Dissertation

At

CARE India Solutions for Sustainable Development (CISSD), Bihar

On

Traditional method of contraception user patterns and predictors- an exploratory synthesis of a mixed method research in Bihar

By

Dr Tulika Rajan

PG/21/122

Under the guidance of **Dr Sidharth Sekhar Mishra**

PGDM (Hospital and Health Management)

2021-2023

International Institute of Health Management Research

New Delhi

Dissertation

At

CARE India Solutions for Sustainable Development (CISSD), Bihar

On

Traditional method of contraception user patterns and predictors- an exploratory synthesis of a mixed method research in Bihar

By

Dr Tulika Rajan

PG/21/122

Under the guidance of **Dr Sidharth Sekhar Mishra**

PGDM (Hospital and Health Management)

2021-2023

International Institute of Health Management Research

New Delhi

CARE India Solutions for Sustainable Development
14 Patliputra Colony
Patna 800013, Bihar (INDIA)
+91 6126631100

Date: 15/06/2023

Dissertation completion certificate

This is to certify that **Dr. Tulika Rajan** pursuing Post Graduate Diploma in Management in Hospital and Health Management (PGDM) at the International Institute of Health Management and Research (IIHMR), Delhi has completed her dissertation with the **CARE India Solutions for Sustainable Development (CISSD)** during 16/01/2023 to 15/06/2023.

As a part of this dissertation, she undertook the work on assigned topic **"Traditional method user patterns and predictors - an exploratory synthesis of a mixed method research in Bihar"**.

During this period, she displayed commendable adherence to protocols for deliverables, appreciable level of cognition, exemplifying sincerity and extremely high level of commitment. Based on her learning abilities, it appeared that, given chance she can become an asset of the public health fraternity of India.

Wishing her the best for the future,

Dr Tanmay Mahapatra
Director Data & Learning, CML Unit
CISSD-BTSP

Regards

Dr. Anup Gopalakrishnan Nair
Deputy Director - HR and OD

Module No. 411, 4th Floor,
NSIC-MDBP Building
Okhla Industrial Estate,
New Delhi - 110020

Phone : 011-69200000
CIN number : U85100DL2008NPL181564

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Tulika Rajan,** a student of PGDM (Hospital & Health Management) from International Institute of Health Management Research, New Delhi has undergone internship training at **CARE India Solutions for Sustainable Development (CISSD), Bihar** from **16.01.2023** to **15.6.2023**. The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific, and analytical. The Internship is in fulfilment of the course requirements. I wish him all success in all her future endeavours.

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

Dr Sidharth Sekhar Mishra
Mentor
IIHMR, New Delhi

Certificate of Approval

The following dissertation titled **"Traditional Method of Contraception Users' Patterns and Predictors -An exploratory Synthesis of a Mixed Method Research in Bihar"** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee
for evaluation of dissertation.

Name	Signature
NAVEEN VASHIST	17/06/23
Dr Rohini Rahil	17/06/23
MUKESH RAVI RAUSHAN	17/06/23

Certificate from Dissertation Advisory Committee

This is to certify that **Dr. Tulika Rajan**, a graduate student of the PGDM (Hospital & Health Management) has worked under our guidance and supervision. She is submitting this dissertation titled "**Traditional method of contraception user patterns and predictors- an exploratory synthesis of a mixed method research in Bihar**" at "**CARE** India Solutions for Sustainable Development **(CISSD)**, Bihar" in partial fulfilment of the requirements for the award of the PGDM (Hospital & Health Management).

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

Dr. Sidharth Sekhar Mishra
Assistant Professor
IIHMR, New Delhi

Dr Tanmay Mahapatra
Team Lead
(Knowledge Management Centre)
CARE India Solutions for Sustainable Development
Bihar

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **Traditional method of contraception user patterns and Predictors- an exploratory synthesis of a mixed method research in Bihar** and submitted by **Dr. Tulika Rajan** Enrolment No. **PG/21/122** under the supervision of **Dr Sidharth Sekhar Mishra** for the award of PGDM (Hospital & Health Management) of the Institute carried out during the period from **16.01.2023** to **15.6.2023** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Tulika Rajan

Signature

CARE India Solutions for Sustainable Development

14, Pillipuras Colony
Patna 8000013, Bihar (INDIA)
+91 6126631100

care

FEEDBACK FORM

(ORGANIZATION SUPERVISOR)

Name of the Student: Dr. Tulika Rajan

Name of the Organisation: **CARE** India Solutions for Sustainable Development **(CISSD)**, Bihar

Area of Dissertation: Traditional method user patterns and predictors- an exploratory synthesis of a mixed method research in Bihar

Attendance: Perfect adherence to the dissertation norms

Objectives achieved: The student understood the details of the concept, theoretical underpinning, worked on the study design, study implementation, data quality control, field monitoring and handholding support, coordination and supervision of data collectors. Participated in data cleaning, data analysis, contributed to scientific documentation and result writing. The student also supported to preparation of presentation of findings under guidance of local mentor.

Deliverables:

1. Literature review and scientific paper writing on "Traditional method user patterns and predictors- an exploratory synthesis of a mixed method research in Bihar"
2. Preparation of Impact report of CARE (2017-2022)
3. Preparation of report and slide desk on Impact Assessment of Mobile STEM Laboratory Project Ranchi, Jharkhand
4. Literature review on "Missed opportunity of feeding minimally diverse data to babies aged 6-11 months in rural Bihar."
5. Data management and analysis
6. Slide desk preparation of District scoring and prioritization of Bihar.

Strengths: Sincerity, hard work, intelligence and proactiveness, concentration, diligence, detail-oriented ness. An excellent performer.

Suggestions for Improvement: Advanced analytical thinking skills, subject and programmatic knowledge

Date: 15-06-2023

Place: Patna, Bihar

Signature of the Officer-in-charge

Local Mentor: Dr Tanmay Mahapatra

Deputy Director HR: Dr. Anup G Nair

Module No. 411, 4th Floor,
NSIC-MDBP Building
Okhla Industrial Estate,
New Delhi - 110020

Phone: 011-69200000
www.careindia.org

ACKNOWLEDGEMENT

I take this opportunity to express my immense gratitude to various personnel of **CARE India Solutions for Sustainable Development (CISSD), Bihar** for providing me a chance of working under leadership and guidance of **Dr Tanmay Mahapatra**, Team Lead, KMC (Knowledge Management Centre), who has been a source of inspiration for me. I could get necessary instruction and guidance for performing, through which I could orient myself during this project.

I would like to thank **Mr Nayakanti Srinivasa Reddy,** Manager Data and Learning at KMC, CISSD, my supervisor for generously sharing his knowledge and time that inspired me to do my best.

I express my heartfelt gratitude to **Dr Shuchi Sree Akhouri**, Technical Associate at KMC, CISSD for providing me with the valuable opportunity of working under her and her constant support given during entire project.

I am indebted to the overall support of **Dr Sidharth Sekhar Mishra**, Associate Professor, IIHMR Delhi, my mentor for the guidance and support he gave to my learning in public health and for directing us towards achieving the aspects that one needs to be acquired with.

I am obliged to **Dr Sutapa Neogi**, director IIHMR, Delhi for providing me this wonderful opportunity to explore myself in organizations like ours.

Last but not the least I would like to acknowledge the endless contribution of my parents and my husband who have always encouraged and supported me and their wistful cooperation in my studies and to complete this project within the limited time frame.

LIST OF TABLES AND FIGURES

ABBREVIATIONS

AWC	Anganwadi Centre
BIFS	Bihar Integrated Family Planning Survey
CPR	Contraceptive Prevalence Rate
FLW	Frontline Worker
FP	Family Planning
HTSP	Health Timings and Spacing of Pregnancy
MCPR	Modern Contraceptive Prevalence Rate
MWRA	Married Women Reproductive Age
NFHS	National Family Health Survey
SHG	Self Help group
TL	Tubal ligation
TFR	Total Fertility Rate
ZLP	Zero to Low Parity

Contents

ORGANIZATION PROFILE

CARE India is a not-for-profit organization that builds capacity of communities to ensure empowerment for marginalized women and girls. Sustainable and holistic interventions in **Health, Livelihood, Education and Disaster Relief and Resilience,** provide innovative solutions to deep-rooted development problems.

