program begins with the Launch Sessions, which introduce the participants to the program, establish norms and culture, and set the foundation for a supportive environment. Following the introductory phase, the main sessions focus on developing specific skills. These include reflective practices for personal growth, workshops on identifying strengths and passions, and goal-setting exercises. Participants learn financial literacy through budgeting and planning activities and build support networks through networking exercises. Sessions also cover personal branding, effective communication, problem-solving using design thinking, and self-advocacy to empower girls to overcome barriers and assert their needs. The program's final phase, the Wrap-Up Sessions, sees participants getting ready for the Girl Boss Showcase. This stage involves practicing and preparing the presentation, giving the girls a chance to show off the abilities and knowledge they have learned. A graduation ceremony honouring the participants' accomplishments and exhibiting their work takes place at the end of the programme.
My main contribution was identifying and evaluating appropriate validated measurement scales for the various domains covered by the Girl Boss Rise project as a primary step for preparing assessment tools for the project intervention. This task was crucial for ensuring the program's effectiveness and for accurately assessing the progress of the participants. I researched and reviewed numerous psychological and educational scales to find the best ones to measure domains such as confidence, financial literacy, goal-

setting abilities, communication skills, and problem-solving skills. Assessment instruments will be developed based on these scales. With the aid of these instruments, baseline data will be collected, and programme participants' progress will be monitored. I became familiar with new measuring techniques during this process, which increased my confidence in my ability to create valid assessments that offer insightful information. By combining my prior understanding of psychometrics with the real-world requirements of the Girl Boss Rise project, I was able to evaluate the validity and reliability of several scales. his experience not only allowed me to contribute meaningfully to the project but also enriched my understanding of program planning and evaluation.

DESK REVIEW ON THE TOPIC: IMPACT OF SOCIAL GENDER NORMS ON PSYCHOLOGICAL, PHYSICAL AND EMOTIONAL WELLBEING OF GIRLS AND WOMEN

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BACKGROUND

TOPIC: IMPACT OF SOCIAL GENDER NORMS ON PSYCHOLOGICAL, PHYSICAL AND EMOTIONAL WELLBEING OF GIRLS AND WOMEN

Gender norms are social norms defining acceptable and appropriate actions for women and men in a given group or society. They are embedded in formal and informal institutions, nested in the mind, and produced and reproduced through social interaction. They play a role in shaping women and men's (often unequal) access to resources and freedoms, thus affecting their voice, power and sense of self.(1)

Social gender norms are deeply entrenched societal expectations that dictate the behaviours, roles, and attributes considered appropriate for individuals based on their perceived gender. These norms are perpetuated through various cultural, social, and institutional mechanisms, including family upbringing, educational systems, media portrayals, and peer interactions. They prescribe distinct roles for men and women, often promoting traditional notions of masculinity and femininity. For instance, men are typically expected to be assertive, strong, and career-oriented, while women are often expected to be nurturing, passive, and focused on family life. These norms influence personal identity, shaping how individuals perceive themselves and their place in society. They also impact opportunities, often limiting women’s access to education, economic resources, and leadership positions.

Physically, these norms can limit access to healthcare and nutrition, as societal expectations often prioritize men's health and needs. Girls and women are frequently the targets of harsh criticism about how they look, which can result in problems including compulsive overeating, chronic stress, and eating disorders. The pressure from society to maintain an unrealistic body image can be harmful to one's physical well-being and play a role in the emergence of eating disorders, malnutrition, and other health issues. Moreover, social norms that support male dominance and female submissiveness have a substantial impact on the prevalence of gender-based violence, which includes sexual harassment and domestic abuse. In addition to causing immediate bodily harm, these violent acts can have long-term psychological effects, leaving survivors with trauma that can negatively impact their general wellbeing for years. Globally, intimate partner violence (IPV) is a human rights issue and a widespread public health challenge, with nearly one-third of women reporting experience of physical and/or sexual violence in their lifetime (Devries et al., 2013). Despite stringent laws protecting women from IPV, the prevalence of IPV in India mirrors global figures, with one in three women ages 15–49 reporting experience of physical and/or sexual violence in their lifetime (International Institute for Population Sciences, 2017). In terms of prevalence among adolescent girls and young women (AGYW), 25% of women aged 20–24 years and 18% of women aged 15–19 years reported experiencing any physical or sexual IPV violence (International Institute for Population Sciences, 2017). In the context of India, gender disadvantage among teenagers includes exposure to violence, marriage and childbearing during adolescence, a decrease in decision-making autonomy, a rise in domestic duties and responsibilities, absenteeism, and school dropout rates.

Psychologically, constant exposure to gender stereotypes can lead to issues like low self-esteem, anxiety, and depression, as women and girls internalize societal messages that devalue their abilities and potential. Rigid gender norms limit women's and girls' psychological growth and self-expression, making it more difficult for them to completely explore and embrace their identities. People who are under pressure to live up to society's standards may feel that the responsibilities that are placed upon them restrict their sense of self and purpose. Girls and women who don't follow the norms frequently experience discrimination, social exclusion, and stigma, which worsens their mental health and general well-being.

Over the past decade, concern about young people's mental health has increased globally. Today, depression is the leading cause of years lost to disability for adolescents ages 10–19. Early adolescence marks the beginning of an increase in the incidence of depression. The World Health Organization estimates that over half of all mental health conditions emerge by age 14. Depression carries with it lifelong ramifications for educational and economic trajectories. Adolescence is also the period during which a sex divide in depression is first observed; and by age 16, depression is nearly twice as common among girls than boys. This disparity persists throughout the life course. While developmental, biological, and contextual factors have been proposed to help explain this sex difference, researchers are still exploring the extent to which this disparity is shaped by social factors such as gendered expectations. Several gendered determinants of this gap have been hypothesized, including women and girls' marginalization, disproportionate exposures to adversity and violence, and distress associated with caretaking and household responsibilities.(2) India accounts for a third of child brides globally with 16% of adolescent girls aged 15–19 currently married. There has been much speculation about the mental health consequences of early marriage (defined as marriage before 18 years of age) for girls, but no prospective study has investigated the relationship.(3) Child marriage profoundly changes a girl's life chances with loss of education and contact with families and peers. Higher rates of unintended pregnancy and domestic violence pose further risks.

Emotionally, the pressure to conform to traditional roles can result in chronic stress and a sense of unfulfillment, particularly when personal aspirations conflict with societal expectations. Women and girls may feel pressured to conform to cultural expectations rather than expressing their true sentiments, which can result in the suppression of genuine emotions due to the pressure to embody specific features. A weakened sense of self-worth and low self-esteem might arise from internalising rules. Social standards frequently stigmatise women's vulnerability because they assume they will quietly carry the weight of their emotions. This unwillingness to ask for help can make mental health conditions like depression and anxiety worse. The emotional strain of meeting these gendered norms can lead to a vicious cycle of insecurity and anxiety. Women and girls may endure long-term stress and burnout if they don't let go of their feelings and follow social norms. Social norms facilitating systematic gender discrimination also contribute to stillbirths in India, which is one of four countries with the highest stillbirth rates in the world. Gender discrimination includes disparity of female education, son preference, early marriage and low female autonomy. Cultural factors linked to stillbirths in India include; traditions such as seclusion of pregnant women; dissuading women from utilizing preventive services; prescribing birthing practices such as dietary restrictions; the type of remedies sought when problems arise, such as traditional remedies and spiritual healing; and other practices such as consanguineous marriages(4). These social and cultural factors also influence how women perceive, grieve, and cope with stillbirth.

This study aims to investigate the effects of gender norms on women's physical, mental, and emotional well-being as well as to support the Indian public health system to formulate policies that promote the welfare of women in India.

