Summer Internship at PIRAMAL SWASTHYA, Bihar

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BY:

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ACKNOWLEDGEMENT

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ACRONYMS/ABBREVIATION

- THR - Take Home Ration
- STSC - Skin to Skin Care
- TIBF - Timely Initiation of Breast Feeding
- SAS - Statistical Analysis System
- NHM - National Health Mission
- SDG - Sustainable Development Goal
- RMNCAH+N - Reproductive Maternal Newborn Child Adolescent Health and Nutrition
- CAT - Call to Action
- CAD - Care Around Delivery
- PHC - Primary Health Centre
- NRHM - National Rural Health Mission
- ANM - Auxiliary Nurse Midwife
- IMNCI - Integrated Management of Childhood Illnesses
- ASHAs - Accredited Social Health Activists
- JSSK - Janani Shishu Suraksha Karyakram
- IFA - Iron and Folic Acid
- ARSH- Adolescent Reproductive and Sexual Health
- NFHS - National Family Health Survey
- CHO - Community Health Officer
- NRC - Nutrition Rehabilitation Centre
- VHSND - Village Health Sanitation and Nutrition Day
- MCP - Mother and Child Protection
- AMANAT - Accreditation of Maternity and Newborn Acute Care Training
- LAQSHYA - Labor Room Quality Improvement Initiative

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

<u>OBSERVATIONAL LEARNING</u>

DESCRIPTION OF 2 MONTH JOURNEY

My first day at Piramal Swasthya was filled with comprehensive orientation workshops aimed to familiarize us with the organization's mission, values, and active programs, which took place on April 22nd, 2024, in Royal Bihar. Dr. Tanmay Mahapatra and Shuchi Sree Akhouri, both renowned experts in their fields, led this introductory session. Their extensive knowledge of the healthcare industry provides a solid foundation for comprehending Piramal's groundbreaking work. We were also able to meet with important team members, such as researchers, healthcare professionals, and administrative staff, to better understand their positions within the business. Meetings with my supervisor and designated mentor helped to establish the internship's expectations, goals, and responsibilities, offering a road map for the voyage ahead. Following that, we had several in-person, who provided us with various insights into the public health domain. We learned that for the community to be healthy, we must focus on community health through prevention, promotion, and life extension. This begins not at the hospital but rather at the grassroots level with organizations like Asha Anganwadi and ANM, ASHA who work directly with the community by providing advice on healthy practices to follow during pregnancy, removing harmful practices from the community, dispelling myths to encourage institutional delivery among rural women. Anganwadi workers play a critical role in the public health system's fight against malnutrition by gathering monthly weight data from children, conducting quick surveys of all families, setting up informal preschool activities, educating mothers about healthy eating practices, and offering health and nutrition education. The role of auxiliary nurse midwives in the healthcare system is crucial, especially in environments with minimal resources. Their diverse function includes community outreach, public health advocacy, health education, and direct patient treatment. ANMs make a significant contribution to lowering the rates of maternal and newborn mortality through their committed work. These three are the cornerstones of the Indian rural healthcare system that have direct interaction with the population. providing insightful information about community issues, aiding in the fight against societal problems, and serving as a liaison between the community and the healthcare system.

LEARNING OPPORTUNITIES AND SKILL DEVELOPMENT

During my internship at the Piramal Foundation, I attended several instructional sessions led by esteemed members of the Piramal Swasthya team. These sessions provided critical training in research and data management, enhancing my skills and understanding of public health.

Conducting a Thorough Literature Review

We learned how to conduct thorough literature reviews, using MeSH terms and Boolean operators to refine searches for relevant articles. This training helped us retrieve precise information from databases. Additionally, we were taught to use EndNote for managing references, organizing citations, and formatting them correctly, streamlining our research process.

Research Methodology

Wednesdays focused on research methodology, where we explored the foundations of research and various study designs:

1. **Descriptive Studies**: Cross-sectional studies offering snapshots of populations.
2. **Analytical Studies**: Case-control and cohort studies examining associations between exposures and outcomes.
3. **Experimental Studies**: Randomized controlled trials (RCTs) testing intervention efficacy.
4. **Qualitative Studies**: In-depth insights through interviews and focus groups.

This understanding helped us choose suitable methodologies for our research questions.

Data Management and Cleaning

Fridays were dedicated to data management and cleaning using Microsoft Excel. We learned to:

1. **Create Pivot Tables**: Summarize large datasets to find patterns.
2. **Generate Charts**: Visualize data for better interpretation.
3. **Use Conditional Formatting**: Highlight data points based on criteria, identifying trends and outliers.

These skills ensured our data was accurate and ready for analysis.

Fundamentals of SAS

Mondays were for learning SAS (Statistical Analysis System), covering:

1. **Building a Library**: Managing datasets in SAS.
2. **Importing Data**: Bringing data into SAS in the correct format.
3. **Data Analysis**: Performing statistical analyses with SAS scripts.
4. **Drawing Conclusions**: Interpreting results to inform public health interventions.

This training allowed us to handle large datasets and perform complex analyses.

In-Person Sessions on Public Health Systems

In-person sessions focused on public health systems in rural and urban areas:

1. **Rural Health Systems**: Addressing challenges like limited infrastructure and healthcare professional shortages through mobile health units and telemedicine.
2. **Urban Health Systems**: Managing issues such as overcrowding and pollution with urban health centres and public-private partnerships.

These sessions provided practical insights into healthcare delivery in different settings.

HAND ON PROJECT PARTICIPATION

I was fortunate enough to work on the inspirational project "Girl Boss Rise" during my internship under Suchi Ma'am's mentoring. By providing them with the necessary 21st-century skills, this ground-breaking program seeks to empower adolescent girls from rural areas and ensure their professional success.

The complete 40-hour intervention program "Girl Boss Rise" is intended to empower girls to take ownership of their lives and make a smooth transition from education to the workforce. With an emphasis on fostering entrepreneurial and job-readiness attitudes and abilities, this curriculum is especially designed to meet the special needs of teenage girls. These skills, dubbed "Girl Boss Mindsets and Skills," are essential for young girls in rural areas to achieve both personal and professional success.

Being involved with "Girl Boss Rise" was incredibly fulfilling. This project prepares participants for a better future by fostering resilience and self-belief in addition to improving professional chances. I consider myself fortunate to have been a part of this inspiring project, where I learned important lessons about the fundamental abilities required of females in the twenty-first century who want to succeed in the careers.

FIELD RESEARCH

My field visits for gathering maternal and newborn care details across three age groups (0-6), (6-12) and (12-23) months were a pivotal part of my internship. This involved field visits to Pandarak village nearby Patna, where I witnessed firsthand the challenges faced by local populations in accessing basic healthcare services. I observed Mothers encounter difficulties in accessing government-sponsored free services and programs designed for their benefit. Working alongside healthcare professionals, I contributed to data collection, and community surveys.

• My visit to the Sub-Divisional Hospital in Danapur provided insight into the challenges healthcare providers encounter, including limited resources and handling many patients. This emphasized the critical need for effective resource management and innovative problem-solving approaches.

Collaboration and Networking

During my internship at Piramal Swasthya, collaborating with multidisciplinary teams exposed me to diverse perspectives and approaches in public health. Engaging in brainstorming sessions, I actively contributed ideas to enhance project efficiency and effectiveness. Working alongside professionals from various backgrounds enriched my understanding of different aspects of public health initiatives. Networking with professionals provided valuable insights into career opportunities in public health and allowed me to build meaningful connections in the field. These experiences were invaluable, fostering creativity, innovation, and critical thinking. They equipped me with essential skills for navigating the dynamic and multifaceted field of public health, preparing me for future challenges and opportunities in the sector.

PERSONAL GROWTH AND DEVELOPMENT

The internship at Piramal Swasthya was a transformative journey of personal growth alongside professional development. It challenged me to step out of my comfort zone, adapt to new environments, and develop a deeper empathy for the healthcare needs of marginalized communities. Engaging with diverse teams and working in the field exposed me to the realities of healthcare disparities, reinforcing my commitment to pursuing a career dedicated to improving healthcare access and equity. This experience not only honed my skills but also broadened my perspective, instilling in me a sense of purpose and determination to make a meaningful difference in the lives of others.

CONCLUSION

As my two-month internship with Piramal comes to an end, I'm incredibly grateful for the priceless growth and learning experiences. I worked with brilliant individuals in an environment that valued creativity and teamwork, and every day brought fresh perspectives. My abilities have been further refined by contributing to real-world problems through market research, data analysis, and brainstorming sessions. Supervision and guidance from colleagues have played a pivotal role in moulding my comprehension of the sector. Seeing Piramal's dedication to morality, ethics, and social responsibility has greatly motivated me and emphasized the significance of having a positive influence on society. I have gained useful skills from this internship, had my enthusiasm for the field renewed, and have been given a sense of direction as a potential corporate leader. I'm incredibly appreciative of this rewarding experience and the connections made

LEARNING FROM DIFFERENT SESSION

Data Cleaning and Management

This session, led by Mr. Kunal Roy and Mr. Alok Ranjan, was conducted every Friday throughout our two-month internship. Through various lessons, I learned several crucial concepts and best practices that ensure data accuracy, reliability, and usability.

Good Data Management Practices

After developing a survey tool and questionnaire, it's essential to ensure efficiency by conducting a pilot test with a small sample. This helps identify and correct any issues before full deployment. SurveyCTO is a widely-used platform for data collection, ideal for conducting surveys. Review and revise questions for clarity and relevance, ensuring a logical flow. Incorporate skip logic, which allows certain questions to be skipped based on previous responses, creating a more dynamic and respondent-friendly survey experience. Finalize the tool by making the interface user-friendly and thoroughly testing all features.

Provide thorough training to data collectors, including practice sessions and detailed guides. Establish a strong data management plan with secure storage, regular backups, and reliable transfer methods. Monitor data collection in the field, offering helpdesk support and regular feedback. Implement data verification protocols and real-time validation to ensure data accuracy. After collecting the data, clean it, remove duplicates, and perform quality checks. Analyze the data according to a pre-developed plan and create insightful reports. Lastly, gather feedback to document lessons learned and improve future surveys.

Data Collection Using Microsoft Excel

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Microsoft Excel is a powerful tool for data collection and analysis, offering various functionalities to enhance data management.

Conditional Formatting

Conditional formatting helps highlight specific data points based on certain criteria. This is useful in a survey context for:

- **Identifying Errors:** Automatically highlight outliers or invalid responses, making it easy to spot and correct errors quickly.
- **Visualizing Trends:** Use color scales or data bars to visualize response trends or patterns at a glance.
- **Highlighting Duplicates:** Identify and address duplicate entries, ensuring data integrity.

Pivot Tables

Pivot tables are great for summarizing and analyzing data:

- **Summarize Large Datasets:** Quickly condense large amounts of survey data into an understandable format, showing averages, sums, counts, and other aggregates.
- **Data Segmentation:** Break down responses by different categories such as demographics, time periods, or other variables, providing deeper insights.
- **Identifying Trends and Patterns:** Easily see trends and patterns in the survey data, helping to draw meaningful conclusions.