Along with access to the international confederation of expertise, integrate internal knowledge and strong network of partnerships to deliver outcomes at scale to varied stakeholders.

CARE India is a part of the CARE International Confederation, which is helping millions of people in living a life of dignity and have a presence in over 100 countries.

They have been contributing to India's explosive growth for 75 years, starting from the time when it was a newly formed nation, till today when it is among the world's fastest developing economies.

In 2020-21, we impacted the lives of more than 52.7 million people, through 53 projects, carried across 18 states.

Core Values:

1. **Respect**, Upholding the dignity of everyone.
2. **Integrity,** Adhering to an ethical code of conduct in all actions.
3. **Commitment,** Fulfilling our duties and social responsibilities.
4. **Excellence,** setting high performance standards and being accountable to them.

Approach:

- Gender Equality
- Knowledge, Management and Learning

ABSTRACT

Background: Considering the enormous scope of India's family planning programme, it is necessary to improve alignment across all its facets. Despite significant efforts and advancement, India is yet to meet all of its family planning objectives like population stabilization.(1) In a nation with low overall contraceptive use or where many couples rely on traditional means of contraception, most of them are aware about modern contraceptive options, only 56.5% of them reported to have ever used a modern form of contraception.(2) To ensure the success of family planning programmes, a key area of focus must be the calibre of care provided. Hence this study is conducted with an intent to observe the changes and patterns in the use of traditional method. To understand the increase in usage of traditional method and its increase among women of reproductive age in Bihar.

Objective: The study was conducted to understand the drivers of traditional method use among women of reproductive age in Bihar.

Methods: As it is a secondary research, the study used the data collected for Bihar Integrated family planning survey (BIFS) conducted during 2021 for quantitative analysis and Zero Low Parity Couples (ZLPP) pilot study (Qualitative).

Results: The use of traditional method was more likely to occur in people belonging to OBC caste or who have at least 1 living child or belonged or formally educated or higher economic strata or couples where the husband is salaried / doing business. It was seen that wives had greater agency on FP-related decision-making. Respondents who had interacted with FLW regarding FP during were found to use traditional methods more than those who did not.

Conclusion: The drivers of traditional method use does not show any specific pattern. Proper counselling regarding the use of different types of contraception with its benefits and side effects is necessary.

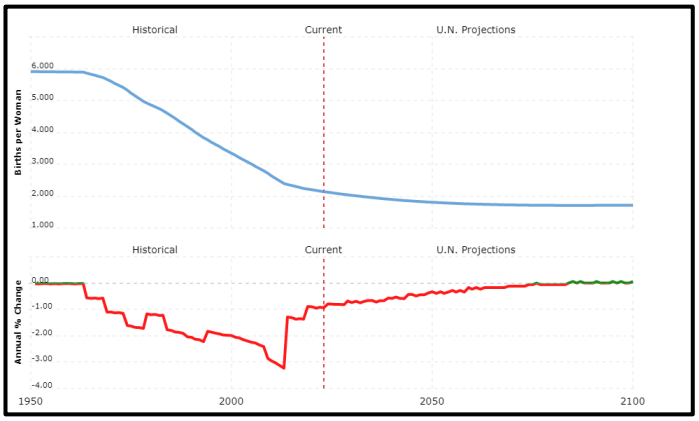
Keywords: Traditional method, Contraceptive switching, methods of contraception

INTRODUCTION

Assessing the development of family planning demands not only an assessment of general contraceptive prevalence but also an assessment of the range and types of contraceptive techniques used. Promoting and expanding reproductive health and family planning services in underdeveloped countries is frequently promoted as a means of lowering maternal mortality and improving mother and child health. (1,2) In addition, family planning has a good influence on gender equality and women's health since it allows women to make educated decisions that have a significant impact on their lives. In 2019, 1.1 billion of the world's 1.9 billion women of reproductive age (15-49 years) required family planning. (3) Only 842 million of those employed contraception techniques.(3) Across the globe, 91% of all contraceptive users, only 45% of women of reproductive age used a modern method of contraception in 2019 (3).

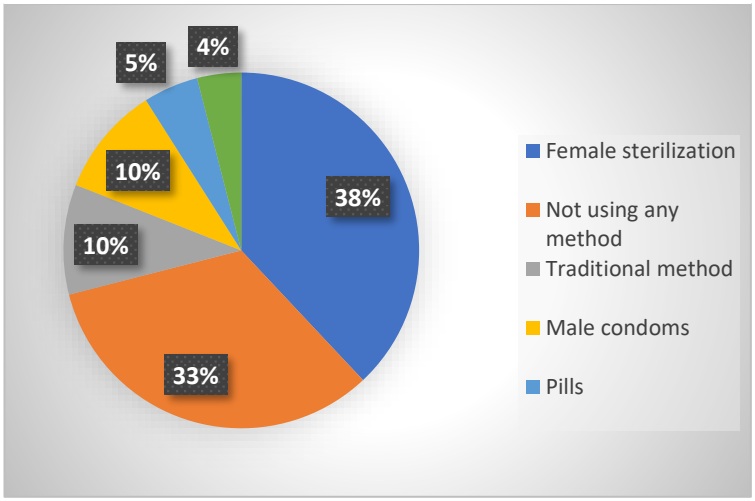
India became the first nation in the world to implement a national family planning programme in 1952. Over the years, India's population has more than doubled from 1950, to become the most populus country in the world by 2023(4). Despite significant efforts and advancement, India is yet to meet all of its family planning objectives like population stabilization.(1) In a nation with low overall contraceptive use or where many couples rely on traditional means of contraception, most of them are aware about modern contraceptive options, only 56.5% of them reported to have ever used a modern form of contraception.(2) According to the findings of the fifth round of the National Family Health Survey, India's total fertility rate

Figure 1 India Fertility Rate
Data Source: United Nations-World Population Prospects



(TFR) has decreased from 2.2 in 2015–16 to 2.0 in 2019–21, demonstrating the substantial gains population control measures have made (NFHS-5).(5) With the TFR, India has recently made tremendous strides in population control measures, although there are still major regional differences, with five states still not having reached the replacement level of fertility of 2.1 which includes Bihar (2.98) followed by Meghalaya (2.91), Uttar Pradesh (2.35), Jharkhand (2.26) and Manipur (2.17).(5) Contraceptive use has increased between 2015 and 2019 (from 53.5% in 2015 to 66.7% in 2019).(5) Nevertheless, more than 90 percent of presently married women and men aged 15 to 49 years are aware of at least one type of contraception. In India, 56.5% of women reported have ever used a modern form of contraception.(5) Despite six decades of official family planning programmes, India has a low rate of modern contraceptive technique use. The use of any contraceptive method by women of 15-49 years of age has increased from 53.5% in NFHS-4 to 66.7% in NFHS-5 (5). While any modern method use has shown an increase of 9% in year 2019 (56.5% in NFHS-5) from 47.8% in 2016(5). Among sexually active unmarried women (15-49 years), the use of condoms has increased from 12% in 2015-16 to 27% in 2019-21. Association between the use of modern method of contraception with number of living children, employment status of women and wealth index has been observed.(6)

Figure 2 Contraceptive method use among currently married women of age 15-49 years.
Data Source: NFHS:5