OBJECTIVE

The objective of this study is to investigate the impact of social gender norms on the physical, mental, and emotional well-being and particularly reproductive health of women and girls in India. By examining the various ways in which these norms influence personal identity, access to resources, and exposure to violence and discrimination, the study seeks to provide evidence-based insights that can inform public health policies and initiatives. Ultimately, the goal is to support the formulation of policies that promote gender equality and enhance the welfare of women and girls in the Indian public health system.

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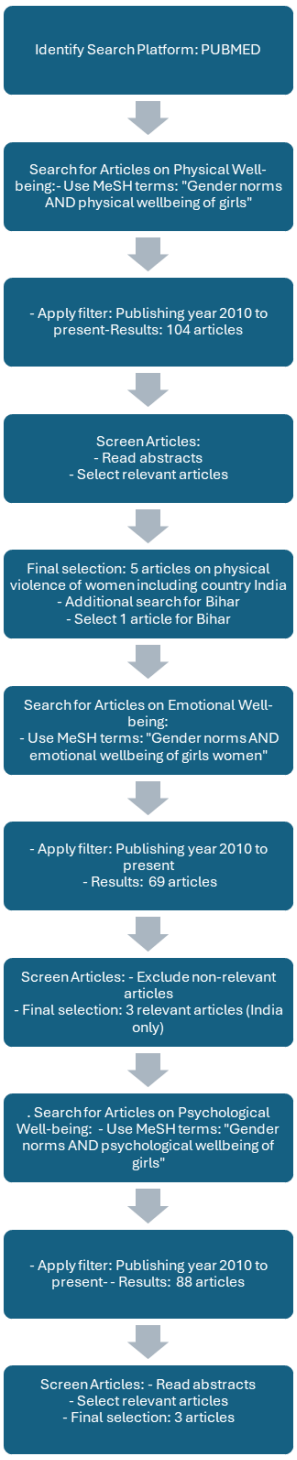
METHODOLOGY

For my literature review on the impact of gender norms on the wellbeing of women and girls, I used PubMed to search for relevant articles. As my topic included three different areas therefore I had to search them separately. For physical wellbeing, I used the terms "Gender norms AND physical wellbeing of girls," filtered for articles from 2010 onwards, and selected 5 relevant studies from 89 results, including 1 specific to Bihar and UP. For emotional wellbeing, I used "Gender norms AND emotional wellbeing of girls women," found 69 results, and chose 3 relevant studies from India. For psychological wellbeing, the search "Gender norms AND psychological wellbeing of girls" yielded 88 results, from which I selected 3 relevant articles.


Identify Search Platform: PUBMED
Search for Articles on Physical Well-being:- Use MeSH terms: "Gender norms AND physical wellbeing of girls"
- Apply filter: Publishing year 2010 to present-Results: 104 articles
Screen Articles:
- Read abstracts
- Select relevant articles
Final selection: 5 articles on physical violence of women including country India
- Additional search for Bihar
- Select 1 article for Bihar
Search for Articles on Emotional Well-being:
- Use MeSH terms: "Gender norms AND emotional wellbeing of girls women"
- Apply filter: Publishing year 2010 to present
- Results: 69 articles
Screen Articles: - Exclude non-relevant articles
- Final selection: 3 relevant articles (India only)
. Search for Articles on Psychological Well-being: - Use MeSH terms: "Gender norms AND psychological wellbeing of girls"
- Apply filter: Publishing year 2010 to present- - Results: 88 articles
Screen Articles: - Read abstracts
- Select relevant articles
- Final selection: 3 articles

Evidence Table:

	Title	Year of publication	Study design/ type of study	Study or target population	Sample size	Aim	Recommendations	Limitations	Findings
2	The Role of Gender Norms on Intimate Partner Violence Among Newly Married Adolescent Girls and Young Women in India: A Longitudinal Multilevel Analysis	2023	Prospective cohort	300 urban and rural PSUs typical of UP and Bihar were used to choose married adolescent girls and young women (15–19 years old) using a multistage selection approach.	3,959 individuals from 282 communities	To investigate the longitudinal association between community-level gender norms and intimate partner violence (IPV) among married girls in India	In order to have a more thorough knowledge of community-level gender norms and their influence on IPV, future study should incorporate data from spouses and other male community members. More in-depth questions ought to be included in future surveys in order to fully capture the spectrum of sexual IPV experiences. This would give a more realistic image of the type and frequency of sexual IPV among young adults.	The Gender Equitable Men (GEM) scale and the views towards wife-beating scale, two frequently used measures in IPV research, were not included in the dataset. A single question about being coerced into having sex during the previous year was used to gauge sexual IPV. The complete spectrum of sexual IPV experiences was not covered by this question, which may have underestimated its prevalence. The investigation was carried out in two wealthy northern Indian states with comparable sociocultural backgrounds. This restriction may hinder the diversity of gender norms at the community level and restrict the applicability of the results to other areas with distinct sociocultural contexts.	A significant finding in the 26% increase in physical IPV odds linked to more egalitarian community-level gender norms, though this does not apply to sexual IPV. Another key finding is that women's participation in paid work is associated with higher odds of experiencing physical IPV, aligning with previous studies that suggest shifts in gender power dynamics can increase IPV.
3	Social and Cultural Factors Associated with Perinatal Grief in Chhattisgarh, India	2022	observational study	Convenience sampling was used in randomly chosen villages to pick women of reproductive age (15 to 49 years old) from the Mungeli area of the Bilaspur district, a rural area in the northwest of Chhattisgarh.	women of reproductive age (N = 355) who had experienced stillbirth (n = 178) and compared to those who had not (n = 177)	to explore women's perceptions of stillbirth and examine how factors such as gender and power, social support, coping efforts, and religious beliefs influence perinatal grief outcomes among poor women in rural Chhattisgarh	Research should think about combining qualitative and quantitative data collection techniques, such as interviews and validated psychological evaluation instruments, to lessen the bias caused by self-reporting. Using data from several sources to triangulate findings can increase their accuracy and dependability. Studies including a wider range of individuals from various Indian areas, cultures, castes, castes, and faiths might enhance generalizability.	Since this was a cross-sectional study, it was not possible to establish causality for any of the observed correlations. A recollection error or strongly felt emotions surrounding the topic could have led to biased self-reporting.	The study found that Indian women experience significant levels of perinatal grief, comparable to those in Western countries, contributing to mental health problems and social issues. The study highlights the issue of gender discrimination in India, reflected in higher rates of stillbirths among women with multiple daughters and distorted sex ratios. This discrimination impacts women's grief and overall mental health. Social support and progressive social norms were found to be negatively associated with perinatal grief, indicating that these factors offer some protection against intense grief. The study emphasizes the need for culturally appropriate health education programs that increase social support and address social norms to reduce psychological distress and prevent complicated perinatal grief.
4	Prevalence and correlates of psychological distress among 13–14 year old adolescent girls in North Karnataka, South India: a cross-sectional study	2019	Cross sectional study	Two cohort waves, spaced one academic year apart, were used to recruit all 60 village-dwelling DUST girls in their final year of elementary school.	1191 low caste girls in two districts in north Karnataka	to estimate the prevalence of psychological distress among adolescent girls from low caste communities in rural South India and to identify correlates or factors associated with psychological distress in this population	To gain a deeper understanding of the causal links between psychological distress and gender disadvantage variables, conduct longitudinal investigations.	Cross-sectional survey data make it impossible to determine the direction of connections or draw conclusions about causes from the findings. Due in part to social desirability bias and confidentiality concerns, the study's youthful participants (ages 13 to 14) probably underreported sensitive subjects.	The study found high levels of psychological distress, including feelings of being down, depressed, or hopeless. This distress was strongly associated with factors such as recent sex-teasing, harassment or bullying in school, and frequent absenteeism or school drop-out. One-third of the study population reported having no hope for the future. This was independently associated with recent sex-teasing The prevalence of suicidal ideation in the past two weeks was 2.1%. Suicidal ideation was independently associated with experiencing recent abuse and a lack of parental emotional support. Psychological distress was associated with several gender disadvantage factors, including school drop-out, child marriage, recent abuse, and harassment. The study suggests that these factors are common in many low and middle-income countries (LMICs) and contributes significantly to the mental health challenge faced by young girls
5	Adolescent girls' health, nutrition and wellbeing in rural eastern India: a descriptive, cross-sectional community-based study	2019	Cross sectional study	Adolescent females between the ages of 10 and 19 who resided in the 50 villages and the hamlets that were part of them in Khunjpani block, West Singhbhum district, Jharkhand, were the study's target population. Within this age group, married and single teenage girls were to be included in the survey.	The sample size of the study is 3,384 adolescent girls aged 10–19 years from the 50 study villages in the Khunjpani block, West Singhbhum district, Jharkhand.	to evaluate the health, nutrition, and overall well-being of adolescent girls aged 10–19 years residing in a primarily tribal region of rural Jharkhand, India	Create or modify established mental health assessment instruments tailored to the local environment to increase the precision and applicability of mental health data. To lower non-response rates, schedule follow-up visits with homes whose eligible girls were not present for the first visit.	Because of the file tribe's special focus, the findings might not apply to other Indian tribal communities. Self-reported data may be prone to recall bias or underreporting because of social desirability or fear of penalties, especially when it comes to sensitive topics like violence.	Emotional and physical violence, often perpetrated by parents or family members, is a major issue. Emotional violence includes insults, humiliation, and intimidation, commonly referred to as sex-teasing. A notable percentage of girls report symptoms of depression and anxiety, with a small but significant number considering or attempting suicide. High prevalence of anaemia among adolescent girls, though further investigation into its aetiology is needed to design appropriate interventions. Limited access to and agency in utilising sexual and reproductive health services among girls. Many girls attend school, but absenteeism and dropout rates increase with age, primarily due to employment and domestic responsibilities.
6	Improving health with programmatic, legal, and policy approaches to reduce gender inequality and change restrictive gender norms	2019	Randomized controlled trials (RCTs)	The target population for the study comprised youth aged 0–24 years. The study included programmes from diverse geographical regions, though there was a concentration in sub-Saharan Africa (46%), South Asia (24%), and North America (16%)	The final sample size for the analytic comprised 87 evaluations of 85 programmes that met the criteria for assessing causality	to investigate approaches aimed at decreasing gender inequalities and restrictive gender norms to improve health outcomes, the study focuses on societal, community, and household settings that significantly influence health	Future research should include more programmes from underrepresented regions to enhance global applicability. Programmes should integrate a stronger focus on intersectionality to address the needs of diverse populations. Developing more comprehensive data collection methods, especially regarding men's health and gender norms, will provide a fuller understanding of the impact of gender transformative programmes.	A significant proportion of the programmes were concentrated in sub-Saharan Africa and South Asia, which may limit the applicability of findings to other regions. Few programmes addressed intersectionality, focusing primarily on gender without adequately considering ethnic or racial minorities. The reliance on existing data sources like the DHS posed constraints, particularly due to insufficient data on men's health and decision-making roles.	Educational programmes focusing on gender equality led to higher school enrollment and retention rates among girls. Interventions that engaged both men and women in discussions about gender norms and violence were effective in reducing instances of gender-based violence. Gender-transformative programmes were successful in shifting traditional gender norms, thereby enhancing women's decision-making power within households.
7	Unequal Gender Norms Are Related to Symptoms of Depression Among Young Adolescents: A Cross-Sectional, Cross-Cultural Study	2021	Cross sectional study	Adolescent urban impoverished school-going students in five distinct locations: Dnipropar, Indonesia; Shanghai, China; Cuenca, Ecuador; Plovdiv, Bulgaria; and Semarang, Indonesia, mostly between the ages of 10 and 14.	There were 1,631 analytical samples from Shanghai, 851 from Cuenca, 624 from Plovdiv, 1,396 from Semarang, and 1,531 from Dnipropar.	This study compares these associations between boys and girls and examines whether perceptions of unequal gender norms mediate the relationship between sex and depressive symptoms, with a focus on the disproportionate mental health burden among girls. Adolescents aged 10 to 14 who live in low-income communities across five cities in four countries are the target population.	To determine the causal relationship between depression and gender norms, do long-term research. This would make it easier to comprehend how attitudes towards gender norms change over time and how they affect mental health in the long run. Increase the diversity and representativeness of the study samples by expanding it, especially to underrepresented areas. This will contribute to a more thorough understanding of the ways in which gender norms impact teenage mental health in various cultural and socioeconomic contexts.	The lack of representativeness of the samples restricts the applicability of the results to different social backgrounds, including but not limited to teenagers who are not enrolled in school, rich metropolitan populations, and those residing in rural areas. Determining the prevalence of depression is limited since the measure of depressed symptoms employed has only been validated in small samples and cannot be construed as diagnostic.	Girls experienced more ACEs compared to boys in Cuenca. Girls generally reported higher depressive symptoms than boys, except in Dnipropar where no significant sex differences was observed. Girls in Cuenca perceived social rules to be more unequal, while those in Shanghai and Semarang perceived them to be more equal. Boys generally perceived gendered traits to be more unequal compared to girls, except in Semarang.