Filtering Data

Filters in Excel help view specific subsets of data. To add filters, select your dataset, go to the Data tab, and click Filter. Use the drop-down arrows in column headers to filter values based on your criteria.

Visualizing Data with Excel

Excel allows you to create various types of charts for data visualization:

- **Pie Charts:** Effective for visualizing data that represents parts of a whole. They provide a clear visual representation of how individual segments compare to the overall dataset.
- **Bar Graphs:** Useful for comparing different categories or groups within a dataset. They allow for easy comparison of quantities across categories and help identify trends over time or across different groups.

Data Validation in Excel

Data validation ensures data integrity by restricting the type of data entered in a cell. To set it up, select the cells you want to validate, go to the Data tab, and click Data Validation. Define your validation criteria, such as whole numbers, decimals, or dates. Our mentors provided a dataset, and I actively executed the syntax provided.

Creating Drop-Down Lists

Create drop-down lists to restrict input to predefined options. Select the cell(s), go to Data Validation, choose List, and enter the allowed values.

Subtotal Function

The SUBTOTAL function performs calculations on a filtered list, such as sum, average, count, max, and min. Unlike the SUM function, SUBTOTAL only includes visible cells, making it useful for filtered data. The SUBTOTAL function in Excel offers different arguments that affect how it calculates sums within a dataset. Argument 9 calculates the sum of visible cells only, excluding rows hidden by filters. Argument 109 includes both visible cells and manually hidden cells in its calculation, still excluding filtered-out rows. This distinction is crucial for accurately analyzing and manipulating data based on specific filtering and visibility requirements within Excel.

VLOOKUP and HLOOKUP

- **VLOOKUP:** Searches for a value in the first column of a range and returns a value in the same row from a specified column.
- **HLOOKUP:** Searches for a value in the first row of a range and returns a value in the same column from a specified row.

IF, COUNTIF, and SUMIF Functions

- **IF:** Performs a logical test and returns one value if true and another if false.
- **COUNTIF:** Counts the number of cells that meet a specific condition.
- **SUMIF:** Adds the values in a range that meet a specified condition.

By mastering these techniques and tools, you can effectively manage and analyze data, ensuring high quality and facilitating insightful analysis.

Conclusion

Our mentors consistently guided us through practical exercises, encouraging us to share our screens as we worked with a dataset containing information from all 38 districts of Bihar. This dataset included details on total deliveries, stillbirths, and live births. To protect privacy, unique ID codes replaced full column headings in the final sheet. If we needed to understand the meaning of these codes, we referred to a provided codebook. After each session on data cleaning and management, we received tasks to apply what we learned. This hands-on approach allowed us to deepen our understanding and proficiency effectively.

SAS (STATISTICAL ANAYSIS SOFTWARE)
This session was led by Ashish Kashyap and Manoj Kumari Singh, conducted every Monday throughout the two-month internship period.
In our initial session, I learned the basics of using SAS to analyse data, management, reporting, and graphics. Our mentor guided us through downloading and installing SAS OnDemand online, demonstrating how to log in and navigate to the SAS environment. He provided an overview of essential tabs within SAS: the "Editor" tab (where coding is executed), the "Log" tab (showing errors after code execution), and the "Results" tab (displaying outcomes of executed code).
We also explored the differences between online and offline SAS functionality. Online SAS operates within a web-based environment, where data and outputs are accessed and managed remotely. In contrast, offline SAS installations run directly on a local machine, providing more autonomy over data storage and access.
Subsequent sessions were focused on practical skills such as creating SAS libraries, where datasets are stored. Temporary libraries like "Work" are only available during a SAS session and are lost when the session ends. Permanent libraries, however, retain datasets even after SAS is closed. Our mentor emphasized coding conventions, such as limiting library names to eight characters without numbers and ending each code line with a semicolon for execution.
Key techniques covered included:
- Creating libraries using the libname statement.
- Importing data from sources like Excel using proc import.
- Exploring dataset details with proc contents.
- Maintaining the original order of data using proc contents Varnum.
- Analyzing variable frequencies using proc freq.
- Removing duplicate observations based on unique identifiers with proc sort nodup and proc sort nodupkey.
- Calculating statistical measures like mean, median, and mode using proc means.
Additionally, I learned about the distinction between proc step and data step in SAS programming, understanding how each contributes differently to data manipulation and analysis workflows. In SAS

programming, the DATA step handles data manipulation tasks like creating variables and cleaning data, while the PROC step performs statistical analysis and generates reports. These sessions equipped us with foundational SAS skills, empowering us to handle data effectively, perform insightful analyses, and navigate SAS environments confidently. The hands-on approach and practical examples provided a clear understanding of each concept, facilitating a deeper grasp of SAS capabilities for data-driven decision-making.

Our mentors provided us with a actual dataset comprising 2250 observations, accompanied by a codebook. They also gave us tools designed for all three age groups. Under Ashish sir's guidance, I performed necessary recoding for all sociodemographic indicators (Income, religion, caste, mothers education, migration) present in the dataset and applying methods taught during our sessions. Additionally, they assigned us a task to define 14 indicators that cover the entire RMNCH program including nutrition, Family planning, newborn care and maternal health. This involved familiarizing ourselves with each indicator so we could easily associate them with specific tools. Working collaboratively as a team, we conducted recoding for all 14 indicators. During sessions, mentors encouraged us to share our screens, allowing them to review our work, provide corrections, and offer guidance to enhance our understanding.

Public health session

We had an in-person session with esteemed faculty from Piramal, experts in public health, who provided insights into the ground realities and challenges faced in community health. They discussed the social issues impacting access to healthcare, particularly for women lacking decision-making authority in their families. We learned about implementing healthcare programs to benefit marginalized communities and reviewed essential literature for public health practitioners.

The session highlighted the MCP card issued by the Indian government to pregnant women opting for government facilities. This card contains vital information for both beneficiaries and healthcare professionals, covering antenatal care records, pregnancy care, danger signs, post-natal care, parenting tips, and baby vaccination records.

We also discussed the IPHS standards, which outline norms and standards for healthcare facilities under the National Rural Health Mission, aiming to improve healthcare quality nationwide. Additionally, we examined the MNS (Maternal, Newborn, and Child Health) Tool Kit, designed to support healthcare providers, managers, and policymakers in enhancing maternal and child health services. This toolkit aims to improve healthcare delivery and outcomes for mothers and children.

Finally, the session covered the Integrated Child Development Services (ICDS) program, launched in India in 1975. ICDS aims to improve the health, nutrition, and development of children under six, and pregnant and lactating women through supplementary nutrition, immunization, health check-ups, referral services, pre-school education, and health and nutrition education, delivered via Anganwadi centres.

Md. Irshad provided us with a comprehensive guide on conducting literature reviews using Google Scholar and PubMed. Here's a breakdown of his key insights:

1. **Mastering Literature Review with Md. Irshad**
2. **Effective Search Strategies**:

- o **Focus on Recency**: Emphasize recent articles from the past 10-15 years to ensure the relevance and timeliness of your research.
- o **Utilize Free Full-Text Filters**: Use the "Free Full-Text" filter to access complete articles and journals, ensuring you have full access to the content you need.
- o **Filter by Article Type and Date**: Narrow down search results by article type and publication date (1 year, 5 years, 10 years, or custom range) to find the most pertinent articles.
3. **Understanding MeSH Terms**:
    - o **Medical Subject Headings (MeSH)**: Learn to use MeSH terms, a controlled and hierarchically organized vocabulary produced by the National Library of Medicine, for indexing, cataloging, and searching articles in PubMed. This enhances the precision of your search.
4. **Leveraging Boolean Operators**:
    - o **Boolean Operators**: Use "AND", "OR", and "NOT" to refine your search. These operators help make your search more precise by combining or excluding keywords effectively.
5. **Citation Management with ENDNOTE**:
    - o **Using ENDNOTE**: Learn to use ENDNOTE software for managing references and inserting citations into documents. This tool simplifies the process of citing sources and organizing references.
6. **Forward and Backward Referencing**:
    - o **Forward Referencing**: On Google Scholar, use the "Cited by" feature to see how many times an item is cited by other publications. Clicking on the 'Cited by' link displays a list of publications that cite your key publication.
    - o **Backward Referencing**: Conduct searches to find all the cited references within a single article. This helps you understand the foundational research that your key article builds upon.
7. **Practical Demonstrations**:
    - o **Hands-on Filtering**: Md. Irshad demonstrated live how to filter and search for articles related to specific topics, showing the practical application of these strategies.

By mastering these techniques, you can significantly enhance the quality and efficiency of your literature reviews, ensuring you gather the most relevant and comprehensive data for your research.

Insightful Session with Dr. Tanmay Mahapatra

Dr. Tanmay Mahapatra conducted an insightful session on the foundational aspects of research methodology, essential for rigorous and credible research. Key highlights from the session include:

1. **Research Methodologies**:
    - o **Types**: Explored qualitative, quantitative, and mixed-methods approaches.
    - o **Appropriate Selection**: Emphasized choosing the right methodology based on research questions and objectives.
    - o **New Terms and Concepts**: Introduced various research-related terms and concepts.
2. **Basics of Proportion and Ratio**:
    - o **Proportion vs. Ratio**: Proportion's numerator is part of the denominator, while in ratio, it is not.
    - o **Types and Calculations**: Covered Odds Ratio, Incidence Proportion (Risk), Prevalence Proportion, Incidence Rate, and Prevalence Rate. Explained calculations with practical problems.
3. **Key Components of Research Design**:
    - o **Cross-Sectional Study**: Conducted in the present, assessing exposure and outcome simultaneously.

- o **Case-Control Study**: Retrospective, starting from the outcome and tracing back to the exposure.
- o **Cohort Study**: Can be retrospective or prospective, starting with a cohort and following over time to study outcome and exposure association.
- o **Ecological Study**: Unit of study is a population or group of individuals.
4. **Important Research Terms**:
   - o **Validity**: External and internal validity.
   - o **Ecological Fallacy**: Misapplying ecological study findings to individuals.
   - o **Temporal Ambiguity**: Uncertainty about the sequence of occurrence between two variables.
   - o **Models of Causality**: Explains how different causes lead to a particular outcome.
5. **Disease Periods**:
   - o **Induction Time**: Interval between the cause appearance and disease initiation.
   - o **Latency Period**: Interval between disease initiation and diagnosis.
   - o **Incubation Period**: Specific to infectious diseases, interval between cause appearance and symptom appearance.
6. **Interactive Learning**:
   - o **Engagement**: Dr. Mahapatra frequently asked questions, keeping us attentive and curious.
   - o **Inclusion**: Ensured all participants felt included by regularly checking with our mentors about our progress.
   - o **Doubt Clarification**: Allocated 10-15 minutes before and after sessions for questions and further clarification, enhancing our understanding.