The discontinuation of contraceptive rate have been found to be higher for “Any other methods” (79%), injectables (66%), condoms (61%), rhythm (60%), withdrawal (59%),

and pills (55%) than for IUDs/PPIUDs (35%).(6) Contraceptive switching has also been studied as a potential indicator of family planning service quality, albeit whether high rates of switching imply excellent or inadequate service provision is contested in the research.(7) Evidence of significant method switch between ever use of modern contraception and current use, among currently married women was observed. Female sterilization(38%) still remains the most popular form of modern contraception among married women of reproductive age (15-49 years) followed by male condoms (10%) and pills (5%).(6) Half of the women undergo sterilization by the age of 25.7 years due to completion of family size. (6)

The majority of couples who are engaged in traditional methods, believe it to be just as successful as modern methods.(8) One of the numerous cited reasons offered for not using modern techniques that are generally seen to be quite dependable was a concern about health difficulties and fear or experience of side-effects, followed by familial and cultural pressure, spouses opposition to such techniques or lack of interspousal communication, and gender-based obstacles to obtaining services (8, 9). Limited options for techniques, particularly for young and unmarried individuals, restricted access to services, and low quality of services provided were among other factors that led people to choose the traditional method.(10) Despite the fact that traditional methods are becoming more popular and contemporary ones are less common, the cessation rate for spacing methods is relatively high; roughly one-third of women who use them stop using them before the 12-month mark.(9)

According to Census 2011, Bihar is the third largest state by population. The population of Bihar forms 8.60 percent of India in 2011. In Bihar, the current use of any method of family planning use has increased from 24.1% in NFHS-4 to 55.8% in NFHS-5 in which use of any modern contraceptive use accounts for 44.4% in NFHS-5.(11) Despite the

health system's availability, accessibility, and affordability of services, and awareness-raising efforts, there has been less than intended growth in family planning practises. Women have almost no power over their reproductive choices, which are heavily impacted by their family members including husband, in-laws, and societal pressure.**(12, 13)** There is mounting evidence that women's lack of agency in household matters, their financial reliance on male members of the household or their spouse, and limited decision-making power frequently lead to either covert or non-use of contraception. Nonetheless, embedded patriarchy, agricultural economy, and lack of women's autonomy in state like Bihar continue to be the reasons of high fertility, early age of marriage of women at 17.4 years, 19 years to be the median age of first childbirth and son preference in society. Delaying the birth of first child or birth spacing using modern forms of contraception, is not a typical practice among women in Bihar. Hence the age of first use of contraception is 24 years by which they already have 2-3 children. Sterilization is the most common form of contraception used by women in rural Bihar. Together with the form of contraception used, women's demographic and socioeconomic variables have been linked to contraceptive cessation and failure.

Rationale:

In response to chronically poor contraceptive use and high rates of early and fast recurrent birth among young married women, there is a rising push to address the causes of low contraceptive use and enhance access to contraception for young married couples. It is important to address the issue and challenges faced by users who are switching from modern methods of contraception to traditional methods. Moreover, very little research has been undertaken in India, particularly in Bihar, to explore the patterns of traditional methods of contraception. This study is conducted with an intent to observe the changes and patterns in the use of traditional method. To understand the

increase in usage of traditional method and its increase among women of reproductive age in Bihar.

Research question:

"What are the drivers of using traditional methods of contraception among women of reproductive age in different socio-demographic strata in Bihar**?"**

METHODOLOGY

Study area and design

The study being a work of secondary research, used the data collected for Cross-sectional study Bihar Integrated family planning survey (BIFS) conducted during 2016, 2018 and 2021 for quantitative analysis and Zero Low Parity Couples (ZLPP) pilot study (Qualitative). The BIFS survey included all 38 districts of Bihar while ZLPP study was done in 5 districts of Bihar namely Saran, Lakhisarai, Jehanabad, Bhopur, Patna.

Sampling

To acquire the appropriate sample size for distinct research components, a multi-stage probability sampling procedure (detailed below) was used in each district.

- PSU was block, SSU was AWC in rural areas/ward in urban area and TSU was structure.
- 5 blocks (PSUs) were selected from each district using cluster random sampling.

- SSUs (AWC/Wards) were also selected using cluster sampling from the blocks selected in the first stage.
- In the 'mixed' blocks i.e., blocks with both urban and rural settlements, the numbers of AWC areas and Wards to be selected were determined based on the urban-rural proportional allocation (as per Census) in those blocks.
- From each SSU, 5 structures were selected using systematic sampling.
- From each structure only a single respondent was selected.
- Total sample size= 22800 (600 per district)

The sample size was calculated following the binomial formula. Assuming an α error of 5%, β error of 20% (power = 0.8) and absolute precision of 10%, the desired sample size for each district turned out to be 384 which got inflated to 576 after incorporating a design effect of 1.5. To account for 2-4% data loss, a rounded figure of 600 per district was decided upon.

Inclusion criteria for respondents

- Married women of reproductive age group (15-49 years)
- Had been living in the selected household for at least 3 months (i.e., if a married daughter had been staying at her paternal house for >= 3 month then she was also eligible to be selected)
- Exclusion –
    - Widow and divorcee /separated.
    - Visitors/guests
    - Working women living in a hostel like structure

Data collection /Interview

Interviews were conducted using a pre-tested structured digital questionnaire in local (Hindi) language.

The interview captured data on detailed socio-demography including - age, religion, caste, educational level, husband's employment status, family type, husband's migration status, residential area, age at marriage, parity, and media exposure. Based on ownership of household assets, a wealth index was calculated, log-transformed and respondents were classified into lower, middle, and upper categories using tertile boundaries. Further, data was collected on respondents' family planning (FP) practices. Additionally, the questionnaire explored contextually relevant social, gender and family level constructs (identified in background literature) interspousal balance of power, self-efficacy of women in family planning related discussion and use, autonomy and decision-making of women, and mobility.

The outcome measures were – Current contraceptive usage (including contemporary and traditional), unmet need for spacing, unmet need for restricting techniques, unexpected pregnancy, and intention for future use among individuals who had stopped using contraception for any reason were the outcome measures.

Data Analysis

Descriptive (frequency, proportions and the corresponding 95% confidence Intervals (95% CIs)) analyses was conducted to describe the sociodemographic characteristics of the women interviewed and to determine the overall prevalence of the outcome measures of FP as well the individual and family level drivers(exposure) identified. SAS-9.4 was used for all statistical procedures. Qualitative analysis was done in Atlas Ti by categorizing them into themes and sub-themes.

REVIEW OF LITERATURE

1. An exploratory study on "*Contraceptive Discontinuation and Unintended Pregnancy: An Imperfect Relationship*" by Sian Curtis, Emily Evens and William Sambisa reported that high percentage (approx. 40%) of unintended pregnancies occur due to discontinuation of contraception. The findings of the study supported the objective of motivating couples especially the women to avoid pregnancy. (9)
2. Howard I. Goldberg and Aykut Toros in a research based on "*The Use of Traditional Methods of Contraception among Turkish Couples*" reveals the urge to reduce reproduction is widespread across all regions and socio-economic strata in Turkey. Turkey's rapid reduction in fertility rates can be attributed to the use of withdrawal, induced abortion as a fallback strategy to stop unplanned pregnancies, and an increasing reliance on modern method of contraception.(8)
3. In a study conducted by Pralip Kumar Narzary, Battala Madhusudana, A Sathiya Susuman on "*Unfolding the Mystery of Reliance on Traditional Methods of Birth Control in Assam, India*" shows that the traditional method users are in a process of family building, on completion of which they may adopt permanent method of contraception. It also revealed an association between gender and number of living children and use of contraception.(14)
4. Nasra M. Shaha, Makhdoom A. Shah, Eqbal Al-Rahmanic, Jaafar Behbehania Zoran, and Radovanovica Indu Menona conducted a household survey in Kuwait on "*Trends, Patterns and Correlates of Contraceptive Use among Kuwaitis, 1984–1999*" to culminate that contraception is generally used only by wives for child spacing. The respondent's current use of various methods varied according to several sociodemographic variables. It was also found that wife's age, parity, literacy level of the husband and wife were positively associated with current use.(15)