8	Impact of social capital, harassment of women and girls, and water and sanitation access on premature birth and low infant birth weight in India	2018	cohort study design	Women in India between the ages of 15 and 49 who gave birth to a child between 2004 and 2012 are the study's target demographic. These ladies are a part of the 2,474 villages or ethnic neighborhoods that make up 33 Indian states and union territories that are included in the India Human Development Survey.	1,926 eligible subjects make up the study's sample size, which is made up of women who reported having a child between the survey waves of 2004/2005 and 2011/2012 and who took part in both waves of the India Human Development Survey (IHDS).	The study's objective is to provide a conceptual framework that incorporates a number of current ideas to explain how social power, biology, and social experience within a gender system combine to produce health-related disparities.	Gather comprehensive information on maternal health issues, which are significant confounders in the study of birth outcomes. These conditions include BMI, nutritional status, and infections of the reproductive system. Conduct longitudinal studies to track women from preconception through pregnancy to childbirth. This approach helps in establishing causal relationships and understanding the temporal sequence of exposures and outcomes.	Due to data limitations, potential maternal variables like cysts, maternal BMI, and reproductive tract infections were excluded from the analysis, which may have introduced residual confounding. There's a chance that underreporting of harassment based on gender manifests in non-differential misclassification.	Preterm Birth (PTB) occurred in 16.3% of women. Low Birth Weight (LBW) occurred in 15.5% of women. Harassment of women and girls was significantly associated with an increased risk of LBW. General local states, collective efficacy, and social cohesion were not significantly associated with PTB or LBW. Spending more than two hours per day fetching water was associated with an increased risk of LBW (OR = 1.33; CI = 1.05, 1.70). Sharing a building/compound latrine was associated with an increased risk of PTB (Odds Ratio (OR) = 1.55; 95% Confidence Interval (CI) = 1.05, 2.28) compared to having a private latrine.
9	Factors associated with recent intimate partner violence experience amongst currently married women in Afghanistan and health impacts of IPV: a cross sectional study	2018	cross-sectional analysis	The target population is made up of married women in six villages in the province of Nangarhar and Kabul, ages 18 to 49. These ladies were chosen from the villages' poorest homes; they had no formal education, little money, and no jobs.	The study's sample size consists of 935 married women who were recruited for the assessment.	This study's main goal is to look at the variables linked to recent intimate partner violence (IPV) among Afghan women who are currently married. It specifically focuses on the traits that are usually thought to be responsible for IPV at the person, partner, household, and community levels.	Incorporate more specific measures of poverty and economic position, such as household income, assets, and employment status, to enhance the measurement of economic aspects. This would provide a deeper comprehension of the connection between IPV and economic circumstances.	The study's cross-sectional design makes it more difficult to determine the causal links between IPV and the related risk variables. In order to establish temporal sequence and causality, longitudinal data would be required. Due to self-selection, selection bias may have been introduced into the study. This implies that not all married women in Afghanistan may be included in the findings.	Women experiencing battered cruelty or violence from other family members were more likely to report IPV. Childhood trauma was associated with higher incidences of physical and emotional IPV. Inequitable gender attributes at the community level were linked to higher IPV rates.
10	How gender norms are reinforced through violence against adolescent girls in two conflict-affected populations	2018	randomized control trial (RCT)	Adolescent females in Ethiopian refugee camps, ages 10–19, and those in South Kivu, Democratic Republic of the Congo (DRC), ages 10–14 Adolescent girls' caregivers, comprising male and female caregivers	66 in-depth interviews (IDIs) were conducted with adolescent girls 59 IDIs were conducted with caregivers	to examine local attitudes and social norms regarding responses to physical and sexual abuse of girls in conflict-affected settings	To encourage participants to feel more comfortable submitting sensitive information, tighten confidentiality safeguards. This can entail making certain that information is safely and anonymously stored. Undertake distant research projects for distinct age cohorts (e.g., 12–14 years, 15–17 years, and 18–19 years) in order to better customize interventions and provide support according to the unique requirements and developmental phases of each group.	The responses of the participants may be biased by sisters because of how delicate the themes covered are. This is a typical problem in sensitive topic qualitative research.	Explicit consent for sexual activity is often absent in societies, and there is a stigma around visiting a boy's house, which is often equated with consenting to sex. This is compounded by internalized acceptance of male superiority and local norms on rape and extramarital sex. Cultural norms that justify Gender-Based Violence and the commercialization of girls contribute to the high prevalence of violence. In conflict-affected populations, these norms may be heightened due to limited social and financial resources, and the absence of male family members due to conflict.
11	Is Working Risky or Protective for Married Adolescent Girls in Urban Slums in Kenya? Understanding the Association between Working Status, Savings and Intimate-Partner Violence	2016	Quantitative and Qualitative	Adolescent girls aged 15–19 who live in low-income informal settlements in Nairobi, Kisumu, Nakuru, and Thika are the study's target population for the quantitative component. Young men aged 20–30 are the study's target population for the qualitative component, which aims to understand relationship dynamics and potential exploitative sexual relationships with adolescent girls.	3,204 teenage females made up the sample size for the quantitative portion of the study, with 452 married girls receiving particular analytical attention. 48 participants made up the sample size for the qualitative component, 32 of whom were teenage females and 16 of whom were young men.	to investigate the relationship between employment and intimate partner violence (IPV) experience among teenage females living in urban slums in Kenya, as well as the influence of having access to independent financial resources (savings) on this risk.	Include interviews with the adolescent females' partners in the qualitative component to learn more about their thoughts on IPV, gender roles, and economic empowerment. Increase the variety of urban slum environments and persons included in the study sample by taking into account variables including socioeconomic level, geography, and cultural background. This would increase the findings' capacity to be applied to larger populations.	Recall bias might possibly impact the accuracy of self-reported data on experiences of intimate partner violence and economic activity, especially when it comes to delicate subjects like violence. Because of the cross-sectional nature of the quantitative component, it was more difficult to determine the causal links between work, savings, and intimate partner violence.	Married girls who worked had an 81% greater likelihood of experiencing violence compared to those who did not work. Working without regular savings was associated with a 35% greater likelihood of violence. Girls who worked and saved regularly did not face significantly higher odds of violence compared to those who did not work. The presence of a partner who trusted the girl with money was significantly associated with a lower risk of experiencing violence. The study found no significant difference in demographic characteristics between married girls who worked and those who did not. The majority of the girls were aged 18 or 19, with an average marriage age of 17 and husbands typically aged 24.
12	Child marriage and the mental health of adolescent girls: a longitudinal cohort study from Uttar Pradesh and Bihar, India	2022	cohort study design	Adolescent girls in the states of Uttar Pradesh and Bihar, ages 10 to 19, make up the study's target population.	There were 16,625 females total, 9,732 of whom were single. 12,251 of the original female participants underwent follow-up interviews. 11,064 female participants made up the effective follow-up rate	to investigate the relationships between adolescent marriage and mental health outcomes, with a particular focus on depression symptoms and suicide risk among India's adolescent girls. Examining the relationships between delivery, mental experiences of physical, emotional, or sexual abuse, and the occurrence of depressive symptoms in married adolescent girls	Use techniques like more regular follow-up, utilizing a variety of communication modes, and offering incentives for ongoing engagement to minimize loss to follow-up.	The study had ages 20% follow-up loss rate, which could create bias if the follow-up loss rate was considerably different from the study's remaining participant population.	Working married girls reported higher instances of physical violence compared to non-working girls, with 21.6% of working girls experiencing violence in the last six months. The type of job and the amount of income influenced the likelihood of experiencing violence. Higher income without regular savings was associated with increased odds of physical violence. Trust from a partner regarding money management emerged as a protective factor against IPV. Relationship dynamics such as lack of trust and societal norms about gender roles were identified as factors contributing to IPV. Regular savings were linked to reduced IPV risk, highlighting the importance of financial education for girls to promote consistent saving habits. Economic empowerment programs that also address gender inequities and promote social networks showed potential in reducing IPV risk.

Evidence Table link- evidence table lr (2).xlsx

KEY FINDINGS OF THE TOPIC: IMPACT OF SOCIAL GENDER NORMS ON THE PSYCHOLOGICAL, PHYSICAL, EMOTIONAL AND REPRODUCTIVE HEALTH OF WOMEN AND GIRLS

Commented [3]: Please add about impact of gender norms on reproductive health of women. That is completely missing

Intimate Partner Violence (IPV) and Gender Norms

Paradoxical Impact of Equitable Norms: While more equitable community-level gender norms are generally positive, they paradoxically correlate with a 26% increase in physical IPV odds. This counterintuitive finding suggests that shifts toward gender equity might provoke backlash in some contexts.
Economic Participation and IPV: Women's participation in paid work is linked to higher odds of experiencing physical IPV, reflecting tensions and resistance against shifting gender power dynamics. Married girls who work, especially without regular savings, face increased violence, whereas financial trust from a partner and regular savings reduce this risk.

Mental Health and Psychological Distress

High Levels of Distress: Women and girls experience significant psychological distress, including depression, anxiety, and suicidal ideation, largely due to gender-related adversities like harassment, child marriage, and sexual abuse.
Perinatal Grief: Indian women face significant perinatal grief comparable to Western counterparts, exacerbated by gender discrimination and societal pressures. Social support and progressive social norms provide some protection against intense grief, highlighting the need for culturally appropriate mental health interventions.

Gender-Based Violence and Societal Norms

Cultural Justifications for Violence: Gender-based violence is prevalent and often culturally justified, particularly in conflict-affected populations where limited resources and the absence of male family members exacerbate the situation.
Family-Perpetrated Violence: Emotional and physical violence by family members is common, leading to severe mental health issues, including depression and suicidal tendencies.

Health Outcomes and Environmental Factors

Adverse Pregnancy Outcomes: Harassment and gender-based violence increase risks of adverse pregnancy outcomes like low birth weight (LBW) and preterm birth (PTB). Environmental factors, such as extensive time spent fetching water and sharing latrines, also contribute to these risks and all this leading to emotional stress and affecting the emotional wellbeing of women and girls.

Childhood Trauma and Long-term Impacts

Lasting Effects of Childhood Trauma: Childhood traumas, including exposure to violence, significantly increase the likelihood of experiencing IPV in adulthood. Girls report more adverse childhood experiences (ACEs) and higher depressive symptoms, underscoring the need for early interventions.

INTEGRATED RECOMMENDATIONS

Culturally Sensitive Health Education: Develop and implement culturally appropriate health education programs to increase social support and address harmful social norms, thereby reducing psychological distress and preventing complicated perinatal grief.