This session by Dr. Mahapatra was highly informative, interactive, and significantly contributed to our understanding of research methodology and its applications.

A VISIT TO SUB-DIVISIONAL HOSPITAL

Layout of the hospital

Ground floor:

Administrative room
ANC room
Kangaroo mother care room
Labour room
Maternity ward
Pharmacy
Registration
Triage room

First floor:

OT complex
CSSD
Immunization room
Cold chain room

On May 15, 2024, I went to a sub-district hospital in the Bihar hamlet of Danapur. Understanding how a hospital or healthcare system operates in the community and the many levels of services it offers was made possible by seeing a subdistrict hospital. How it will address the many needs of the populace. The purpose of this evaluation was to determine how effectively the hospital meets the needs of the community, pinpoint areas that require development, and provide suggestions for improving the provision of healthcare.

<u>**An overview of the medical facility**</u>

At Danapur, the Sub-District Hospital has 50 beds and serves a population of about 5 lakh people, as well as the 4 blocks that surround it. It provides a broad variety of services, including as basic diagnostic facilities, emergency services, inpatient and outpatient treatment, and services mostly related to maternity and child health. The hospital is housed in a somewhat new structure that seems to have been thoughtfully built to meet the community's varied healthcare needs.

The building's general impression was that, despite its age, its infrastructure was well-maintained, equipped, and successfully divided several departments. The hospital manager's office was close to the hospital, allowing her to do morning rounds from there. The hospital's overall cleanliness was praiseworthy, although the waiting areas—especially those outside the OPD—needed more upkeep and sanitation. Clear and strategically placed signage made it easy for patients and visitors to navigate the hospital.

<u>**Departmental visitation**</u>

OPD: With 15–16 000 patients seen each month, the OPD was the busiest department in the hospital. Although there was enough seating within the OPD, many people were forced to wait outside owing to the large number of patients. Although the OPD was staffed with skilled medical professionals, including highly trained nurses, who effectively regulated the patient flow, lengthy wait times were frequently caused by the overwhelming number of patients. However, they handled it well.

IPD:

The 800-900 IPD is covered by IPD in each month. Although they offer the standard OPPD services, their primary focus is on maternity and paediatric healthcare.

Emergency Department: The emergency room has all the essential equipment needed to provide emergency care. This department's employees seemed to be well-trained and equipped to handle a range of crises. But greater tools and resources would let the department handle more complicated situations on-site without requiring quick referrals.

Maternity Unit:

The maternity department had all the beds and medical supplies needed for both maternity and newborn care, and it was kept up nicely. The ward provided a serene and nurturing atmosphere, which was essential for pregnant mothers and their infants. Although they also emphasized the need for more specialized training and resources to address challenging deliveries and newborn emergencies, the staff was attentive and gave comprehensive care. A special ANC check-up room for the beneficiaries was established where they were given the information, they needed about the practices they should follow during their pregnancy and the necessary 4-ANC check-up to identify if the beneficiary was pregnant at high risk. If so, the mothers in question should receive extra care, and a referral system should be set up for them. providing the required medications, like as calcium and IFA tablets, and making sure the woman receives a check-up for a safe delivery. Midwives are highly skilled and knowledgeable. They have a designated triage room where a midwife or nurse classifies the beneficiaries into RED CODE, YELLOW CODE, and GREEN CODE categories according to their conditions. Following the beneficiaries' placement in the various zones based on the type of care required, they are taken to a pre-operative room where their vital signs are monitored continuously until labour pains begin. Once the mother's cervix dilation has been checked, they are taken to the labour room for either an ordinary delivery or an OT for a caesarean section, depending on the type of procedure performed on the beneficiaries. Additionally, there is a special kangaroo mother care room where the infant is carried in the mother's chest to foster a bond and exchange heat with the mother.

Furthermore, they complete between 250 and 300 deliveries each month.

Pharmacy: The hospital's pharmacy has a decent supply of necessary medications. However, there was only one dispensing counter for the distribution of medications, even though this is against IPHS norms, which is in some way causing pandemonium in the hospital. Nonetheless, the team is managing these matters quite astutely. However, employees and patients alike have noted sporadic shortages of specific drugs, which may jeopardize the continuity of treatment. Enhancing inventory control and the supply chain could help to lessen these shortages.

Laboratory: Simple biochemical assays, blood tests, and urine tests were among the basic diagnostic services offered by the laboratory. The district headquarters' larger facilities had to be used for advanced diagnostic testing, which frequently caused delays in diagnosis and treatment. Improving the laboratory's capabilities would enable quicker and more precise diagnoses, which would greatly improve patient care.
Interaction with Medical Professionals

I got the chance to speak with health professionals from different cadres during the visit, including nurses, doctors, and administrative staff. Deeper understanding of the hospital's operational dynamics and difficulties was made possible by these exchanges.

Physician and nurses:

Despite their busy schedules, the medical personnel, which includes doctors and nurses, demonstrated a high degree of professionalism and commitment to patient care. They oversaw a sizable number of patients every day, frequently putting in long hours in difficult settings. The physicians and nurses emphasized the need for more staffing, particularly during busy hours, to reduce patient waiting time and keep current employees from getting burned out. The need for ongoing medical education and training programs was also emphasized to keep up with the most recent advancements in medical science and technology. All of the cases are handled by 35 nurses and 4 obstetricians and gynaecologists.

Administrative Staff:
 The administrative staff talked about the difficulties in keeping track of medical data, organizing patient flow, and managing hospital logistics. Every department has a genuinely committed team working to provide the best treatment possible for each and every patient. Every employee adheres to the 5 S's: sort, set in, shine, standardized, and sustain. The manager was also giving the personnel the necessary training when needed. One of the main obstacles to simplifying administrative procedures, according to them, is the absence of sufficient IT infrastructure. Effective information technology (IT) systems have the potential to improve patient record management, appointment scheduling, inventory control, and overall hospital efficiency.

Patient Profiles and Input:
One of the most important aspects of the visit was learning about the patient demographics and getting their input. It revealed information on the patients the hospital treats and how well their requirements are met. The bulk of the patients came from low- to middle-class families, which is representative of the socioeconomic makeup of the area. The large percentage of women and children suggests that maternity and child health services are highly valued. The significance of these services in the community and the necessity for the hospital to keep giving them top priority are highlighted by this demographic trend.
Outreach services: The sub divisional hospital did not organize any outreach programs of this kind, but it does offer some outreach services to the military level camp.

Referral services:
 In several cases, the matter was reported to PMCH District Hospital after they had first attempted to handle it internally. There has never been a rejection from the higher facility thanks to their excellent recommendation system.
Immunization: Every month, this hospital provides 700–800 vaccinations to newborns born there as well as to babies who are transferred from another facility. The vaccination area is kept in excellent condition, with various kid-oriented posters and cartoons on the wall. guaranteeing a secure and timely registration.

Cold chain room:
 The vaccination medications are kept in a cold chain room, which is kept at a temperature between +2 and +8 degrees Celsius. They employ specialized personnel to operate the cold chain facility, which keeps the medications at the proper temperature to preserve their efficacy. It meets the intended outcome and yields the desired outcome. various posters that illustrate when a youngster should have their vaccinations.
It is connected to an E-win portal that displays the inventory and the temperature inside the ice-lined refrigerator, which is regularly checked by staff. If the temperature deviates from the desired range, it alerts staff members so they can take the necessary immediate action to store the medications safely.

Family Planning:
Finally, we visited a family planning councillor who provides beneficiaries with the necessary information about family planning methods. She gave the beneficiaries a basket of choices that included various family planning methods like Antara, mala-d, condoms, copper IUDS, etc. and provided them with detailed information about the risks and benefits of using the desired methods. The beneficiary made the final decision. which approaches she will choose.

Challenges: Employee Shortages: One of the most urgent issues is the lack of administrative and medical personnel. The current workforce is overworked, which might cause burnout and lower the standard of

treatment. Periodic Shortages of Medicine - Restricted Diagnostic Establishments in Effective administrative, record-keeping, and patient management procedures are hampered by a weak IT infrastructure.

Recommendations:
 Boost Employees and Make Sure Medication Is Provided Consistently Upgrade Laboratory Facilities: By making the laboratory more capable of carrying out sophisticated diagnostic procedures, it would be possible to diagnose patients more quickly and accurately while lowering the need for outsourcing. This can entail making new equipment purchases and giving laboratory employees more training. Make an IT infrastructure investment: Patient records, scheduling, and inventory management might all be streamlined by creating and deploying a comprehensive IT system. A system like this would boost patient satisfaction and increase hospital efficiency overall. Boost Programs for Community Outreach: Ensuring that health services and education reach even the most remote locations can be achieved by extending the reach of community outreach initiatives and enhancing the logistical support for vaccination drives. To increase the efficacy of these initiatives, collaborations with regional leaders and organizations may be necessary.

Conclusion:
The visit to the Sub-District Hospital in danapur, Patna It provided valuable insights into the functioning of a critical healthcare facility at the grassroots level. The hospital serves as a lifeline for the local community, offering essential healthcare services despite facing numerous challenges. The dedication and professionalism of the hospital staff are commendable, and with targeted interventions, the quality of healthcare delivery can be significantly improved.

FIELD VISIT REPORT ON HOUSEHOLD SURVEY

Date- 26/04/2024

Block-

Village – Pandarak

On [Date], our team conducted a household survey in [Village Name], located in [District], Bihar, with the aim of collecting socio-economic data, understanding living conditions, and assessing the needs of the community. This survey is a crucial part of a broader research project designed to inform policy recommendations and development initiatives. The survey team consisted of [Team Leader Name], [Surveyor 1 Name], [Surveyor 2 Name], and [Local Guide/Translator Name], employing a stratified random sampling method to ensure a representative sample. Data collection tools included structured questionnaires, interviews, observational checklists, and GPS devices for mapping.

Listing methodology:

A systematic technique was employed for the mapping and listing of households, ensuring an organized selection process. We began our survey at house number 30, starting on the right side. To maintain consistency, we decided to skip four households between each selection. Starting with the first house, we counted four households to the right of the main door and selected the fifth one for the survey. This procedure was meticulously followed: after surveying each selected household, we skipped the next four and then chose the fifth one to survey.

 Detailed Report on Household Survey: Interview with Mother and Child

Introduction

During our field visit to [Village Name], Bihar, we conducted a detailed interview with a mother and her child, who was within the targeted age range of 0-5 months and 29 days and 6-11 months and 12-23 months. The interview instrument used for this survey comprised four sections, each designed to gather specific and comprehensive information about maternal and child health practices.

Interview 1: Child (0-5 months 29 days)

The first interview involved a mother and her child, falling within the targeted age range (0-5 months 29 days). The interview instrument comprised four sections:

1. **Basic Household Details:** This section collected demographic information about the household.
2. **ANC & Birth Preparedness:** This section focused on Antenatal Care (ANC) received by the mother during pregnancy. We emphasized the importance of the "4Cs" for safe delivery: Clean Blade, Clean Cloth, Clean Thread, and Clean Needle.
3. **Newborn Care (NBC):** This section assessed practices related to newborn care.
4. **Postnatal & Breastfeeding Practices:** This section covered inquiries about postnatal care and breastfeeding practices.