5. K. B. Pathak, Griffith Feeney, and Norman Y. Luther in a report on "*Alternative contraceptive methods and fertility decline in India*" based on NFHS data tried to analyze the association of sterilization and temporary methods of contraception on Indian fertility. The study concluded that the sterilized women tend to have a greater number of children in their reproductive life while women who use temporary contraceptive methods are likely to desire fewer children. There is a need to spread awareness and knowledge among people about temporary method keeping in mind the heavy dominance of female sterilization in Indian context.(16)
6. A retrospective analysis by Bellizzi S, Mannava P, Nagai M and Sobel HL was done on "*Reasons for discontinuation of contraception among women with a current unintended pregnancy in 36 low and middle-income countries*". Across all nations, the use of long-acting contemporary techniques has remained consistently low. 20% of pregnancies were intended among women in all sociodemographic strata. The discontinuation of traditional and modern method of contraception was 84% and 40% respectively. In 36 low and middle-income countries, 65% of women with unplanned pregnancies were either non-users or used traditional methods.(17)
7. Vishal Shastri and Sujata Ganguli in their cross-sectional study done to investigate "*Factors Affecting Acceptance of Modern Spacing Methods Among Couples in a High Fertility State "Bihar" in Northern India and Potential Opportunity to Expand its Uses*" revealed that there is a significant demand of unmet needs. Only around 12% of mothers used modern contraception methods throughout their first year of life, and 9% used it within 6 months. Spacing after birth is used seldom. There is lack of interspousal communication and frequent FLW interaction regarding use of FP methods. The study showcased the importance of healthcare workers in improving maternal and child health.(18)

8. In a study done on "*Assessing regional differences in contraceptive discontinuation, failure and switching in Brazil*" by Iuri C Leite and Neeru Gupta revealed that the discontinuation rate for oral contraceptives users was lowest and highest for injectable contraceptive users. Failure rates were reported higher in traditional method users, while concerns on side effects were more likely reported among users of hormonal methods (injections and oral contraceptives).(19)
9. Mohamed M Ali and John Cleland in a study titled "*Contraceptive switching method-related discontinuation: levels and differentials*" found that 10% of couples succeed in switching to a different method within 3 months among which method switching was higher in traditional method users than modern users. The chances of use of alternative modern contraceptive method is associated with the rate of method switching. (20)
10. An evidence-based synthesis of PRACHAR studies "*Increasing contraceptive use among young married couples in Bihar, India: evidence from a decade of implementation of the PRACHAR project*" by Laura Subramanian, Callie Simon, Elkan E. Daniel concludes that In a conservative culture, thorough programming with gender synchronized treatments suited to certain life stages and focused at different levels of the socioecological model can successfully boost contraceptive usage among married young people.(21)

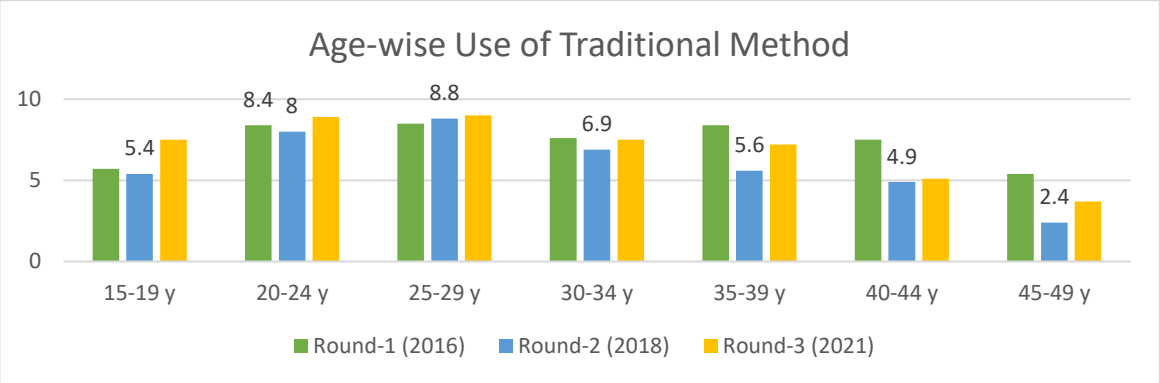
RESULTS

Findings from Quantitative data:

Age and Parity wise:

Among the ~22800 women of reproductive age, 6.6% used a traditional contraceptive method during 2016, which decreased to 6.4% during 2018 and again increased to 7.5% during 2021. During Round-1 held in 2016, 5.7% in 15-19 years, 8.4% in 20-24 years, 8.5% in 25-29 years, 7.6% in 30-34 years, 8.4% in 35-39 years, 7.5% in 40-44 years, and 5.4% in 45-49 years were found to be the overall traditional method users. While looking at the parity of the respondents it was found that 2% (N=1818) in 0 parity women, 9.1% (N=2907) in women with single parity, 9.7% (N=4807) in women with 2 children, and 7.6% (N=13268) in women with 3 or more children were traditional method users.

Figure 6 Age-wise Use of Traditional Method



While in Round-2 held in 2018, 5.4% (N= 1849) in 15-19 years, 8% (N=5196) in 20-24 years, 8.8% (N=5063) in 25-29 years, 6.9% (N=4056) in 30-34 years, 5.6% (N=3348) in 35-39 years, 4.9% (N=2061) in 40-44 years and 2.4% (N=1227) in 45-49 years were found to be the overall traditional method users. There was a gradual decline seen in the use of traditional method among women aged 30-49 years when compared to 2016. While looking at the parity of the respondents it was found that 2.6% (N=1871) in 0 parity women, 9.2% (N=3120) in women with single parity, 9.4% (N=5174) in women

with 2 children) and 5.8%(N=12635) in women with 3 or more children) were traditional method users.

In Round-3 held in 2021, 7.5% (N=1156) in 15-19 years, 8.9% (N=4383) in 20-24 years, 9% (N=4966) in 25-29 years, 7.5% (N=4210) in 30-34 years, 7.2% (N=3783) in 35-39 years, 5.1% (N=2454) in 40-44 years and 3.7% (N=1716) in 45-49 years were found to be the overall traditional method users. Increase in traditional method users among all the age groups (15-49 years) and parity wise was seen in 2021 as compared to 2018. Respondents with zero parity (3.7%, N=1462), single child (10.3%, N=3070), 2 children (9.5%, N=5520) and 3 or more children (6.3%, N=12616) were found to be traditional users.

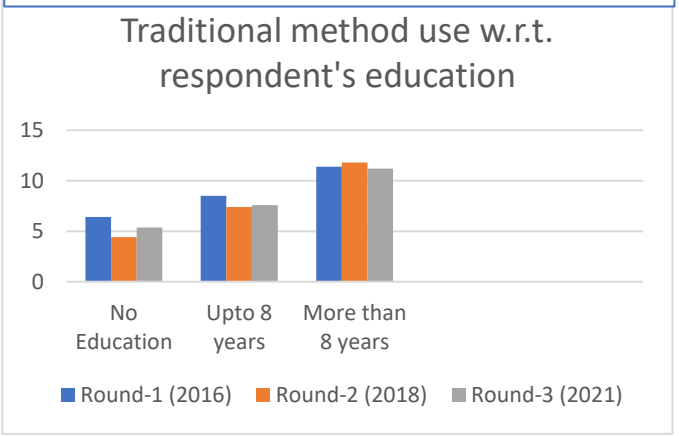
In zero to low parity (ZLP) couples (15-24 age group and 0 or 1 parity) there was gradual increase in traditional method users 6.7%, 6.6% and 8.2 in 2016, 2018 and 2018 respectively.

Overall and stratified age and parity wise traditional method use is presented in Annexure (Table 1).

Socio-demographic profile:

In the 1st round of survey held in 2016, 7.7% were Hindu (N=19233) while others were 8.4% (N= 3567), SC/ST and OBC were 7.4% (N= 6200) and 7.6% (N= 13596) respectively and others were 9.7% (N= 3004).