Combined Economic and Social Interventions: Design economic empowerment programs that also address gender inequities and promote social networks to mitigate IPV risks and improve overall well-being.

Enhanced Support Services: Establish accessible mental health and support services tailored to the unique challenges faced by women and girls in different cultural contexts.

Community Engagement: Engage both men and women in discussions about gender norms and violence to foster community-wide shifts toward gender equity and reduce gender-based violence.

Educational Outreach and Retention: Implement and expand educational programs focusing on gender equality to retain girls in school and provide support against gender-based adversities.

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SECONDARY ANALYSIS

INTRODUCTION

Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition

Under the National Health Mission (NHM), improving mother and child health and their survival rates is essential to achieving national health goals. Reducing maternal, neonatal, and child mortality is another goal of SDG Goal 3. In recent years, creative approaches have emerged as part of the national effort to provide diverse demographic groups with evidence-based interventions. In order to impact the critical interventions for lowering maternal and child morbidity and mortality, the Ministry of Health & Family Welfare launched Reproductive, Maternal, Newborn, Child, Adolescent Health and Nutrition (RMNCAH+N) in response to the Government of India's "Call to Action (CAT) Summit" in February 2013.

INTRODUCTION OF RMNCHN IN CONTEXT OF BIHAR

The Reproductive, Maternal, Newborn, Child, and Adolescent Health and Nutrition (RMNCHN) strategy is a vital framework specifically designed to address the extensive health needs of women, children, and adolescents. In Bihar, a state in India marked by profound health challenges, the implementation of RMNCHN strategies has been pivotal in striving to improve health outcomes across various demographic segments. This strategic approach is tailored to tackle the multifaceted health issues prevalent in Bihar, including high maternal and infant mortality rates, widespread malnutrition, and inadequate access to quality healthcare services.

Bihar, with a population exceeding 120 million, is one of India's most populous and economically disadvantaged states. Historically, Bihar has faced significant health challenges, with key indicators often lagging national averages. The state's health system has struggled with high maternal and infant mortality rates, chronic malnutrition, limited access to healthcare facilities, and severe shortages of trained healthcare professionals.

To address these critical health challenges, the RMNCHN strategy in Bihar has been meticulously designed and implemented. The initiatives focus on improving maternal and child health services, enhancing nutritional status, and increasing access to reproductive health services.

Key Interventions and Initiatives:

To address the critical health challenges, the RMNCHN strategy in Bihar has been meticulously designed and implemented. The strategy involves strengthening health infrastructure by prioritizing the construction and functionalization of sub-centres in high-focus districts, ensuring that at least 25% of sub-centres under each Primary Health Centre (PHC) operate as delivery points. To address staffing shortages, particularly in remote areas, Bihar employs specialists, doctors, staff nurses, and Auxiliary Nurse Midwives (ANMs) on a

contractual basis under the National Rural Health Mission (NRHM). Maternal and child health initiatives include Nutritional Rehabilitation Centres (NRCs) for children with severe acute malnutrition and the Integrated Management of Childhood Illnesses (IMNCI) strategy to combat pneumonia, diarrhoea, and malaria. Family planning services are bolstered through fixed-day sterilization centres and safe abortion services at 24/7 PHCs. The strategy also includes incentives for healthcare workers in hard-to-reach areas and partnerships with private providers and NGOs to supplement public health services. Monitoring and evaluation are integral, with performance appraisals linked to progress indicators to ensure continuous improvement. Through these efforts, Bihar aims to reduce mortality rates and improve health outcomes for its vulnerable populations.

Maternal and Newborn Health: Key interventions include promoting institutional deliveries, improving the quality of care in public health facilities, and strengthening referral systems. Programs like the Janani Shishu Suraksha Karyakram (JSSK) provide free maternal and child health services, encouraging safe childbirth practices. Ensuring skilled birth attendance and access to emergency obstetric care are prioritized to reduce maternal and neonatal mortality.

Nutrition Programs: Initiatives such as the Bal Kuposhan Mukt Bihar campaign aim to tackle child malnutrition through community-based activities, promoting early initiation of breastfeeding, and appropriate complementary feeding practices. Iron and Folic Acid (IFA) supplementation programs target anemia reduction among pregnant women and adolescents. The Integrated Child Development Services (ICDS) scheme provides supplementary nutrition, growth monitoring, and health education to improve the nutritional status of children and mothers.

Adolescent Health Programs: Efforts to improve adolescent health include school-based interventions for nutrition education, menstrual hygiene management, and promoting delay in age at marriage. The Adolescent Reproductive and Sexual Health (ARSH) program focuses on providing adolescents with comprehensive reproductive health education and services, aiming to reduce early pregnancies and improve reproductive health outcomes.

Community-Based Interventions: Engaging community health workers, such as Accredited Social Health Activists (ASHAs), in outreach and awareness programs has been crucial in extending healthcare services to rural and underserved populations.

-The NFHS 5 Bihar Fact Sheet offers the following statistics in relation to RNMCHN.

Reproductive Health: The total fertility rate in Bihar has declined to 3.0 children per woman, down from 3.4 in the previous NFHS survey, yet it remains higher than the national average. Adolescent fertility, a crucial indicator of reproductive health, stands at 77 births per 1,000 women aged 15-19, reflecting early childbearing practices that pose health risks to young mothers and their children.

Maternal Health: Maternal health services have shown improvement, yet gaps persist. For instance, 52.9% of mothers had an antenatal check-up in the first trimester, and 25.2% had at least four antenatal visits, indicating a positive trend from previous years but still requiring enhancement. Institutional births have increased to 76.2%, with 56.9% occurring in public health facilities, showing a significant improvement in maternal healthcare access.

Newborn Health: Neonatal mortality in Bihar is at 34.5 per 1,000 live births, reflecting the need for better perinatal care. Efforts to reduce neonatal deaths include increasing the coverage of postnatal care, with 57.3% of mothers receiving postnatal care from health personnel within two days of delivery.
Child Health: Child health indicators highlight severe nutritional challenges. The prevalence of stunting (height-for-age) among children under five is 42.9%, and 22.9% are wasted (weight-for-height), demonstrating critical undernutrition issues that impact long-term health and development. Vaccination coverage has improved, with 71.0% of children aged 12-23 months fully vaccinated, up from 61.7% in the previous survey.
Adolescent Health: Adolescent health remains a key focus, given the high rates of early marriage and childbearing. About 40.8% of women aged 20-24 years were married before the age of 18, and 11.0% of women aged 15-19 years were already mothers or pregnant at the time of the survey. These factors contribute to ongoing cycles of poor health and nutrition among young women and their children.
Nutritional Status: Nutrition indicators for children in Bihar point to severe issues. Among children under five, 69.4% are anemic, and 41.0% are underweight (weight-for-age).

In conclusion, the RMNCHN strategy in Bihar represents a comprehensive and targeted approach to improving health outcomes for women, children, and adolescents. Through focused interventions, strategic partnerships, and community engagement, Bihar is making strides towards achieving better health and well-being for its population. Continued efforts and sustained focus on these areas are essential for overcoming the deep-rooted health disparities in the state and ensuring a healthier future for its residents.

METHODOLOGY

SELECTION OF QUESTIONS FROM TOOL/CODEBOOK IN DETAIL

1. **Initial Survey Participation**
   -The survey was already underway in the organization when we joined.
   -We were integrated into the ongoing data collection process.
   -Through this participation, we learned about the data collection methods, including the tools and techniques used for different age groups.
2. **Survey Design and Execution**
   -The survey was structured as a household survey as a part of ASSIST (Assessment of system strengthening to inform system thinking) Phase 1, targeting 13 different districts of Bihar.
   -We were divided into small groups, each accompanied by program leaders and data collectors.
   -Our teams visited various districts to conduct the survey and the sample size obtained was of 2250 mothers/ beneficiaries from each category.
   -During these field visits, we closely observed the data collection process and gained practical knowledge about the implementation of the questionnaire tool.