KEY DISCUSSION POINTS

1.Beneficiary age (21) completed. firstly, we asked from the basic household question like source of water, type of house and living conditions. The family is using tap water only and for the infant they sometimes boil and sieve it.

2. The infant was born in government facility in the Pandarak region only, but the government didn't provide any of the facility which she is entitled to have like free transportation, vaccination under the government

schemes. Because she has given birth to a baby boy she is forced to give money to employee of the government hospital.

3.Due to indifferences in their families the ASHA didn't provide any of the counselling related to the pregnancy they got to know from the neighbours about the session.

4.The ration was given to them only one time during her pregnancy and no IFA and calcium tablet was given to the mother during her pregnancy by the Anganwadi as she was severely anaemic.

5.The first immunization was given to infant after 4 month of delivery. They went to Anganwadi for the immunization but due to improper functioning of the centre. The delay in immunization occurs.

6.The baby bodyweight and height were not measured by Anganwadi worker, despite knowing that it is necessary in protocol to measure the vital timely for the development of the infant.

7.ASHA didn't inform the beneficiary about the ANC services required during her pregnancy she receives the first ANC in the fourth month of her pregnancy. But she was aware that 4 ANC checkup should be included in her pregnancy period.

8.The mother was given the oxytocin during her labour pain and some immediate immunization to the baby was administered and was advised to give skin to skin care to the baby.

9.The ANM provided some information about the family planning and didn't give any safety measure advice to prevent the further pregnancy and how to take care of the newborn baby. They were practicing their method for the care of the newborn.

10.They have the knowledge about the schemes of the government like mukhyamantri kanya udayan yojana in which first girl child would be getting 3000 Rs from the government and the second child will get 1400rs from the government. They have received the 1st installment but didn't get the second installment which is still waiting.

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

- **Interview Tool Sections:**
    - Household and Respondent Characteristics
    - Breastfeeding and Complementary Feeding Practices

1.) Beneficiary age (20) firstly we asked the basic household question from each of the age groups to identify the living conditions in which is infant is growing. They have all the basic household items like fridge, table, chair, cycle etc. but the source of water is tap water only.

2.) The baby was exclusively breastfeeding till 6 months of his age after that mother started giving semi-solid food to the baby like mashed biscuit, mashed chapatti and all the food items that are being made in their home.

3.) The baby was born in the private hospital because they are dissatisfied with the government facilities and decided to deliver the baby in the private facility. The infant was born by caesarean section.

4.) Besides mother milk the infant was also drinking powered milk from the mother as advised by doctor.

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5.) The family was getting THR (take home ration) timely for the mother and infant.

6.) The infant was vaccinated properly in the government facility. And no height and weight is measured by them of the infant to check the proper development of the child. However, neither ASHA and ANM provided any guidelines or recommendations for newborn care or necessary dietary habits for the mother and infant.

7.) The ASHA completed the three ANC visit. They have completed all the visit on schedule.

8.) No IFA tablets were given to the mother by ASHA or ANM and mother was also not aware of the importance of these supplements therefore she didn't take any of the supplements which is required to take in her pregnancy period.

9.) The ASHA didn't provide any nutritional counselling to the beneficiary about what to eat during pregnancy how to take care of yourself during pregnancy.

10.) The mother was not aware of the programmes under the women and child health department. Overall, they are neither satisfied nor they are dis-satisfied with the services.

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

- **Interview Tool Sections:**
  - Household and Respondent Characteristics
  - Immunization
  - Complementary Feeding Practices
  - Postnatal Contraception and Family Planning

1.) Beneficiary age (26): This question mainly comprises of the immunization services and family planning.

2.) The mother previously given birth to two children who passed away from premature birth and preterm birth

3.) Due to which the family has decided the next birth should be taken place in the private facility. Because they were very dissatisfied with the government services.

4.) Every vaccination was given in nearby Anganwadi centre by the ANM and the MCP card of the infant show that they are not given on time.

5.) The baby height and weight were never recorded in any of the visit which is necessary step to access the child development.

6.) The THR (take home ration) was being provided by the government for the mother and child.

7.) The mother received the IFA and calcium tablet from the facility. But didn't finish all of them because after consuming the tablet she feels nausea and vomiting.

8.) The mother complained about the fever after receiving all the vaccinations from the facility but later told that they are being told by the facility that the fever can happen after taking the vaccinations and automatically went away after 1-2 days.

9.) The infant was not receiving enough diverse food for the baby. The infant still relies on bottled milk. And not receiving any nutritional food such as fruits and vegetables from the mother. Therefore, we

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educate the mother how important is to include diverse food into the diet of the baby for the proper development of baby.

10.) later, we asked about the family planning method which the mother is using but mother-in-law denied any method usage because of the wish to have a grandson despite having three granddaughters this shows the mindset of the people that preferences of male child still exist in the roots of people.

Confidentiality Assurance: Before and after the interview, we assured the participants of data confidentiality and expressed gratitude for their participation.

Conclusion:

This household survey provided valuable data on MCH practices in Pandarak village. The findings can be used to identify areas for improvement and design targeted interventions to enhance maternal and child health outcomes.

Visit Report: Health and Wellness Centre in Danapur District, Bihar

Introduction

The Health and Wellness Centre (HWC) in Danapur District, Bihar, serves a population of 10,206. The centre is committed to delivering a broad range of healthcare services, focusing on health promotion, early disease identification, treatment, and continuous care. App-based referrals ensure that patients requiring additional care are directed to the Community Health Centre (CHC) in P

Overview

General Observations

The Health and Wellness Centre in Danapur District is exceptionally well-maintained and fully functional. The centre is clean, well-organized, and equipped with the necessary infrastructure to provide comprehensive healthcare services. The commitment of the staff and administration is evident in the orderly environment and the quality of care provided.

Services Provided

The HWC offers a wide array of services aimed at improving the overall health and well-being of the community. These services include:

- **Health Promotion:** The centre actively engages in health promotion activities, educating the community about healthy lifestyles, disease prevention, and wellness practices. This includes workshops, informational sessions, and distribution of educational materials.
- **Early Disease Identification:** Screening programs are in place for the early detection of various diseases, enabling timely intervention and management. These programs are crucial for preventing the progression of diseases and reducing complications.
- **Treatment and Follow-Up Care:** Comprehensive treatment plans are provided for patients, with follow-up care to monitor progress and ensure continuity of care. The follow-up system helps in managing chronic conditions and improving patient outcomes.
- **Teleconsultation Services:** Teleconsultation facilities are available, allowing patients to consult with healthcare providers remotely. This service increases accessibility, especially for those who may have difficulty visiting the centre in person.
- **Non-Communicable Diseases (NCD) Screening and Follow-Up:** A dedicated corner for NCD screening helps in the early detection and management of conditions like diabetes, hypertension, and cardiovascular diseases. Regular follow-up ensures that patients receive ongoing care and support.

Patient Flow and Operational Data

- **Daily Patient Flow:** The centre handles a steady flow of 20-30 patients daily, reflecting the trust and reliance of the community on the centre's services.
- **OPD (Outpatient Department) Attendance Last Month:** A total of 633 patients visited the OPD in the past month, indicating the centre's capacity to manage a high volume of patients effectively.
- **Teleconsultations Last Month:** 250 teleconsultations were conducted in the last month, showcasing the centre's utilization of technology to reach and assist more patients.
- **NCD Patient Follow-Up Last Month:** 33 follow-up consultations for NCD patients were conducted last month, emphasizing the centre's commitment to continuous care for chronic disease management.

Operational Hours

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- **Working Hours:** The centre operates from 10 AM to 5 PM, providing ample time for patient consultations and healthcare services. This schedule ensures that patients can access care during convenient hours.

Facilities and Equipment

Infrastructure

- **NCD Screening Corner:** The centre has a dedicated area for the screening and management of non-communicable diseases. This space is equipped with the necessary tools and resources to facilitate effective screening and patient education.
- **Colour-Coded Dustbins:** Proper waste segregation and disposal are maintained through the use of colour-coded dustbins. This practice promotes hygiene and reduces the risk of infection.
- **Informational Charts and Boards:** The centre features informational charts and boards placed prominently to educate beneficiaries about various health programs and services. These visual aids help in raising awareness and encouraging the community to utilize the available services.

Medications and Supplies

- **Essential Drugs:** The HWC stocks all 14 essential drugs as per the Indian Public Health Standards (IPHS), ensuring that basic medical needs are met.
- **Additional Medications:** Besides the essential drugs, the centre also maintains a well-stocked inventory of various other medications. These drugs are stored properly and managed by the Community Health Officer (CHO), ensuring their availability when needed.

Staff and Administration

Community Health Officer (CHO)

- **Qualification:** The CHO holds a BSc in Nursing, providing a strong foundation in medical knowledge and clinical skills.
- **Background:** Being a native of Bihar, the CHO faces no language barriers, facilitating effective communication with patients and community members.
- **Current Duties:** The CHO is actively involved in attending to patients, addressing conditions such as non-communicable diseases, fever, cough, cold, and heatwave-related ailments. The CHO's presence and expertise ensure high-quality care and patient satisfaction.

Auxiliary Nurse Midwives (ANMs)

- **Details:** The names and contact numbers of all ANMs are displayed on the front wall of the HWC, ensuring that community members can easily reach out for assistance. This transparency promotes trust and accessibility.

Conclusion

The Health and Wellness Centre in Danapur District is a vital healthcare provider for the local community. It is well-equipped and efficiently managed, offering a comprehensive range of health services. The centre's focus on health promotion, early disease detection, treatment, and follow-up care ensures that the community receives continuous and high-quality healthcare. The integration of teleconsultation services and the dedicated NCD screening corner further enhance the centre's ability to meet the diverse health needs of the population. The dedication of the staff, particularly the CHO and ANMs, plays a crucial role in maintaining the centre's high standards of care and fostering a healthy community.

REPORT ON SESSION WITH ASHA

Introduction

An in-person meeting was conducted with the ASHA (Accredited Social Health Activist) worker responsible for overseeing two wards in her area. This report provides a detailed overview of her extensive work over the past 19 years, her role in the community, the challenges she faces, and her impact on healthcare practices.

ASHA's Role and Responsibilities

Building Community Trust and Experience

The ASHA worker has been a trusted community figure for nearly two decades, operating within the designated wards. She is highly regarded for her commitment and reliability, making her a key advocate for health improvements in her community.

Promoting Healthcare Awareness and Services

- **Healthcare Education and Counselling:** ASHA educates women about crucial healthcare practices during pregnancy, including ANC checkups. She helps women access these services and provides information on determinants of health like nutrition, basic sanitation, and hygiene.
- **Counselling Services:** ASHA counsels women on birth preparedness, safe delivery, breastfeeding, complementary feeding, immunization, contraception, and the prevention of common infections such as RTIs and STIs. She also guides childcare practices.