Figure 7 Traditional method use w.r.t. respondent's education.



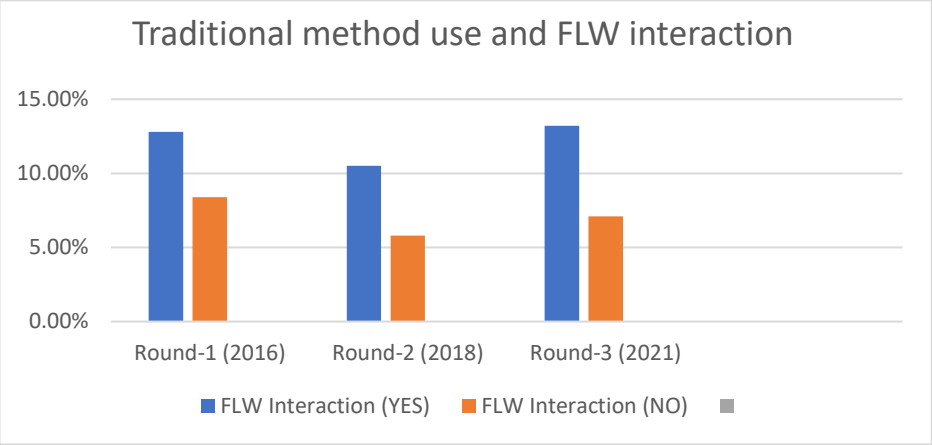
Based on the data obtained, ***it was found that the respondents who had more than 8 years of education used traditional methods more in each round of***

the survey with 11.4%, 11.8% and 11.2 in 2016, 2018 and 2021 respectively. Highest tertile respondents and respondents whose husbands were salaried or had a business were found to be more users of traditional methods than lowest in all rounds of the survey.

Programmatic exposure

Among the respondents who work as Self-Help Groups (SHG), the use of traditional method was less when compared to those who were not SHGs. ***On the contrary it was seen that respondents who interacted with FLWs (Frontline workers) regarding contraception use used traditional method more than who did not***.

Figure 8 Traditional method use and FLW interaction



Socio-demographic and programmatic exposures of traditional method user is presented in Annexure (Table 2).

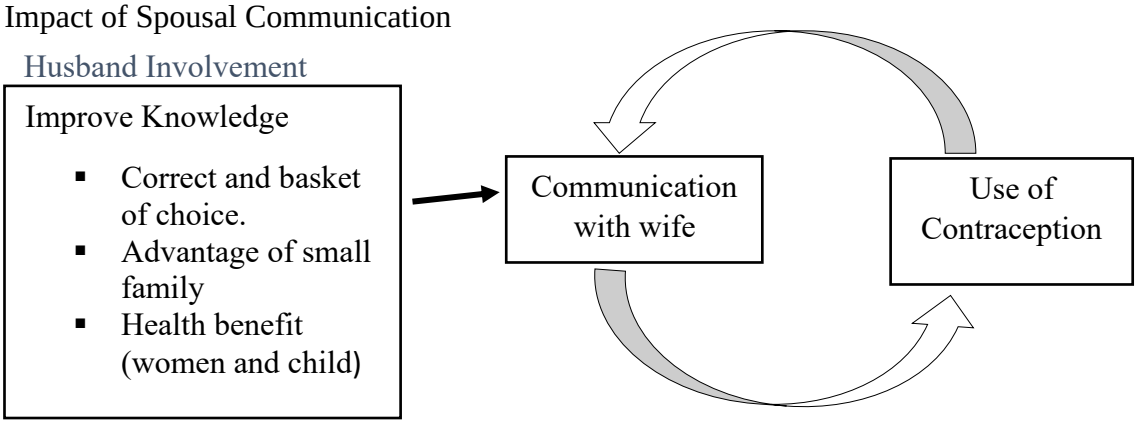
Programmatic exposure

- From the data obtained regarding women empowerment and its association with traditional method user, women who has the mobility to travel or go out of the house or for visiting neighbour or market or health facility or her parent's house were found to be more traditional users (8.7%) in 2016 which gradually decreased to 6.1% and 7.3% in 2018 and 2021. ***9.3%, 6.9% and 8% of the***

women using traditional method were economically independent in the year 2016, 2018 and 2021 respectively.

- Interspousal communication regarding family planning, its method, usage, and husband's involvement was found to be good (~20%) in the 2021.

Impact of Spousal Communication



- Now discussing about the Myths and misperception about contraceptive method among 22668 respondents, any myth about those who were aware of the female sterilization, male sterilization, injectables, IUCD, pills and condoms were found to be 8.8%, 9.5%, 7.2%, 9.2%, 10% and 9.7% respectively.
- When assessing the knowledge about the different methods of contraception, the overall knowledge regarding usage of FP methods was found to be good (13.2%), overall knowledge about HTSP was found to be average (8.5%) and overall knowledge regarding FP was good (9.2%).

Gender measures of traditional method user is presented in Annexure (Table 3 and 4).

Findings from Qualitative data:

Themes and sub-themes

Women's Age, age of first childbearing

The average age of the women asked for the traditional FP approach was 21-22 years, ranging from 17 to 23 years. The average age of marriage and first sexual encounter were both 17 years, while the age of first childbirth was 18-19 years (ranged from 15 to 23 years). There were no children being born to three newlywed mothers. Almost two-fifths of the women in this group were married before the age of 18. Women utilising traditional FP procedures varied in age from 17 to 21 years.

Socio-demographic Profile and Migration

Moreover, half of the husbands of women in this group were professional workers in various professions, with three running their own businesses. Almost one-quarter were employed as unskilled farm labour. One woman stated that her husband was unemployed, while another stated that her husband was a student. Almost half of them were either circular or irregular migrants, with only three (three) having previously migrated but not currently.

Women's autonomy

Most of the women lived in a joint family, and the majority of them were housewives. Two women in this category were employed, one as a teacher and the other as a police officer in Bihar. One woman also stated that she was pursuing her degree. Half of the women's mobility was restricted to their house and neighbourhood, whilst others were allowed to go around on their own outside the home. Almost 40% of the women had a secondary education or less, one-fourth had a high school diploma, one-fourth were illiterate, and only one was a graduate who worked for the Bihar police.

Reproductive History:

- Except for three women, the concept of FP was understood by most of them after marriage and based on practice. One woman said her relatives work in Anganwadi and she uses to assist her, hence come to know about FP methods and another said her mother is also an ASHA worker.

"***मेरा आन्टी थी मेरा आन्टी थी आंगनबाड़ी में वहीं में जैसे फाइल उइल बनता है न तो हमलोग बनाते थे***"
(MWRA_LAK_HAL_HAL)

"***कॉपर-टी के बारे में सुने हैं हम को मम्मी खुदे आशा हैं***"
MWRA_JEH_MAK_KAF_TU

- The average age of marriage was 17 years and age of first intercourse was. also 17 years meaning sexual relations were established soon after marriage, thereby delay was not thought upon. Most of the women interviewed said they have general communication with husband on family planning desired number of children.

– "**दोनों पति पत्नी दोनों मिल के**" MWRA_JEH_MAK_KAF_TU

"*दो बच्चा हम तो एक ही सोंचे हैं लेकिन घर भर में दो बच्चा*" MWRA_Saran_Tar_har_Tra

- Four women clearly admitted that the FP discussions were not participative, rather they played a passive part in it. Most of the women in this category have positive health service seeking behaviour regarding FP and reproductive health, except a few complained about lack of family communication and mobility restricting in seeking such services.