3. **Data Analysis and Codebook Preparation**
   -After data collection, the data analyst began the analysis phase.
   -The analyst created a detailed codebook, which included:
      - All variables
      - Questions
      - Values
      - Labels

   -The codebook was categorized into three distinct age groups: 0-5, 6-11, and 12-23 months.
   -The questions included in the codebook were in context to RMNCHN

4. **Distribution and Review of the Codebook**
   -Once the codebook was prepared, it was shared with all team members.
   -We were tasked with reviewing the codebook to identify and select questions pertinent to socio-demographic aspects.
5. **Creation of Indicator Matrix**
   -1st we created an Indicator matrix focused on questions related to the socio-demographic characteristics of respondents & then we created another matrix with additional health indicators.

- **Sociodemographic Indicators**: We began by creating an indicator matrix for 13 sociodemographic indicators common across all three tools.

-Components of the Matrix: This matrix included several key elements:
Question Number: The specific number assigned to each question within the tool.
Question Label: A brief description of what the question entails.
Variable: The variable name used in the software.
Value: The possible responses or data points for each question.
Label of the Value: Descriptive labels for each response or data point.

- **Maternal, Newborn, Nutrition, and Family Planning Indicators**: Following the sociodemographic indicators, we expanded our matrix to include 18 additional indicators encompassing maternal health, newborn care, nutrition, and family planning.

(Both the Indicator matrices are presented in the next section)

- The Excel sheet was organized to include:
Tool questions
Question labels
Respective variables
Corresponding values
- For instance, for the variable "mother's age," we defined three categories:

Less than or equal to 24 years
25-34 years
35 years and older

- These categories were coded as 0, 1, and 2, respectively. This coding facilitated straightforward data analysis in SAS software.

6. **Coding and Frequency Analysis in SAS Software**
   - We proceeded to code all the indicators within the SAS software environment.
   - Using our predefined coding system, we were able to efficiently obtain the frequency of each variable.
   - For example, the variable "mother's age" was coded such that:
     - Ages ≤ 24 were coded as 0
     - Ages 25-34 were coded as 1
     - Ages ≥ 35 were coded as 2

   - This approach enabled us to easily calculate and analyse the frequency distribution of each variable

7. **Review and Refinement**
   - After the initial coding and frequency analysis, we matched with the already existing results for accuracy.
   - Any discrepancies or errors identified during this review were addressed and corrected.
   - This step ensured the reliability and validity of our data analysis process.

By meticulously following these steps, we ensured a comprehensive and methodical approach to the data collection, analysis, and interpretation process. This enabled us to derive accurate and meaningful insights from the survey data, ultimately contributing to a deeper understanding of the socio-demographic aspects of our respondents.

SELECTION OF KEY INDICATORS FROM THREE CODEBOOKS COVERING SIGNIFICANT RMNCHN TOPICS

The methodology for the study involved several key steps to ensure accurate data collection and analysis. Below is a detailed, step-by-step description of the process:

1. Selection of Important Questions and Indicators
Questions and indicators were selected from codebooks categorized as follows:
Newborn and Maternal Health: Questions and indicators were sourced from the 0-5 codebook.
Newborn Nutrition: Questions and indicators were sourced from the 6-11 codebook.
Family Planning: Questions and indicators were sourced from the 12-23 codebook.

These questions and indicators were chosen based on their relevance and importance to the study objectives.

2. Coding of Indicators in SAS Software

-We imported all the three codebooks (children of age 0-5, 6-11, and 12-23 months) into SAS statistical software.

-For each indicator, we defined the specific criteria for the numerator and denominator. For example, to calculate the percentage of recently delivered women currently using any contraceptive method, we created values that indicated whether a woman was currently using any contraceptive method (coded as 0 for 'No' and 1 for 'Yes').

3. Frequency Analysis Using SAS

-After coding the indicators, we used the "proc surveyfreq" procedure in SAS to obtain the frequency tables for each indicator. This procedure was specifically used to calculate and display the frequency distribution of the variables according to the defined criteria.

-The frequency table provided the count and percentage of respondents for each indicator category (e.g., women using contraceptives vs. those not using them).

4. Calculation of Indicator Frequencies

For each indicator, the frequency was calculated as follows:

-Numerator: The count of responses that met the criteria for the indicator (e.g., number of women using contraceptives).

-**Denominator**: The total count of responses considered for the indicator (e.g., total number of recently delivered women).

5. Compilation of Results

-The frequency tables generated for each indicator were compiled and analysed to understand the distribution and prevalence of different variables which were in context of RNMCHN.

6. Documentation and Reporting

-The results were then compiled into a comprehensive report, highlighting key findings and trends observed in the data.

By following these systematic steps, we ensured a thorough and accurate analysis of newborn health, maternal health, and family planning indicators, providing valuable insights for further research and policymaking.

INDICATOR DEFINITIONS

1) THR - % of pregnant women received THR during last pregnancy.
2) Institutional delivery - % of institutional delivery
3) STSC - % of child aged 0-5 month received immediate Skin to skin care after birth

4) Weighing at birth - % of child aged 0-5 month weighted at birth

5) TIBF - % of child aged 0-5 month received Timely Initiation of Breast Feeding (TIBF) within 1 hrs.

6) Exclusive breastfeeding - % of child aged 0-5 month received exclusive breastfeeding (last 24 hours)

7) Breastfeeding - % of child aged 6–11-month currently receiving breast feeding

8) Complementary feeding - % of children aged 6–11 months who Initiated complementary feeding

9) Any contraceptive method - % of recently delivered women currently using any contraceptive method

10) Modern contraceptive method - % of recently delivered women currently using modern contraceptive method

11) Traditional contraceptive method - % of recently delivered women currently using traditional contraceptive method

RESULTS

Indicator Matrix

Variable	value	label	N	n	%	LCL	UCL	Freq Missing
Gender	0	boys	2250	1194	53.07	51.00	55.13	
	1	girls		1056	46.93	44.87	49.00	
mother age	0	<=24	2250	1426	63.38	61.39	65.37	
	1	25-34		770	34.22	32.26	36.18	
	2	>=35		54	2.40	1.77	3.03	
Religion	0	Hindu	2250	1930	85.78	84.33	87.22	
	1	Others		320	14.22	12.78	15.67	
Cast e	0	Marginalized	2250	685	30.44	28.54	32.35	
	1	Non-marginalized		1565	69.56	67.65	71.46	
family type	0	nuclear	2250	883	39.24	37.23	41.26	
	1	joint		1367	60.76	58.74	62.77	
Moth er's educ ation	0	Illiterate	2250	782	34.76	32.79	36.72	
	1	up to 8th		510	22.67	20.94	24.40	
	2	More than 8th		958	42.58	40.53	44.62	
Fathe r's educ ation	0	illiterate	2089	704	33.70	31.67	35.73	
	1	up to 8th		487	23.31	21.50	25.13	**161**
	2	more than 8th		898	42.99	40.86	45.11	
Moth er's occu patio n	0	Unemployed	2250	2140	95.11	94.22	96.00	
	1	Agricultural		23	1.02	0.61	1.44	
	2	Non- agricultural		38	1.69	1.16	2.22	
	3	Business		22	0.98	0.57	1.38	
	4	salaried		27	1.20	0.75	1.65	
Husband Occupation	0	Unemployed	2230	79	3.54	2.77	4.31	
	1	Agricultural		189	8.48	7.32	9.63	
	2	Non- agricultural		1063	47.67	45.59	49.74	**20**
	3	business		308	13.81	12.38	15.24	
	4	salaried		591	26.50	24.67	28.34	