Community Mobilization and Facilitation

- **Access to Health Services:** ASHA mobilizes the community to access health services available at Anganwadi centers, sub-centers, and primary health centers. This includes organizing immunization drives, ANC and PNC services, supplementary nutrition distribution, and sanitation programs.
- **Family Planning Support:** She distributes the Nayi Pehel kit to encourage family planning among married couples and advises on child immunization schedules from birth to five years of age, maintaining accurate records.
- **Training and Community Engagement:** ASHA undergoes extensive training to improve her community mobilization skills and uses various methods to engage with the community.

Coordination and Meetings

- **Monthly Meetings:** The ASHA facilitator and the Block Medical Coordinator (BMC) meet monthly to discuss ASHA activities, provide feedback, share information on new programs, and distribute necessary supplies and instructions for Health and Wellness Centers (HWC).

Specific Community Events

- **Godhbharayi Event:** ASHA helps organize this event aimed at increasing maternal nutrition. It includes distributing nutritious food and providing information about better nutrition and prenatal checkups.
- **Saas Bahu Sammelan:** This gathering advises the new daughter-in-law of a family to maintain at least a three-year gap between children and a similar gap between two children. It aims to promote family planning and healthy birth spacing.

- **VHSND (Village Health, Sanitation, and Nutrition Day):** Held on the third Wednesday of each month, ASHA works on child immunization. She keeps records of newly born children and tracks their immunization schedules, ensuring timely vaccination.

Support and Reporting

- **Handling Malnourished Children:** ASHA reports malnourished children to the Nutritional Rehabilitation Centre (NRC), where they receive necessary care and support for their recovery over a period of 15-21 days.
- **Identifying Gaps and Challenges:** ASHA identifies ongoing gaps and challenges within the community and society at large.

Financial and Operational Challenges

- **Financial Hardships:** The ASHA worker faces financial challenges as her income is purely incentive based. She earns INR 100 for each ANC checkup and INR 600 for the entire delivery process, which involves significant effort and time.
- **App Functional Issues:** She mentioned that the app used for invoicing has not been functioning for the past two months, which affects her reporting process.

Conclusion

The ASHA worker plays a crucial role in enhancing healthcare practices in her community. Her efforts are pivotal in mobilizing the community, providing essential healthcare information, and supporting access to health services. Despite facing financial and operational challenges, her dedication and impact are significant. Addressing these challenges can further enhance her effectiveness and the overall health outcomes in her community.

HANDS ON PROJECT (GIRL BOSS RISE)

Project Report on Tool Design for Measuring Domains

Overview of the Project

Girl Boss Rise is a comprehensive 40-hour intervention designed to empower girls to take control of their futures and seamlessly transition from school to the workplace. This program equips participants with entrepreneurial and work-readiness skills tailored specifically for adolescent girls, addressing their unique needs. Participants will set professional goals, create concrete plans for their futures, and build robust support systems to achieve these goals. Additionally, the program fosters community engagement through projects and workshops involving parents and community members. By challenging gender stereotypes and building confidence, Girl Boss Rise prepares girls to confidently step into the professional world.

The project aims to develop a comprehensive tool designed to measure various domains crucial for the personal and professional growth of young women participating in the Girl Boss Rise program. This initiative is driven by the need to provide accurate and actionable insights into the participants' progress across different aspects of the program, ensuring that the interventions and support provided are effectively tailored to their needs.

Domains of Focus

The project focuses on the following key domains:

1. **Self-Efficacy and Confidence**: Assessing the participants' belief in their ability to succeed in specific situations or accomplish a task.
2. **Financial Literacy**: Measuring knowledge and skills in managing personal finances, budgeting, and understanding financial concepts.
3. **Leadership Skills**: Evaluating capabilities in leading groups, making decisions, and motivating others.
4. **Career Readiness**: Gauging preparedness for entering the workforce, including job-seeking skills, resume writing, and interview techniques.
5. **Mental and Emotional Well-being**: Assessing psychological health, stress levels, and emotional resilience.
6. **Social Support Networks**: Measuring the strength and reliability of personal and professional support systems.

Contribution to the Project

During my summer internship, I played a pivotal role in the planning phase of this project, particularly in identifying and validating the measuring scales for each domain. My contributions included:

1. **Research and Identification of Measuring Scales**:
   o Conducted extensive research to identify existing validated scales and measurement tools relevant to each domain.
   o Evaluated the reliability and validity of these scales to ensure they would provide accurate and consistent results when used with our target demographic.
2. **Customization and Adaptation**:
   o Worked on adapting these scales to better fit the specific context and needs of the Girl Boss Rise program participants. This involved modifying language and examples to be culturally and contextually relevant.
   o Collaborated with subject matter experts to ensure that the adapted scales retained their psychometric properties.
3. **Pilot Testing**:
   o Assisted in designing a pilot study to test the adapted scales with a small sample of participants.
   o Analysed pilot data to identify any issues with the scales, such as ambiguous questions or inconsistent responses, and made necessary adjustments.
4. **Tool Design Planning**:

- Contributed to the overall design of the measurement tool by integrating the validated scales into a coherent framework.
- Worked with the technical team to outline the requirements for the digital implementation of the tool, ensuring user-friendliness and accessibility.

Importance of the Project

This measurement tool will be instrumental in the following ways:

- **Personalized Interventions**: By accurately measuring participants' progress across various domains, the program can offer more personalized support and interventions.
- **Data-Driven Decision Making**: The tool will provide data that can inform program improvements and strategic decisions, ensuring resources are used effectively.
- **Outcome Tracking**: It will allow for the tracking of participants' growth over time, providing tangible evidence of the program's impact.

Current Status

The project is currently in the planning phase, with the measuring scales identified and adapted, and the pilot testing completed. The next steps involve developing the digital tool, integrating the scales, and preparing for full-scale implementation.

Conclusion

My internship experience has been profoundly enriching, allowing me to apply my research skills and contribute to a meaningful project aimed at empowering young women. The development of this measurement tool marks a significant step towards enhancing the effectiveness of the Girl Boss Rise program, ultimately helping participants achieve their full potential.

Learning Experience from the Project

Working on the Girl Boss Rise measurement tool project has been an incredible learning experience. It allowed me to dive into the process of finding and checking measurement tools for different areas like self-confidence, financial knowledge, and leadership skills.

One of the most valuable lessons was learning how to assess the reliability and accuracy of these tools. I spent a lot of time researching to make sure each tool was suitable and relevant for the participants in our program. This taught me how important it is to adapt tools to fit the specific needs of the people who will use them.

During the pilot testing phase, I got hands-on experience collecting and analyzing data from real participants. This was crucial in understanding how to conduct research and refine tools to ensure they are effective and easy to use.

Working with experts and the technical team was another big part of my learning. It showed me the importance of teamwork and clear communication in developing successful projects. I learned how to collaborate with professionals from different fields to create a comprehensive and effective solution.

Additionally, being involved in designing the overall framework for the measurement tool helped me understand project planning and integration. This required both strategic thinking and attention to detail, skills that are essential for managing any project successfully.

Overall, this project has helped me improve my research, analytical, and teamwork skills. It provided a solid foundation in designing and validating measurement tools, preparing me to contribute to similar projects in the future. The lessons I learned during this internship are valuable for both my academic and professional growth, giving me the confidence to tackle complex challenges.

DESK REVIEW

LITERATURE REVIEW

TOPIC- IMPACT OF SOCIAL GENDER NORMS ON THE PHYSICAL, PSYCHOLOGICAL AND EMOTIONAL WELL-BEING OF WOMEN AND GIRLS

BACKGROUND OF FINAL REPORT

The United Nations Universal Declaration of Human rights stipulates that "*All human beings are born free and equal in dignity and rights*" and "*everyone has the right to life, liberty and security of person*"[1]

The work of WHO is aligned with and supports the advancement of the Sustainable Development Goals, particularly SDG 3: *Ensure healthy lives and promote well-being for all at all ages*, and SDG 5: *Achieve gender equality and empower all women and girls*. The Organization is committed to non-discrimination and to leaving no-one behind. It seeks to ensure that every person, regardless of gender or sex, can live a healthy life.[2]

An important introductory distinction is that between legal, moral, and social norms. Legal norms are mostly written rules – laws and regulations, for instance – enforced by formal organisms (such as the State) with the authority to prosecute non-compliers[3]. Moral norms are instead internally-driven, value-based motivators of behaviour, that push individuals to behave in compliance with ideal states for self and the world[4]. Social norms, finally, are context-dependent, externally derived rules of obligatory, appropriate, and acceptable behaviour shared by people in the same group or society

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. Gender Norms and Social Norms are two widely used concepts in Global Health Action.

Gender inequality and discrimination faced by women and girls puts their health and well-being at risk. Women and girls often face greater barriers than men and boys to accessing health information and services. These barriers include restrictions on mobility; lack of access to decision-making power; lower literacy rates; discriminatory attitudes of communities and healthcare providers; and lack of training and awareness amongst healthcare providers and health systems of the specific health needs and challenges of women and girls. (WHO)[5]

Consequently, women and girls face greater risks of unintended pregnancies, sexually transmitted infections including HIV, cervical cancer, malnutrition, lower vision, respiratory infections, malnutrition and elder abuse, amongst others. Women and girls also face unacceptably high levels of violence rooted in gender inequality and are at grave risk of harmful practices such as female genital mutilation, and child, early and forced marriage. WHO figures show that about 1 in 3 women worldwide have experienced either physical and/or sexual intimate partner violence or non-partner sexual violence in their lifetime.(WHO) [6]

Sexual and reproductive health inequalities remain a significant challenge for women worldwide. Despite advances in healthcare and technology, women continue to face barriers to accessing critical services, information, and resources related to their sexual and reproductive health. These inequalities are particularly pronounced at different stages of a woman's life, from adolescence to menopause and beyond [[5], [6]].

Estimates published by WHO indicate that globally about 1 in 3 (30%) of women worldwide have been subjected to either physical and/or sexual intimate partner violence or non-partner sexual violence in their lifetime.[7]

More than one in four women (27%) in low-income countries give birth before the age of 18. This represents approximately 12 million women in the least developed countries who gave birth during their adolescence [[8]]. Each year, an estimated 3.9 million girls aged 15–19 years undergo unsafe abortions [[9]]. Approximately 270 million women worldwide want but do not have access to contraception, and 830 women die every day from preventable causes related to pregnancy and childbirth [[10], [11]].

School drop-out affects 60 million early adolescents (aged 12–14) globally [[12]], with gender, poverty, marital status and rural location key risk factors [[13], [14]].

Social discrimination in health and healthcare practices puts women from poor and disadvantaged groups at high risk [[15]].