"**बोलवे नहीं करते है न हम बोलते है इसब के बाड़े में**" MWRA_LAK_LAK_BIH_TU

Knowledge of Family Planning Methods:

- On an average woman in this category had heard of 4 modern methods and 1-2 traditional methods of FP. TL, injections, copper T and condom were the most

heard modern FP methods by women followed by pills and vasectomy. Women those who have heard about vasectomy also know about TL but is not vice versa. Rhythm and withdrawal are two most heard traditional FP methods by women. There was often confusion among women regarding SDM and rhythm methods, but one woman was knowing it correctly and four women also knew about LAM. Three women have complete and correct information about most of the modern FP methods as their one or the other close relatives were working at Aganwadi centre, and she used to assist but none of them has adopted any modern FP method and the reason was also not probed.

"**अच्छा मम्मी बतायी है अच्छा मम्मी आशा हैं ,मतलब वो तो हमलोग मतलब दूसरा कोई आते हैं तो उस को बताते हैं समझाते हैं की ऐसे कीजियेगा परहेज**" MWRA_JEH_MAK_KAF_TU,

- Regarding copper T, injections, and pills most of the women confused while trying to explain and intermix these three methods often in explain about their duration as said by one woman.

"यही सुने है की दावा खाने से 2 साल 3 साल 5 साल तक रोक सकता है (pills),एक साल दो साल तीन साल तक जे है इसके बाद नहीं जाते है" MWRA_LAK_LAK_BIH_TU.

- As one woman explained about rhythm method but possessing wrong knowledge of injections.

"**मतलब जैसे पांच दिन का मेरा चल रहा हैं मतलब हम पांच दिन नहीं किये उसके बाद कर रहे हैं ऐसे ये बोल रहे हैं, छौ महीना के सुई**" MWRA_Saran_Pan_Ram_Tra.

Reason for delay and spacing between children.

- Miscarriage or abortion was reason for delay or spacing for nine women in this category. Frequent husband migration in search of work is another important reason cited for delay in birth as said by one woman.

"त का सब घड़ी पति अइजे रहतई थोड़ीये तीन महीना चार महीना पर आते है दू दिन चार दिन बाद अपन चल जाते है" MWRA_JEH_MAK_BEL_TU.

- Infertility and irregular periods were other two reasons cited by women.

"हाँ उहो देखावे ला डॉक्टर से देखयिली तब होएल" MWRA_Saran_Dar_Akb_Tra.

Preference of FP method used.

- Traditional FP methods like withdrawal were preferred by more than half of the women followed by rhythm method. Five women said that their husband had used condom and one of them said use to prefer condom during periods.

"तो मतलब माहवारी आया न तब इस्तेमाल किये" MWRA_JEH_MAK_KAF_TU.

- Three women said they prefer for pills but not started yet and three said she will go for TL in future once felt that family size is complete. One woman said that she was following traditional method, but it failed to prevent pregnancy hence want to go for TL as husband refused for NSV.

"हम अपने करवायेगे ...वो कहते है की हम नहीं करवायेगे.." MWRA_BHO_BAR_JAG_TU.

Reason for adopting any FP method in future.

- More than half of the women in this category have planned for TL in future and said they were interested once they felt that family size is complete.

"एगो और लड़का बस ... तो वही ऑपरेशन करायेंगे" MWRA_JEH_RAT_POK_TU

"आगे सोच रहे हैं की लड़का होगा (हँस रही हैं)आपको आशीर्वाद से हो जायेगा लड़का तो ऑपरेशन करा लेंगे" MWRA_LAR_LAK_NAG_TU

- One said was planning in next 2 months.

"हाँ अभी दो तीन मंथ बाद" MWRA_BHO_BAR_SAR_TU

And in one case husband was pushing for TL once girl child or another child is born

"वो तो बोलते हैं एक लड़का हुआ एक लड़की और होगा ओप्रेसन करा देगे"

MWRA_Saran_Mak_Bpi_Traditional.

One woman said she is planning to go for TL but not discussed with husband yet.

Transition of FP methods

No pattern was observed for the transition of any method. One woman said she stopped using pills and adopted traditional method (rhythm or withdrawal) due to side-effect as it causes irregular periods and one said that she shifted from pills to injections to traditional method due to side-effects. Another woman said she her husband objected to using a condom after using it for two-three times.

"**तो मतलब कंडोम का इस्तेमाल नहीं करना चाह रही है पति के वजह से .....**" MWRA_JEH_MAK_BHA_TU.

Current Practises-Preferred method, reason, time of use and difficulty encountered:

Most of the women were using two traditional FP methods – withdrawal and rhythm – preferred them. The only one said was following abstinence and one was currently pregnant. Reason for using such method was given that it upon mutual agreement, helps to control pregnancy and depend upon husband willingness. One woman also said her phobia for injection prevents to adopt it.

"**सुई से डर लगता है**" MWRA_LAK_LAK_BIH_TU

DISCUSSION

This report discusses about drivers of traditional method users in which we see the various factors which affects the choice and use of contraceptive methods. As mentioned in previous papers there have been enough evidence about the association between the number of children and use of traditional method.(14, 15). On the contrary to some previous studies which shows that mother's education and wealth index of mothers and use of traditional method are indirectly proportional, our study shows that more educated the mother, more are the chances of use of traditional method.(15, 17) The effect of health workers interacting with community people have made them more aware about the effects and side effects of different contraceptive methods and has led to increased use of traditional method. The cases of contraception switching, and discontinuance shows no significant pattern but has been found to be associated with the myths and side effects of different methods and family size completion. People tend to prioritize their health over their reproductive profile as found in this study.

Among zero to low parity couples, who are not considered as target group by FLWs for any FP methods. Pressure for early first child from in-laws and subsequent social stigma and self-desire to avoid any backbite with male preference has been found to be evident in previous studies.

While assessing the knowledge regarding family planning method it has been found that the community people are aware about the different family planning methods which shows that the interventions done by government by increasing the basket of choice has shown improvement.

Autonomy of women have improved over the years. This study shows improved mobility, economic independence, decision making power of women showing a gradual progress towards women empowerment.

The way forward:

- Providing contraceptives with regular updates as women generally lack financial independence.
- Promote couple's communication on topic FLWs must try to involve husband will explaining and need focus on impact on women and child health particularly.
- Training to FLWs to handle on questions generally encounter during explaining especially to literate women.
- Adopting FP methods for childcare and upbringing but mothers' healthcare was missing expect said by few traditional users, so propagation of impact of childbearing on women health especially in quick succession.

LIMITATIONS

- Some of the domains of survey were further included in Round-3 (2021) like respondent's occupation in socio-demographic tables, FLW advice during last pregnancy/ current pregnancy, PNC advice during last pregnancy in programmatic exposure and interspousal communication, self-efficacy, myths and misperception about contraceptive method and its knowledge in gender measures.
- Not enough study or previous research is available on traditional methods in Bihar.

ANNEXURE

Table 1 Age & Parity-wise Traditional Method Use (STRATIFIED):