Husband Migration	0	non-Migrant	2250	1966	87.38	86.00	88.75	
	1	migrant		284	12.62	11.25	14.00	
SHG membership	1	yes	2250	124	5.51	4.57	6.45	
	0	no		2126	94.49	93.55	95.43	
living child	1	1 child	2250	724	32.18	30.25	34.11	
	2	2 children		647	28.76	26.88	30.63	
	3	3 children		461	20.49	18.82	22.16	
	4	more than 3 children		418	18.58	16.97	20.19	
Place delivery	0	public	2250	1457	64.76	62.78	66.73	
	1	private		484	21.51	19.81	23.21	
	2	home/transit		309	13.73	12.31	15.16	
House type	1	kuccha	2250	398	17.69	16.11	19.27	
	2	semi-pukka		1270	56.44	54.39	58.49	
	3	pukka		582	25.87	24.06	27.68	

variable name	value	label	N	n	%	LCL	UCL	FREQ MISSING	SAS CODE

Receipt of MCP card	1	yes	2250	1851	82.2667	80.6873	83.8461		data HHS.data;
									set HHS.data;
									/*% of pregnant women received MCP cards*/
									if q204=1 then mcp_card=1;
									else mcp_card=0;
									run;

	0	no		399	17.7333	16.1539	19.3127		

Made any ANC	1	yes	2250	2221	98.7111	99.2447	99.1775		data HHS.data;
									set HHS.data;
									/*% of pregnant women received any antenatal checkup during your last pregnancy*/
									if q208x=1 then anyanc=1;
									else anyanc=0;
									run;

	0	no		29	1.2889	0.8225	1.7553		

ANC visit 3 times	1	3 or more times	2221	1519	68.3926	66.4575	70.3277		data HHS.data;
									set HHS.data;
									/*% of pregnant women received 3 or more antenatal checkup during your last pregnancy*/
									if q209>=3 then anc3=1;
									else if q208x=1 and q209<3 then anc3=0;
									run;

	0	less than 3 times	22 21	**n**	31.6 074	29.6 723	33.5 425	**29**	
ANC visit 4 times	1	4 or more times	22 21	89 3.6	43.4 039	41.3 41	45.4 667		data HHS.data; set HHS.data; /*% of pregnant women received 4 or more antenatal checkup during your last pregnancy*/ if q209>=4 then anc4=1; else if q208x=1 and q209<4 then anc4=0; run;
	0	less than 4 times	22 21	79 0.2	56.5 961	54.5 333	58.6 59	**29**	
Received IFA	1	yes	22 50	68 6.8	90.4 444	89.2 288	91.6 601		data HHS.data; set HHS.data; /*% of pregnant women received IFA tablet during your last pregnancy*/ if q213=1 or q214b=1 then IFA_rec=1; else IFA_rec=0; run;
	0	no	22 50	58 3.4	9.55 56	8.33 99	10.7 712		
IFA 90 Tab Received	1	90 or more tablets	22 21	48 0	26.6 096	24.7 704	28.4 489		data HHS.data; set HHS.data; /*% of pregnant women received 90 or more IFA tablet during your last pregnancy*/ IFA90=sum(q214a,q214c_a); if q214=999 and q214c=999 then IFA90rec=.; else if IFA90>=90 then IFA90rec=1; else IFA90rec=0; run;
	0	less than 90 tablets	22 21	**n**	73.3 904	71.5 511	75.2 296	**29**	

IFA consumed	1	consume 90 or more	2015	376.6	16.8238	15.1891	18.4585	**235**	data HHS.data;
									set HHS.data;
									/*number of IFA tablets consumed*/
									if q217=99 then number_IFAcon=.;*don't know;
									else if q217a>=90 then number_IFAcon=1;*more than 90 tablets;
									else number_IFAcon=0;
									run;

	0	do not consume 90 or more	2015	273.2	83.1762	81.5415	84.8109		

THR Received	1	YES	2250	169.8	40.3556	38.3268	42.3843		data HHS.data;
									set HHS.data;
									/*% of pregnant women received THR during your last pregnancy*/
									if q223=1 then thr_rec=1; *received;
									else thr_rec=0; *not received;
									run;

	0	NO	2250	66.4	59.6444	57.6157	61.6732		

Institutional delivery	1	institutional delivery	2250	-37	86.2667	84.8434	87.69		data HHS.data;
									set HHS.data;
									/*place of delivery*/
									if Q301 in (1,2,3,4,5,6,7,8) then instititutional_delivery=1;*Institutional;
									else instititutional_delivery=0;*home;
									run;

	0	home delivery	2250	**n**	13.7333	12.31	15.1566		

Skin to skin contact	1	yes	1979	-140.4	65.4 37	63.34	67.5342		data HHS.data;
									set HHS.data;
									/*% of child aged 0-5 month received immediate Skin to skin care after birth*/
									if Q318=99 or Q346=99 then STSC=.;
									else if Q318=. and Q346=. then STSC=.;
									else if Q318=2 or Q346=1 then STSC=1;
									else STSC=0;
									run;

	0	no	1979	-243.8	34.563	32.466	36.66	**271**	

Baby Weight	1	yes	2171	-347.2	82.9572	81.3742	84.5401		data HHS.data;
									set HHS.data;
									/*% of child aged 0-5 month weighted at birth*/
									if q334=1 or Q359=1 then BABY_Weight=1;
									if q334=2 or q359=2 then BABY_Weight=0;
									run;

	0	no	2171	-450.6	17.0428	15.4599	18.6258	**79**	

Timely initiation of breastfeeding	1	within 1 hour	2250	-554	66.2667	64.3116	68.2217		data HHS.data;
									set HHS.data;
									/*% of child aged 0-5 month received Timely Initiation of Breast Feeding (TIBF) within 1 hrs.*/
									tibf=sum (q330h,(q330day*24),q356h,(q356day*24));
									if tibf<=1 then tibf_cat=1;
									else tibf_cat=0;
									run;

	0	after 1 hour	2250	**n**	33.7333	31.7783	35.6884		

Exclusive breastfeeding	1	received EBF	2250	-657.4	50.4889	48.4214	52.5563		data HHS.data;
									set HHS.data;
									/*% of child aged 0-5 month received exclusive breastfeeding (last 24 hours)*/
									if Q415a=2 and Q415b=2 and Q415c=2 and Q415d=2 and Q415e=2 and Q415f=2 and Q415g=2 and Q415h=2 and Q415i=2 and Q415j=2 then EBF=1;
									else EBF=0;
									run;

	0	not received EBF	2250	-760.8	49.5111	47.4437	51.5786		

breastfeeding	1	yes	2250	-864.2	93.5111	92.4925	94.5297		data HHS.data;
									set HHS.data;
									/*% of child aged 6-11 month Currentely receving breast feeding*/
									if Q205=1 then breastfeeding=1;
									else breastfeeding=0;
									run;

	0	no	2250	-967.6	6.4889	5.4703	7.5075		

Complimentary feeding	1	yes	2250	-1071	65.4222	63.4555	67.3389		data HHS.data;
									set HHS.data;
									/*% of children aged 6–11 months who Initiated complementary feeding*/
									if Q209=1 then complimentaryfeeding=1;*yes;
									else complimentaryfeeding=0;*no;
									run;
									proc surveyfreq data=HHS.data;
									tables complimentaryfeeding/cl alpha=0.05nostd;
									run;
									data HHS.data;
									set HHS.data;
									if Cal_childMR<9 then agegroup=1;
									else agegroup=2;
									run;
									proc surveyfreq data=HHS.data;
									tables agegroup/cl alpha=0.05nostd; ;
									run;

	0	no	2250	778	34.5778	32.611	36.5445		

Contraceptive method	1	yes	1977	452	22.8629	21.0102	24.7157	**273**	data HHS.data;
									set HHS.data;
									/*% of recently delivered women currently using any contraceptive method*/
									if Q401=1 then contraceptive_method=1;*yes;
									else if Q401=2 then contraceptive_method=0;*no;
									else contraceptive_method=.;*Currently Pregnant;
									run;