In India, gender inequalities negatively affect women through male-dominated decision making, economic and educational disparities, violent relationships, and the socialization of women to be "other oriented" at the expense of their own health [16]. This orientation can lead women to be passive in decisions regarding their own health needs to be able to focus more on others. A 2019 series from the *Lancet* journals highlighted the myriad ways that gender inequities affect women's health thus making it difficult to reach critical sustainable development goals [17]. This series calls for more research into how and why gender norms, which refer to expectations around how people of a particular gender are expected to behave, negatively affect women's health [18].

Addressing the detrimental impact of social gender norms requires a comprehensive approach that includes education, policy change, and cultural transformation. By challenging and reshaping these norms, societies can create environments where women and girls can thrive physically, psychologically, and emotionally.

REFERENCES:

1) Abba MS, Nduka CU, Oyinlola Oyebode, Uthman OA. Association between gender-based violence and hypertension among women in the Kyrgyzstan Republic. 2022 Dec 15;22(1). Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9753303/
2) World Health Organization. World Health Organization [Internet]. Who.int. World Health Organization; 2022. Available from: https://www.who.int/
3) Cislaghi B, Shakya H. Social Norms and Adolescents' Sexual Health: An Introduction for Practitioners Working in Low and Mid-income African countries. African journal of reproductive health [Internet]. 2018;22(1):38–46. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6382281/
4) B, Shakya H. Social Norms and Adolescents' Sexual Health: An Introduction for Practitioners Working in Low and Mid-income African countries. African journal of reproductive health [Internet]. 2018;22(1):38–46. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6382281/

5) World Health Organization. Gender and health [Internet]. World Health Organization. 2019. Available from: https://www.who.int/health-topics/gender#tab=tab_1

6) World Health Organization. Gender and health [Internet]. World Health Organization. 2019. Available from: https://www.who.int/health-topics/gender#tab=tab_1

7) World Health Organization. Violence against Women [Internet]. www.who.int. 2024. Available from: https://www.who.int/news-room/fact-sheets/detail/violence-against-women#:~:text=Estimates%20published%20by%20WHO%20indicate

8) Hajar Ouahid, Mansouri A, Majda Sebbani, Nouari N, Fatima Ezzahra Khachay, Cherkaoui M, et al. Gender norms and access to sexual and reproductive health services among women in the Marrakech-Safi region of Morocco: a qualitative study. BMC Pregnancy and Childbirth. 2023 Jun 2;23(1)

9) Hajar Ouahid, Mansouri A, Majda Sebbani, Nouari N, Fatima Ezzahra Khachay, Cherkaoui M, et al. Gender norms and access to sexual and reproductive health services among women in the Marrakech-Safi region of Morocco: a qualitative study. BMC Pregnancy and Childbirth. 2023 Jun 2;23(1).

10) Hajar Ouahid, Mansouri A, Majda Sebbani, Nouari N, Fatima Ezzahra Khachay, Cherkaoui M, et al. Gender norms and access to sexual and reproductive health services among women in the Marrakech-Safi region of Morocco: a qualitative study. BMC Pregnancy and Childbirth. 2023 Jun 2;23(1).

11) Hajar Ouahid, Mansouri A, Majda Sebbani, Nouari N, Fatima Ezzahra Khachay, Cherkaoui M, et al. Gender norms and access to sexual and reproductive health services among women in the Marrakech-Safi region of Morocco: a qualitative study. BMC Pregnancy and Childbirth. 2023 Jun 2;23(1).

12) Beattie TS, Prakash R, Mazzuca A, Kelly L, Javalkar P, Raghavendra T, et al. Prevalence and correlates of psychological distress among 13–14 year old adolescent girls in North Karnataka, South India: a cross-sectional study. BMC Public Health. 2019 Jan 10;19(1).

13) Beattie TS, Prakash R, Mazzuca A, Kelly L, Javalkar P, Raghavendra T, et al. Prevalence and correlates of psychological distress among 13–14 year old adolescent girls in North Karnataka, South India: a cross-sectional study. BMC Public Health. 2019 Jan 10;19(1).

14) Beattie TS, Prakash R, Mazzuca A, Kelly L, Javalkar P, Raghavendra T, et al. Prevalence and correlates of psychological distress among 13–14 year old adolescent girls in North Karnataka, South India: a cross-sectional study. BMC Public Health. 2019 Jan 10;19(1).

15) Mishra PS, Veerapandian K, Choudhary PK. Impact of socio-economic inequity in access to maternal health benefits in India: Evidence from Janani Suraksha Yojana using NFHS data. Joe W, editor. PLOS ONE. 2021 Mar 11;16(3):e0247935.

16) Sedlander E, Talegawkar S, Ganjoo R, Ladwa C, DiPietro L, Aluc A, et al. How gender norms affect anemia in select villages in rural Odisha, India: A qualitative study. Nutrition. 2021 Jun;86:111159.

17) Sedlander E, Talegawkar S, Ganjoo R, Ladwa C, DiPietro L, Aluc A, et al. How gender norms affect anemia in select villages in rural Odisha, India: A qualitative study. Nutrition. 2021 Jun;86:111159.

18) Sedlander E, Talegawkar S, Ganjoo R, Ladwa C, DiPietro L, Aluc A, et al. How gender norms affect anemia in select villages in rural Odisha, India: A qualitative study. Nutrition. 2021 Jun;86:111159.

OBJECTIVE/AIM: The present study attempts to access the impact of social gender norms on the physical, psychological and emotional well-being of women and girl.

METHODOLOGY:

A meticulous desk review and literature survey were conducted to contextualize the study. Employing targeted keywords such as "social gender norms AND physical health of women," "gender norms AND psychological health of women and girls," and "social gender norms AND emotional well-being of women and girls," reputable databases like PUBMED, Google Scholar, Science Direct, and Sci-Hub were explored. This approach ensured retrieval of relevant studies, articles, and reports elucidating the nexus between social gender norms and women's and girls' well-being. Additionally, governmental documents, policies, and reports were scrutinized to grasp the broader socio-political landscape's implications on gender norms and well-being. Synthesizing insights from academic literature and policy documents aims to enhance understanding of the complex dynamics between gender norms and the physical, psychological, and emotional well-being of women

Evidence Table

S.No	Year	Author	Title	Aims/Objective	Location	Sample	Study design	Methodology	Results	Challenges /Limitation
1	2023	gopalakrishnan-et-al-2023	The Role of Gender Norms on Intimate Partner Violence Among Newly Married Adolescent Girls and Young Women in India: A Longitudinal Multilevel analysis	To examine the longitudinal association between community-level gender norms and intimate partner violence (IPV) among married women in India.	India	3959	prospective cohort	questionnaire	A study focusing on adolescent girls and young women aged 15-19 revealed that about one-third experienced physical or sexual intimate partner violence (IPV) by Wave 1. Factors such as belonging to a marginalized caste, childhood exposure to parental violence, engagement in paid work, and having given birth were associated with this prevalence. Community-level gender norm scores increased between Waves 1 and 2, indicating progress towards more equitable norms. An increase in community-level equitable gender attitudes was linked to a 26% rise in the likelihood of experiencing "frequent" physical IPV. Women's engagement in work outside the home, wife's higher education, and pregnancy were also significant factors.	Limitations include exclusive use of married women's data, excluding husbands' perspectives, limiting nuanced understanding of gender norms. Lack of husband data may hinder direct comparison with previous studies. The focus on newly married AGYW in India may restrict generalizability to broader populations or cultural contexts.
2	2023	krittika gorur	An Improved Measure for the Strength of Social Gender Norms (SSGN) Developed for Adolescents in Uttar Pradesh, India	To address gaps in measuring social norms that impact women's employment in India, this study was conducted with 399 adolescents aged 14-17 years to develop the Strength of Social Gender Norms (SSGN) scale	india	399		survey / questionna	Overall, the study's results contribute to a better understanding of social norms affecting women's employment in India and provide a validated measurement tool for further research and intervention efforts in this area.	The study's focus on low-income Indian adolescents in specific regions poses sampling bias, limiting generalizability. Its cross-sectional design impedes causal inference, necessitating longitudinal research. Reliance on self-report measures risks response bias and social desirability effects. While the SSGN scale shows promising validity and reliability, further validation across diverse contexts is essential. Cultural nuances may influence social norms measurement. Ethical

	Year	Author	Title	Aims/Objective	Location	Sample	Study design	Methodology	Results	Challenges /Limitation
										influence social norms measurement. Ethical
3	2021	Lisa R Roberts	**Perinatal Grief Among Poor Rural and Urban Women in Central India**	purpose of this study is to describe and compare poor rural and urban Indian women's experiences of perinatal grief.	india	Poor rural (N = 217) and urban, slum-dwelling (N = 149)	Cross - sectional	structured interview	While similar with respect to SES, age, number of living sons and perinatal loss experiences, these samples of poor women differed significantly across many variables, most notably women's household position, joint family living, number of live daughters, religious coping, autonomy, and degrees of perinatal grief. While perinatal grief was significantly associated with many variables bi-variably, most lost their relative influence in our stepwise multivariable modeling within site (rural/urban), with only social norms and social support remaining significant for rural (31% of variance) and wishful thinking and social norms for urban participants (38.4% of variance). In	Limitations include the eight-year gap between rural data collection in Chhattisgarh and urban data in Mumbai, potentially affecting outcomes due to significant changes in the rural setting. Additionally, cultural and linguistic differences between Chhattisgarh and Maharashtra could influence results. The reliability of the social norms measure was lower in the urban sample. Despite these issues, the study highlights the importance of social norms,
4	2012	Zubia Mumtaz1	Gender and social geography: Impact on Lady Health Workers Mobility in Pakistan	Gain a comprehensive understanding of the ways in which gendered norms that govern women's mobility, visibility and cross-*biradari* social interactions in the district of Attock, Punjab may constrain LHWs' ability to make home visits and interact with non-	Pakistan	sample size of 760 households (38 per CHW) will have the power to detect, with 95% confidence, households	Mixed methods	In-depth interview and Focused group discussion	The findings underscore the importance of understanding and addressing socio-cultural barriers to improve the effectiveness of community health programs. By integrating these insights into program policies and operations, the LHW program in Pakistan can be transformed into a model of success, providing valuable evidence to support the role of community health workers in primary health care.	This study faces challenges in capturing the complexity of gender norms affecting women's mobility in Pakistan, with potential social desirability bias impacting self-reported data. The limited scope and small sample size (20 LHWs, 760 households) may hinder generalizability and statistical power. Reliability of social