Variable	Category	Traditional method (Overall)								
		Round-1 (2016)			Round-2 (2018)			Round-3 (2021)		
		N	Frequency (n)	Percentage (95% CI)	N	Frequency (n)	Percentage (95% CI)	N	Frequency (n)	Percentage (95% CI)
		22800	1514	6.64 (6.32-6.96)	22800	1468	6.43 (6.12-6.76)	22668	1706	7.52 (7.18-7.87)
Age of respondent	15-19 y	1519	87	5.7 (4.5-6.9)	1849	101	5.4 (4.4-6.5)	1156	87	7.5 (6-9)
	20-24 y	4955	417	8.4 (7.6-9.1)	5196	416	8 (7.2-8.7)	4383	391	8.9 (8.1-9.7)
	25-29 y	4929	419	8.5 (7.7-9.2)	5063	446	8.8 (8-9.5)	4966	447	9 (8.2-9.7)
	30-34 y	4219	324	7.6 (6.8-8.4)	4056	282	6.9 (6.1-7.7)	4210	317	7.5 (6.7-8.3)
	35-39 y	3496	296	8.4 (7.5-9.3)	3348	190	5.6 (4.8-6.4)	3783	273	7.2 (6.3-8)
	40-44 y	2332	175	7.5 (6.4-8.5)	2061	102	4.9 (4-5.8)	2454	127	5.1 (4.3-6)
	45-49 y	1350	73	5.4 (4.2-6.6)	1227	30	2.4 (1.5-3.3)	1716	64	3.7 (2.8-4.6)
Parity	0	1818	38	2 (1.4-2.7)	1871	49	2.6 (1.9-3.3)	1462	55	3.7 (2.7-4.7)
	1	2907	264	9.1 (8-10.1)	3120	287	9.2 (8.1-10.2)	3070	319	10.3 (9.3-11.4)
	2	4807	468	9.7 (8.8-10.5)	5174	489	9.4 (8.6-10.2)	5520	525	9.5 (8.7-10.2)
	3 or more	13268	1021	7.6 (7.2-8.1)	12635	742	5.8 (5.4-6.2)	12616	807	6.3 (5.9-6.8)
ZLP (15-24 age group and 0 or 1 parity)		**3318**	223	6.7 (5.8-7.5)	3655	242	6.6 (5.8-7.4)	3017	248	8.2 (7.2-9.2)
Rest		**19482**	1568	8 (7.6-8.4)	19145	1325	6.9 (6.5-7.2)	19651	1458	7.4 (7-7.7)

Data Source: Bihar Integrated family planning survey (BIFS) 2016, 2018 and 2021

Table 2 Socio-demographic profile (STRATIFIED):

Variable	Category		Traditional method (Overall)								
			Round-1 (2016)			Round-2 (2018)			2021		
		N	Frequency (n)	Percentage (95% CI)	N	Frequency (n)	Percentage (95% CI)	N	Frequency (n)	Percentage (95% CI)
Religion	**Others**	3567	303	8.4 (7.5- 9.4)	3372	245	7.2 (6.3- 8.1)	2760	270	9.78 (8.6-10.8)
	Hindu	19233	1488	7.7 (7.3- 8.1)	19423	1322	6.8 (6.4- 7.1)	19908	1436	7.21 (6.8- 7.5)
Caste	SC/ST	6200	460	7.4 (6.7- 8.0)	5908	351	5.9 (5.3- 6.5)	4517	283	6.26 (5.5- 6.9)
	OBC	13596	1038	7.6 (7.1- 8.0)	14169	976	6.8 (6.4- 7.3)	14439	1109	7.68 (7.2- 8.1)
	Others	3004	293	9.7 (8.6-10.8)	2723	240	8.8 (7.7- 9.8)	3712	314	8.46 (7.5- 9.3)
Respondent education	NO education	13758	887	6.4 (6.0- 6.8)	12493	550	4.4 (4.0- 4.7)	11148	599	5.37 (4.9- 5.7)
	UPTO 8 YEARS	4444	378	8.5 (7.6- 9.3)	4657	346	7.4 (6.6- 8.1)	4754	361	7.59 (6.8- 8.3)
	>8 YEARS	4598	526	11.4 (10.5-12.3)	5650	671	11.8 (11.0-12.7)	6765	746	11.2 (10.2-11.7)
Wealth index	Low	7637	499	6.5 (5.98- 7.0)	7601	360	4.4 (4.2- 5.2)	7558	465	6.15 (5.6- 6.6)
	Middle	7573	596	7.8 (7.2- 8.4)	7597	476	6.2 (5.7- 6.8)	7555	510	6.75 (6.1- 7.3)
	High	7590	696	9.1 (8.5- 9.8)	7602	731	9.6 (8.9-10.2)	7555	731	9.67 (9-10.3)
Respondent occupation	Not working							18546	1429	7.7 (7.32- 8.08)
	Skilled labour							309	19	6.14 (3.46- 8.82)
	Unskilled labour							2837	165	5.82 (4.96- 6.68)
	Salaried/Bussiness							976	93	9.53 (7.69-11.37)
Husband occupation	Not working	486	38	7.8 (5.4-10.2)	563	31	5.5 (3.6- 7.3)	719	59	8.21 (6.2-10.2)
	Skilled labour	3838	279	7.2 (6.4- 8.0)	3798	234	6.1 (5.4- 6.9)	3990	262	6.57 (5.8- 7.3)
	Unskilled labour	11381	880	7.7 (7.2- 8.2)	10251	625	6.1 (5.6- 6.6)	9971	668	6.7 (6.2- 7.2)
	Salaried/Bussiness	7095	594	8.3 (7.7- 9.0)	8188	677	8.2 (7.67- 8.86)	7988	717	8.97 (8.3- 9.6)

Data Source: Bihar Integrated family planning survey (BIFS) 2016, 2018 and 2021

Table 3 Programmatic exposure (STRATIFIED)

Domain	Variable	Category	Traditional method (Overall)								
			Round-1 (2016)			Round-2 (2018)			Round-3 (2021)		
			N	Frequency (n)	Percentage (95% CI)	N	Frequency (n)	Percentage (95% CI)	N	Frequency (n)	Percentage (95% CI)
Prgrammatic	SHG	No	19155	1513	7.9 (7.52- 8.28)	15200	1120	7.3 (6.95- 7.78)	13988	1157	8.27 (7.81- 8.72)
		Yes	3645	278	7.6 (6.76- 8.49)	7600	447	5.8 (5.35- 6.41)	8680	549	6.32 (5.81- 6.83)
	JTSP and SHG	Non SHG member from non-JTSP blocks	15837	1256	7.9 (7.51-8.35)	11582	845	7.3 (6.82-7.77)	10569	879	8.31 (7.78-8.84)
		SHG member from non-JTSP blocks	2644	200	7.5 (6.56-8.57)	7573	492	6.5 (5.94-7.05)	9367	656	7 (6.48-7.52)
		Non SHG member from JTSP blocks	3318	257	7.7 (6.83-8.65)	1877	127	6.7 (5.63-7.9)	1336	79	5.92 (4.65-7.18)
		SHG member from JTSP Block	1001	78	7.7 (6.12-9.44)	1768	103	5.8 (4.73-6.92)	1396	92	6.6 (5.3-7.9)
	FLW Interaction	No	20432	635	8.4 (7.81- 9.06)	21046	223	5.8 (5.06- 6.54)	21382	1535	7.18 (6.83- 7.52)
		Yes	2368	305	12.8 (11.53-14.23)	1754	185	10.5 (9.11-11.99	1286	171	13.2 9(11.44-15.15
	Any discussion on FP took place during VHSND session	Yes	1602	201	12.5 (10.92-14.17)	1788	168	9.4 (8.04-10.75)	1251	144	11.5 1(9.74-13.28)
		No	3741	347	9.2 (8.34-10.2)	5160	353	6.8 (6.15-7.53)	4361	335	7.68 (6.89-8.47)
	FLW advice during current pregnancy/last pregnancy (last trimester) (Q339) - Unprompted	No							19701	1456	7.39 (7.02- 7.75)
		Yes							2063	204	9.89 (8.60-11.17)
	PNC Advice during last delivery (Q340) - Unprompted	No							12317	1064	8.63 (8.14- 9.13)
		Yes							1690	182	10.7 7(9.30-12.25

Data Source: Bihar Integrated family planning survey (BIFS) 2016, 2018 and 2021

Table 4 Gender Measures (Stratified) (1)