	0	no	1977	1525	77.1371	75.2843	78.9898		

Use of modern contraceptives	1	yes	1977	438	22.1548	20.3226	23.9887	**273**	data HHS.data;
									set HHS.data;
									/*% of recently delivered women currently using modern contraceptive method*/
									if Q402A=1 OR Q402B=1 OR Q402C=1 OR Q402D=1 OR Q402E=1 OR Q402F=1 OR Q402G=1 or Q402E1=1 or Q402I=1 OR Q402J=1 OR Q402J_1=1 OR Q402K=1 then use_of_modern=1; *yes;
									else if Q401 in (1,2) THEN use_of_modern=0; *no;
									run;

	0	no	1977	1539	77.8452	76.013	79.6774		

Use of traditional contraceptives	1	yes	1977	15	0.7587	0.3759	1.1416	**273**	data HHS.data;
									set HHS.data;
									/*% of recently delivered women currently using traditional contraceptive method*/
									if Q402L=1 or Q402M=1 or Q402N=1 then use_of_tm=1; *yes;
									else if Q401 in (1,2)then use_of_tm=0; *no;
									run;

	0	no	1977	1962	99.2413	99.8584	99.6241		

FINDINGS

We did descriptive analysis in the sas software. Descriptive analysis is a fundamental step in the exploration and understanding of data. It involves summarizing and organizing data so that patterns and key characteristics can be clearly seen.

This helps to condense large amounts of data into simple summaries. This can be in the form of tables, charts, or statistical measures (like mean, median, and mode) that give a quick overview of the dataset. It provides initial insights and trends that can guide further, more detailed analysis. For example, if a high percentage of mothers are found to be illiterate, further investigation can be directed towards the impact of maternal education on child health outcomes. Descriptive statistics highlight areas where health behaviors are strong and where they need improvement. Descriptive data on key health indicators provide evidence for developing policies and programs. For example, if the data show that a significant number of children are not exclusively breastfed, programs can be designed to promote and support breastfeeding.

Explanation of the Contents of the Frequency Table

The frequency table provided in the document contains detailed statistical summaries of various demographic and health-related indicators from the survey data. Here are the components and what they represent:

1. **Variable Name:** This is the specific characteristic or attribute being measured, such as gender, mother's age, religion, etc.

2. **Categories:** Each variable can have multiple categories, which represent different possible values or groups within that variable. For example, the "Mother's Age" variable has categories like "≤24 years", "25-34 years", and "≥35 years".

3. **N:** This is the total number of respondents or observations included in the analysis for that variable. This number can differ slightly between variables due to missing data.

4. **n:** This is the number of respondents in each category of the variable. It tells us how many individuals fall into each specific group.

5. **% :** This represents the percentage of respondents in each category. It is calculated as (n/N) * 100, providing a proportionate representation of the data.

6. **LCL (Lower Confidence Limit):** This is the lower boundary of the confidence interval for the percentage. It provides an estimate of the lower range in which the true percentage is expected to fall, with a certain level of confidence (typically 95%).

7. **UCL (Upper Confidence Limit):** This is the upper boundary of the confidence interval for the percentage. It gives an estimate of the upper range in which the true percentage is expected to fall, with the same confidence level.

8. **Freq Missing:** This indicates the number of respondents with missing data for that particular variable. This is important for understanding the completeness and reliability of the data.

Purpose of Each Component

- **Variable Name and Categorie**s: These identify what is being measured and the different groups within each measure, allowing for a detailed understanding of the dataset's composition.

- **N and n:** These provide the raw counts of respondents, crucial for understanding the sample size and the distribution of responses across different categories.

- **%:** This offers a proportionate view of the data, making it easier to compare between different categories and understand their relative importance.

- **LCL and UCL:** These give a range within which the true value of the percentage is likely to fall, providing a measure of precision and reliability for the estimates.

- **Freq Missing:** This highlights any gaps in the data, indicating areas where data collection might need improvement or where additional caution is needed in interpreting results.

Importance of the Frequency Table

The frequency table is essential in descriptive analysis because it:

- Summarizes Data: It condenses large volumes of data into an easily understandable format.
- Identifies Patterns: Helps in spotting trends and patterns within the dataset.
- Guides Decision-Making: Informs policymakers and stakeholders about the current state of various indicators.
- Supports Further Analysis: Provides a foundation for more complex analyses, such as inferential statistics or predictive modeling.

Conclusion

Our summer internship provided a thorough secondary analysis experience using SAS software to examine maternal, newborn, family planning, nutrition, and socio-demographic indicators. This process equipped us with valuable skills in data coding, analysis, and interpretation, emphasizing the significance of secondary data in public health research.

Key insights from our analysis include:

Maternal and Child Health: We observed improvements in institutional deliveries and antenatal care coverage, reflecting positive trends in maternal health services.

Family Planning: Data revealed varying usage rates of contraceptive methods, highlighting areas for targeted family planning interventions.

Nutrition: Despite improvements, child malnutrition remains a significant challenge, indicating the need for focused nutritional programs.

The process demonstrated the efficiency of secondary data analysis in identifying health trends and disparities, facilitating evidence-based policy making and resource allocation. This experience not only enhanced our analytical skills but also underscored the critical role of data in advancing public health objectives.

s

The certificate is awarded to

Name: **Dr. Dhriti Bhagat**

In recognition of having successfully completed her internship in the department of **RMLE**

and has successfully completed her Project on

Title: "Introduction about RMNCAH+N in context of Bihar"

Date: **21st June 2024**

Organization: **Piramal Swasthya Management and Research Institute**

She comes across as a committed, sincere & diligent person who has a strong drive

& zeal for learning

We wish him/her all the best for future endeavours.

Organization Supervisor & Department Head

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

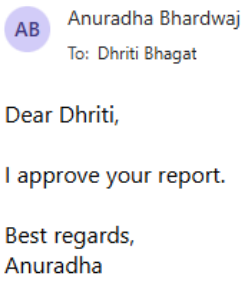
Piramal Swasthya Management and Research Institute

Piramal Swasthya Management and Research Institute
Head Office: 3rd Floor, No. 6-3-1112, Oyster Complex,
Greenlands Road, Somajiguda, Begumpet, Hyderabad – 500 016
piramalswasthya.org

Certificate of Approval

The Summer Internship Project of titled “Impact of gender norms on psychological, emotional, physical wellbeing of women and girls” at “Piramal Foundation” 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 Anuradha Bhardwaj

[Professor, IIHMR Delhi]

FEEDBACK FORM

Name of the Student: Dr. Dhriti Bhagat

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: -

- Desk review on "The impact of social gender norms on the physical, psychological and emotional wellbeing of women and girls", made an evidence table, documented the findings, recommendations, and limitations of this study in the report.
- Participated in Data collection in a mini household survey and analysed the data using SAS software on some key RMNCAH+N indicators in the context of Bihar.
- Did field visits in Sub-District hospital in Danapur, Patna and Health and Wellness Center, Bhausala, Danapur and also interacted with CHO and ASHA workers in HWC.
- Documented the entire process and findings, including insights from the field visits in a detailed report.
- Basic introduction about SAS, data cleaning and management and research methodology concepts.
- Worked on a project titled "Girl Boss Rise."

Strengths:

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

Suggestions for Improvement:

Scientific writing, programmatic knowledge, advance analytics.

Signature of the Officer-in-Charge (Internship) 

Date: 12.12.2024

Place: Patna

FEEDBACK FORM

(IIHMR MENTOR)

Name of the Student: Dr. Dhriti Bhagat

Summer Internship Institution: Piramal Swasthya Management and Research Institute

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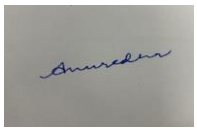
Suggestions for Improvement: Scientific writing, Programmatic knowledge, Advance analytics

Signature of Mentor (IIHMR):



Date: 22.12.2024

PLAIGIRISM CHECK

Dhriti Bhagat ST report

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