o	Year	Author	Title	Aims/Objective	Location	Sample	Study design	Methodology	Results	Challenges /Limitation
										mannan no LMWs and
5	2012	Lisa R Roberts	Social and cultural factors associated with perinatal grief in Chhattisgarh, India	The study aimed to explore women's perceptions of stillbirth and examine how gender dynamics, social support, coping mechanisms, and religious beliefs affect perinatal grief among poor women in rural Chhattisgarh, India. It sought to identify predictors of perinatal grief to	india	women of reproductive age (*N* = 355) who had experienced stillbirth (*n* = 178) and compared to those who	descriptive study	structured interview	The study found that women in rural Chhattisgarh, India, who experienced stillbirth had higher levels of perinatal grief compared to those who did not. Key predictors of reduced grief included higher social support, progressive social norms, and older maternal age at stillbirth. Higher use of tobacco and paan, lack of education, and health issues were more prevalent among the stillbirth group. Gender of the stillborn	This cross-sectional study's limitations include an inability to determine causality for observed associations and potential self-reporting bias due to recall errors and emotional responses. The focus on poor rural women in Mungeli, Chhattisgarh, restricts generalizability to India's diverse populations. Additionally, the
6	2019	Tara S Beattie	Prevalence and correlates of psychological distress among 13-14 year old adolescent girls in North Karnataka, South India: a cross-sectional study	The aim of the current research was to estimate the prevalence and determine the correlates for psychological distress among low caste (Scheduled Caste / Scheduled Tribe (SC/ST)) adolescent girls in rural, south India. We undertook secondary data analysis of baseline survey data conducted with 13–14 year old girls in 2014, as part of a cluster randomised control	india	1191 low caste girls in two districts in north Karnataka, conducted as part of a cluster randomised-control trial	Cross - sectional	questionnaire	The study found significant mental health challenges among girls: 35.1% had no hope for the future, 6.9% felt depressed or hopeless, and 2.1% had suicidal thoughts in the past two weeks. Sexual abuse (1.6%) and lack of parental emotional support (6.3%) were strongly linked to suicidal ideation. Depression was associated with recent eve-teasing (8.0%), abusive school environments, school absenteeism, and living in Vijayapura district. Hopelessness was linked to recent eve-teasing, engagement, non-participation in groups, and lack of emotional support.	This study on 13–14-year-old low caste adolescent girls highlighted significant psychological distress linked to gender disadvantages like school drop-out, child marriage, sexual abuse, and harassment. However, the study's cross-sectional design limits causality determination, and self-reporting may lead to under-reporting and bias. The PHQ-9, while practical, isn't optimal for assessing suicide risk, potentially affecting sensitivity and predictive value. Additionally, findings are specific to one region, limiting

No	Year	Author	Title	Aims/Objective	Location	Sample	Study design	Methodology	Results	Challenges /Limitation
7	2019	Kelly Rose-Clarke	Adolescent girls' health, nutrition and wellbeing in rural eastern India: a descriptive, cross-sectional community-based study	aimed to assess the health, nutrition and wellbeing of adolescent girls aged 10–19 years living in a predominantly tribal area of rural Jharkhand, India. We sought to identify priorities for community intervention at the State level, with broader implications for tribal	india(jharkhand)	4068	descriptive cross s	face to face interview	Interviewers gathered data from 3,324 (82%) of an estimated 4,068 girls in the study area, with an average age of 14.3 years. Most girls (82%) were from Scheduled Tribes. Among girls aged 10-14, 89% were in school or college, compared to 46% of those aged 15-19. Common reasons for school dropout included household work (37%) and family farm or business work (22%). Over a third reported anaemia symptoms recently, but less than a fifth had	The study has several limitations and challenges. First, it predominantly included girls from the Ho tribe, limiting the generalizability of results to other tribal communities. Additionally, girls staying in hostels outside the study villages were not included. A comprehensive and locally validated tool for assessing mental health was unavailable, so the study used the BPC with good
8	2021	Megan Cherewick	Adolescent, caregiver and community experiences with a gender transformative, social emotional learning intervention	The aim of this qualitative study was to evaluate the effect of a gender transformative, social emotional learning intervention for very young adolescents (VYAs) that included experiential learning with peers, parents/caregivers and community members.	Tanzania	579 adolescents	Mixed methods	102 participated in in-depth interviews and 117 took part in 22 focus group discussions.	The study demonstrated significant positive impacts of a social emotional learning intervention on adolescents in Dar es Salaam, Tanzania. Participants, including 117 in focus groups and 102 in-depth interviews, reported enhanced gender norm transformation, motivational learning with technology, and extended learning into family and community contexts. Parents observed changes in their children's beliefs and behaviors, such as increased gender equity	This study faced limitations in assessing the intervention's impact on peers, siblings, and community members not included in the sample. Conducting interviews in Swahili, then translating them to English, risked losing nuanced meanings despite efforts to mitigate this. Social desirability bias may have

S.No	Year	Author	Title	Aims/Objective	Location	Sample	Study design	Methodology	Results	Challenges /Limitation
9	2022	Mustapha S Abba	Association between gender-based violence and hypertension among women in the Kyrgyzstan Republic	the aim of this study is to evaluate the association between gender-based violence and hypertension in Kyrgyzstan Republic.	kyrgyztan	4793			population-based data of women from the 2018 Kyrgyzstan Demographic and Health Survey.	In a study involving 4,793 participants, 621 (13%) had hypertension. Those exposed to gender-based violence (GBV) had a 24% higher likelihood of hypertension compared to unexposed participants (OR = 1.24, 95% CI: 1.03–1.48). Among hypertensive women, 206 (33%) had experienced GBV. Educated women with secondary education or higher exposed to GBV were 24% more likely to have hypertension than their unexposed norm (OR = 1.24, 95% CI: 1.04, 1.49)	Several limitations should be considered when interpreting our findings. This study used secondary data, which did not account for confounding factors like stress levels. The timing of the abuse was unknown, making it difficult to determine if hypertension preceded the abuse. The study could not ascertain if hypertension in young
.0	2019	Lori Heise	Gender inequality and restrictive gender norms: framing the challenges to health	The study aims to investigate the impact of gender inequality and restrictive gender norms on health and wellbeing. It explores how sexism intersects with other discriminations, affecting health through exposures, behaviors, and access to care						

S.No	Year	Author	Title	Aims/Objective	Location	Sample	Study design	Methodology	Results	Challenges /Limitation
11	2021	Lisa Roberts	Stillbirth and infant death: mental health among low-income mothers in Mumbai	The purpose of this study is to assess mental health among a sample of Mumbai slum-dwelling women with a history of recent childbirth, stillbirth, or infant death, who are at risk for perinatal grief, postnatal depression, or mental health sequelae.	India (mu	260 participants of reproductive age	Mixed methods	interviews	Among our 260 participants of reproductive age, 105 had experienced a stillbirth, 69 had a history of infant death, and 25 had encountered both types of loss. Nearly half of the sample met the criteria for postnatal depression, with 20% of these women also meeting the criteria for perinatal grief. Anxiety and depression levels varied across subgroups, peaking among those who expressed a desire for intervention.	This study has several limitations and challenges. Purposive sampling, while suitable for exploring loss experiences, limits generalizability. Self-reported measures may introduce recall and response biases, despite using culturally validated tools. The cross-sectional design restricts causal conclusions. Additionally, the inherent stigma and lack of available mental

Evidence table link: Evidence table of social gender norms on women health.xlsx

Comprehensive Overall Findings

The literature review on the impact of social gender norms on the overall health of women reveals multifaceted and context-specific dynamics across various regions and demographics. The key findings are summarized as follows:

1. **Intimate Partner Violence (IPV)**:
   o In India, newly married adolescent girls and young women in Uttar Pradesh and Bihar face high rates of physical and sexual IPV. The study indicates a complex relationship between community-level gender norms and IPV, with equitable norms paradoxically increasing the frequency of physical IPV. Sociodemographic factors such as caste, parental violence exposure, employment, and childbirth significantly affect IPV risk. Tailored interventions addressing the distinct dynamics of physical and sexual IPV are necessary for effective mitigation.
2. **Gender Norms and Adolescent Health**:
   o The Strength of Social Gender Norms (SSGN) study in Uttar Pradesh identifies distinct descriptive and injunctive norms, highlighting gender disparities. Despite positive personal attitudes towards women working, societal norms remain restrictive, impacting career aspirations. The study underscores the importance of understanding local contexts to design effective interventions for shifting social norms.
3. **Perinatal Grief**:

- In Central India, rural women experience higher levels of perinatal grief than urban women due to socio-economic conditions, cultural practices, and healthcare access disparities. Rural areas show strong community support yet face significant social stigma, exacerbating grief. The need for targeted interventions to support grieving women in diverse socio-cultural contexts is evident.

4. **Healthcare Service Provision**:
   - In Pakistan, restrictive gender norms severely limit the mobility and effectiveness of Lady Health Workers (LHWs), impeding their ability to deliver primary health services. Despite high demand for family planning, suboptimal service delivery persists. Policy changes are necessary to enhance LHWs' mobility and effectiveness.

5. **Mental Health and Social Support**:
   - In rural Chhattisgarh, India, women facing stillbirths experience significant perinatal grief, influenced by lack of social support, restrictive norms, and younger maternal age. The distorted sex ratios reflecting gender discrimination further compound the issue. Interventions should focus on enhancing social support and challenging harmful norms to reduce psychological distress.

6. **Adolescent Mental Health**:
   - Low caste girls in rural North Karnataka exhibit high psychological distress, driven by poverty, restrictive norms, lack of autonomy, and vulnerability to abuse. The study calls for accessible, adolescent-friendly services to address these structural determinants and improve mental health outcomes.

7. **Health and Nutrition**:
   - Adolescent girls in eastern India face challenges related to violence, early marriage, and undernutrition. The study emphasizes enhancing mental health, knowledge about contraception, and school retention through locally adapted national health programs.

8. **Gender Norm Transformation**:
   - Interventions involving social and emotional experiential learning for very young adolescents effectively transform gender norms, beliefs, and behaviors. Early adolescence is identified as a critical period for such interventions, promoting gender equity and positive developmental trajectories.

9. **Gender-Based Violence and Health**:
   - In Kyrgyzstan, women exposed to gender-based violence (GBV) are at a higher risk of hypertension, particularly among rural, unemployed, and educated women. Addressing GBV through a multi-sectoral approach is crucial for improving women's health and reducing associated health and financial burdens.

10. **Comprehensive Approaches to Violence**:
    - Structural and interpersonal violence significantly impacts women's mental and physical health. The study highlights the need for integrated mental health services in reproductive health programs and policy interventions addressing socio-economic determinants. Strengthening legal frameworks and community-based support systems is essential for protecting women's rights and well-being.

11. **Participatory Learning and Action (PLA) Interventions**:
    - In rural India, PLA interventions have successfully transformed gender norms, enhancing the autonomy and decision-making power of adolescent girls. The use of digital tools and family/community involvement has fostered sustainable changes in attitudes and behaviors, improving emotional and mental well-being.

Recommendations for Further Research

1. **Context-Specific Interventions**:
   - Future research should focus on developing and testing interventions tailored to the specific socio-cultural and economic contexts of different regions. Understanding local gender norms and community dynamics is crucial for designing effective strategies.

2. **Longitudinal Studies**:
   - o Conducting longitudinal studies to track the long-term impact of interventions on gender norms and women's health is essential. This approach will help in understanding the sustainability and evolution of positive changes over time.
3. **Intersectionality**:
   - o Research should incorporate an intersectional lens to examine how multiple factors such as caste, socio-economic status, and geographic location intersect to impact women's health. This will provide a more comprehensive understanding of the issues and inform more inclusive interventions.
4. **Men's Role in Gender Norm Transformation**:
   - o Investigate the role of men and boys in transforming gender norms. Understanding their perspectives and involvement can lead to more holistic and effective gender equity programs.
5. **Policy Implementation and Evaluation**:
   - o Assess the effectiveness of policy changes aimed at improving women's health and gender equity. Research should evaluate the implementation processes and outcomes to identify best practices and areas for improvement.
6. **Mental Health Integration**:
   - o Explore ways to integrate mental health services into existing health and social support programs. Research should identify effective models for providing comprehensive care that addresses both physical and mental health needs.
7. **Technology and Innovation**:
   - o Examine the potential of digital tools and innovative approaches in gender norm transformation and health interventions. Research should focus on scalability and adaptablity of successful digital initiatives.
8. **Community-Based Participatory Research**:
   - o Encourage community-based participatory research to ensure that interventions are co-designed with local communities. This approach will enhance the relevance, acceptance, and effectiveness of the interventions.

By addressing these areas, future research can contribute to a deeper understanding and more effective mitigation of the impact of social gender norms on women's overall health.

GAPS IN RESEARCH:

Significant gaps exist in understanding the impact of social gender norms on disabled women, children of migrant workers, and marginalized communities. Research on disabled women is limited, despite their facing compounded discrimination and unique challenges in healthcare, education, and social support. Similarly, children of migrant workers, who experience instability, disrupted education, and limited healthcare access, are often overlooked in studies. Marginalized communities, including ethnic minorities and low-caste groups, face systemic discrimination and socio-economic barriers that exacerbate harmful gender norms' effects. Existing research often lacks an intersectional approach, failing to address the multiple axes of identity that influence these groups' experiences. Moreover, there is a significant gap in exploring mental health impacts within these populations. Comprehensive, intersectional studies are needed to develop inclusive and effective interventions addressing these communities' specific needs and challenges.

SECONDARY DATA ANALYSIS

INTRODUCTION OF RMNCHN IN CONTEXT OF BIHAR

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.

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 behind 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.

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 mini household survey, 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.
   - 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**

- o After data collection, the data analyst began the analysis phase.
- o The analyst created a detailed codebook, which included:
    - All variables
    - Questions
    - Values
    - Labels
- o The codebook was categorized into three distinct age groups: 0-5, 6-11, and 12-23 months.
- o The questions included in the codebook were derived from data related to RMNCHN (Reproductive, Maternal, Newborn, and Child Health and Nutrition).

4. **Distribution and Review of the Codebook**
   - o Once the codebook was prepared, it was shared with all team members.
   - o We were tasked with reviewing the codebook to identify and select questions pertinent to socio-demographic aspects.

5. **Creation of Socio-Demographic Indicators**
   - o We compiled an Excel sheet focused on questions related to the socio-demographic characteristics of respondents.
   - o We identified and created 14 indicators specific to these socio-demographic aspects.
   - o The Excel sheet was organized to include:
       - Tool questions
       - Question labels
       - Respective variables
       - Corresponding values
   - o 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
   - o 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**
   - o We proceeded to code all the indicators within the SAS software environment.
   - o Using our predefined coding system, we were able to efficiently obtain the frequency of each variable.
   - o For example, the variable "mother's age" was coded such that:
       - Ages $\leq$ 24 were coded as 0
       - Ages 25-34 were coded as 1
       - Ages $\geq$ 35 were coded as 2
   - o This approach enabled us to easily calculate and analyse the frequency distribution of each variable within our sample.

7. **Review and Refinement**
   - o After the initial coding and frequency analysis, we reviewed the results for accuracy and consistency.
   - o Any discrepancies or errors identified during this review were addressed and corrected.
   - o 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

- **Newborn Health and Nutrition**: 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 (0-5, 6-11, and 12-23) into SAS 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.
    - **proc surveyfreq**: 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 analyzed to understand the distribution and prevalence of different health and family planning practices among the study population.

6. Documentation and Reporting

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- 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 policy-making.

I. Indicator definitions:

S.no.	INDICATORS	DEFINATIONS
1	**THR**	% of pregnant women who received Take Home Rations (THR) during their last pregnancy.
2	**Institutional Delivery**	% of deliveries that took place in healthcare institutions.
3	**STSC (Skin to Skin Care)**	% of children aged 0-5 months who received immediate skin-to-skin care after birth.
4	**Weighing at Birth**	% of children aged 0-5 months who were weighed at birth.
5	**TIBF (Timely Initiation of Breastfeeding)**	% of children aged 0-5 months who received breastfeeding within 1 hour of birth.
6	**Exclusive Breastfeeding**	% of children aged 0-5 months who were exclusively breastfed in the last 24 hours.
7	**Current Breastfeeding**	% of children aged 6-11 months who are currently receiving breastfeeding.
8	**Complementary Feeding**	% of children aged 6-11 months who have started receiving complementary feeding.
9	**Any Contraceptive Method**	% of recently delivered women who are currently using any contraceptive method.
10	**Modern Contraceptive Method**	% of recently delivered women who are currently using modern contraceptive methods.
11	**Traditional Contraceptive Method**	% of recently delivered women who are currently using traditional contraceptive methods.

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	
caste	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	
MEDU	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	
FEDU	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	
MOCU	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
mcp_card			2250						data HHS.data; set HHS.data; /*% of pregnant women received MCP cards*/ if q204=1 then mcp_card=1; else mcp_card=0; run;
	1	yes		1851	82.2667	80.6873	83.8461		
	0	no		399	17.7333	16.1539	19.3127		
anc			2250						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;
	1	yes		2221	98.7111	99.2447	99.1775		
	0	no		29	1.2889	0.8225	1.7553		
anc3									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;
	1	3 or more times	2221	1519	68.3926	66.4575	70.3277		
	0	less than 3 times	2221	n	31.6074	29.6723	33.5425	29	
anc4									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;
	1	4 or more times	2221	893.6	43.4039	41.341	45.4667		
	0	less than 4 times	2221	790.2	56.5961	54.5333	58.659	29	

Variable	Code	Label	n	freq	%	Lower CI	Upper CI	Missing	SAS code
IFA_rec	1	yes	2250	686.8	90.4444	89.2288	91.6601		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	2250	583.4	9.5556	8.3399	10.7712		
IFA90rec	1	90 or more tablets	2221	480	26.6096	24.7704	28.4489		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	2221	n	73.3904	71.5511	75.2296	**29**	
number_IFAcon	1	consume 90 or more	2015	376.6	16.8238	15.1891	18.4585		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	**235**	

Variable	Code	Label	n		%	Lower	Upper		SAS code

thr_rec									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;

	1	YES	2250	169.8	40.3556	38.3268	42.3843		
	0	NO	2250	66.4	59.6444	57.6157	61.6732		

instituitional_delivery									data HHS.data;
									set HHS.data;
									/*place of delivery*/
									if Q301 in (1,2,3,4,5,6,7,8) then institutional_delivery=1;*Institutional;
									else institutional_delivery=0;*home;
									run;

	1	institutional delivery	2250	-37	86.2667	84.8434	87.69		
	0	home delivery	2250	n	13.7333	12.31	15.1566		

STSC					65.437	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;

	1	yes	1979	-140.4					
	0	no	1979	-243.8	34.563	32.466	36.66	**271**	

BABY_Weight									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;

	1	yes	2171	-347.2	82.9572	81.3742	84.5401		

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		N		%	Lower CI	Upper CI		SAS code
0	no	2171	-450.6	17.0428	15.4599	18.6258	**79**	

tibf_cat								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;

1	within 1 hour	2250	-554	66.2667	64.3116	68.2217		
0	after 1 hour	2250	n	33.7333	31.7783	35.6884		

EBF								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;

1	received EBF	2250	-657.4	50.4889	48.4214	52.5563		
0	not received EBF	2250	-760.8	49.5111	47.4437	51.5786		

breastfeeding								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;

1	yes	2250	-864.2	93.5111	92.4925	94.5297		
0	no	2250	-967.6	6.4889	5.4703	7.5075		

compliment aryfeeding									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;

	1	yes	22 50	-10 71	65.4 222	63.4 555	67.3 89		
	0	no	22 50	77 8	34.5 778	32.6 11	36.5 445		

contraceptiv e_method									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;

	1	yes	19 77	45 2	22.8 629	21.0 102	24.7 157		
	0	no	19 77	15 25	77.1 371	75.2 843	78.9 898	**273**	

use_of_modern	1	yes	1977	438	22.1548	20.3226	23.987		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	273	
use_of_tm	1	yes	1977	15	0.7587	0.3759	1.1416		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	273	

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:

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- **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 modelling.

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.

Adolescent Health: Insights pointed to ongoing issues in adolescent health, necessitating dedicated health initiatives for this demographic.

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

sThe certificate is awarded to

Name: **Komal Porwal**

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

FEEDBACK FORM (Organization Supervisor)

Name of the Student: Komal Porwal

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.
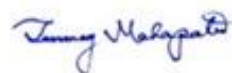
Deliverables:

- Desk review on "The impact of social gender norms on the physical , psychological and emotional well being 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 mini household survey and analysed the data using SAS software on some key RMNCAH+N indicators in the context of Bihar.
- Field visits in Sub-District hospital in Danapur, Patna and Health and Wellness Center, Bhausala, Danapur and got the opportunity to 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 diligence, sincerity, cognitive excellence, protocol adherence, eye for detail, analytical skills with great learning abilities. Based on her efforts, it appears that, given the level of aptitude she has, given chance, she can become an important asset of the public health research and implementation fraternity.

Suggestions for Improvement:

Scientific writing, programmatic knowledge, advance analytics.

Signature of the Officer-in-Charge (Internship)

Date: 12.12.24

Place: Patna

Certificate of Approval

The Summer Internship Project of titled **"The impact of social gender norms on the physical, psychological and emotional 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 Ratika Samtani

[Associate Professor, IIHMR Delhi]

IIHMR, Delhi

FEEDBACK FORM

(IIHMR MENTOR)

Name of the Student: Komal Porwal

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: Learn't Literature Review, Evidence Table generation Tool development, Epidemiological concept, Basic quantative Analysis.

Deliverables: Desk review, Participated in Data collection field visits reports, insight into findings

Strengths: Basic Intro to SAS software, data cleaning & RM conc During this period, she played sincerity, cognitive excellent, protocol adherence, eye for detail, Analytical skills with great learning abilities.

Suggestions for Improvement:

Advance Analytics, scientific writing

Signature of the Officer-in-Charge (Internship)

Date: 23-12-2024
Place: IIHMR (Delhi)

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K

10%	10%	6%	8%
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