Traditional method (Overall)												
				Round-1 (2016)			Round-2 (2018)			Round-3 2021		
			N	Frequency	Percentage (95% CI)	N	Frequency	Percentage (95% CI)	N	Frequency	Percentage (95% CI)
Women's Empowerment	**Mobility** *(At least 2 components out of 4)*	No	22800	694	6.7 (6.2- 7.2)	22800	829	7.7 (7.22- 8.23)	22668	751	7.7 (7.23- 8.30)
		Yes		1097	8.7 (8.2- 9.2)		738	6.1 (5.69- 6.54)		955	7.3 (6.89- 7.79)
	Economic independence *(At least 2 components out of 3)*	No	22800	1060	7.0 (6.6- 7.4)	22800	607	6.8 (6.30- 7.35)	22668	473	6.4 (5.90- 7.03)
		Yes		731	9.3 (8.7- 9.9)		960	6.9 (6.48- 7.33)		1233	8.0 (7.60- 8.46)
	Decision making *(At least 2 components out of 4)*	No	22800	371	6.4 (5.7- 7.0)	22800	170	5.9 (5.12- 6.86)	22668	268	7.1 (6.34- 7.99)
		Yes		1414	8.3 (7.9- 8.8)		1397	7 (6.65- 7.36)		1438	7.6 (7.22- 7.98)
	Women's Empowerment (mobility, economic	No	22800	451	6.1 (5.5- 6.6)	22800	256	6.6 (5.89- 7.48)	22668	276	6.6 (5.90- 7.42)
		Yes		1340	8.6 (8.2- 9.1)		1311	6.9 (6.55- 7.27)		1430	7.7 (7.33- 8.10)
	Type of area	Rural	20365	1595	7.7 (7.3- 8.1)	13840	1435	6.6 (6.35- 7.02)	16889	1444	7.0 (6.73- 7.44)
		Urban	2303	196	8.9 (7.7-10.1)	1514	132	9.92 (8.32-11.53)	2020	262	11. (10.07-12.66)
Interspousal communication	Interspousal communication - (Ever 731a, 732 & Q736)	Poor							3285	372	8.8 (8.01- 9.73)
		Average							2632	419	11.3 (10.35-12.40)
		Good							4444	882	17.9 (16.88-19.03)
		None							3285	372	8.8 (8.01- 9.73)
		Any							1971	104	9.8 (8.02-11.61)
		More than 1							5105	1197	15.8 (15.06-16.71)
	Interspousal communication - recent (in last 12 months 733, 734 & Q736)	Poor							5494	687	9.7 (9.08-10.47)
		Average							2798	477	14.4 (13.27-15.67)
		Good							2069	509	20. (19.06-22.25)
		None							5494	687	9.7 (9.08-10.47)
		Any							2798	477	14.4 (13.27-15.67)
		More than 1							2069	509	20.6 (19.06-22.25)
	Interspousal communication - overall (731a, 732, 733, 734, 736	Poor							3253	371	8.8 (7.99- 9.71)
		Average							2657	368	11 (9.94-12.06)
		Good							4451	934	17.7 (16.75-18.82)
		None							3253	371	8.8 (7.99- 9.71)
		Any							809	97	9.7 (7.90-11.58)
		More than 1							6299	1205	15.8 (15.03-16.67)
Self efficacy	Overall Self efficacy	Low							4416	312	5.5 (4.98- 6.18)
		Medium							7167	680	8.0 (7.49- 8.65)
		High							7326	714	8.2 (7.67- 8.82)

Data Source: Bihar Integrated family planning survey (BIFS) 2016, 2018 and 2021

Table 5 Gender Measures (Stratified) (2)

Traditional method (Overall)												
				Round-1 (2016)			Round-2 (2018)			Round-3 2021		
			N	Frequency	Percentage (95% CI)	N	Frequency	Percentage (95% CI)	N	Frequency	Percentage (95% CI)
Myths and misperception about contraceptive method	Any myth about female sterilization among those who were aware of the	No							6477	405	5.3 (4.85- 5.87)
		Yes							11631	1241	8.8 (8.38- 9.32)
	Any myth about male sterilization among those who were aware of the	No							1220	124	8.5 (7.12-10.00)
		Yes							9035	1001	9.5 (8.94-10.06)
	Any myth about injectables among those who were aware of the	No							1649	209	10.8 (9.42-12.18)
		Yes							17260	1497	7.2 (6.86- 7.57)
	Any myth about IUCD among those who were aware of the method	No							951	116	10 (8.32-11.80)
		Yes							10663	1151	9.2 (8.75- 9.76)
	Any myth about MALA N pills among those who were aware of the	No							1518	192	10.5 (9.18-12.01)
		Yes							8179	954	10 (9.44-10.65)
	Any myth about Chhaya pills among those who were aware of the	No							448	65	12 (9.33-14.85)
		Yes							2367	300	10.7 (9.57-11.87)
	Any myth about Emergency Contraceptive Pills among those who	No							284	46	14.1 (10.39-17.99)
		Yes							1207	165	11.6 (9.96-13.30)
	Any myth about Condoms among those who were aware of the	No							2793	431	13.1 (11.95-14.26)
		Yes							7114	810	9.7 (9.11-10.39)
Knowledge	Overall knowledge regarding correct usage of FP methods	Poor							11923	580	6.3 (5.86- 6.86)
		Average							4530	576	10.7 (9.93-11.59)
		Good							2456	385	13.2 (12.04-14.51)
	Overall knowledge regarding HTSP	Poor							7127	516	6.0 (5.54- 6.55)
		Average							6034	608	8.5 (7.91- 9.21)
		Good							5748	582	8.2 (7.62- 8.91)
	Overall knowledge regarding FP	Poor							6014	361	4.9 (4.46- 5.46)
		Average							5560	528	8.0 (7.43- 8.76)
		Good							7335	817	9.2 (8.60- 9.80)
Health system responsiveness during provider-client interaction	Balancing power index (couple communication)	good>=4							992	122	10.2 (8.51-11.95)
		verage >=3 & <4							1042	116	8.9 (7.40-10.51)
		Poor<3							1552	160	8.2 (7.06- 9.52)
	Overall injuctive norms	Poor<3							932	117	9.9 (8.21-11.63)
		verage >=3 & <4							1136	152	10.6 (9.07-12.27)
		Good>=4							1358	109	6.7 (5.55- 8.01)

Data Source: Bihar Integrated family planning survey (BIFS) 2016, 2018 and 2021

REFERENCES

1. Muttreja P, Singh SJTIjomr. Family planning in India: The way forward. Indian Journal of Medical Research 2018;148(Suppl 1):S1.
2. Mohfw. Family planning Annual Report INDIA 2015-16. In: Mohfw, editor. New Delhi2015-2016.
3. Contraceptive Use by Method- Department of economic and social affairs

[Internet]. 2019. Available from: https://www.un.org/development/desa/pd/content/contraceptive-use-method-2019.
4. World Population Prospects- India Fertility rate 1950-2023 [Internet]. 2022. Available from: https://population.un.org/wpp/.
5. MoHFW. National Family Health Survey-5 Factsheet- INDIA In: MoHFW, editor. New Delhi2019.
6. Government of India MoHaFW. National Family Health Survey (NFHS - 5)- INDIA REPORT. Deonar, Mumbai: International Institute for Population Sciences; 2022.
7. Bradley SE, Schwandt H, Khan SJDas. Levels, trends, and reasons for contraceptive discontinuation. 2009;20.
8. Goldberg HI, Toros AJSifp. The use of traditional methods of contraception among Turkish couples. 1994:122-8.
9. Curtis S, Evens E, Sambisa WJIpos, health r. Contraceptive discontinuation and unintended pregnancy: an imperfect relationship. 2011;37(2):58.
10. Barden-O'Fallon J, Speizer IS, Calhoun LM, Corroon MJBwsh. Women's contraceptive discontinuation and switching behavior in urban Senegal, 2010–2015. 2018;18(1):1-9.
11. MoHFW. National Family Health Survey-5 -BIHAR-FACTSHEET. In: MoHFW, editor. New Delhi2019.
12. Steele F, Diamond IJSiFP. Contraceptive switching in Bangladesh. 1999;30(4):315-28.
13. New JR, Cahill N, Stover J, Gupta YP, Alkema LJTLGH. Levels and trends in contraceptive prevalence, unmet need, and demand for family planning for 29 states and union territories in India: a modelling study using the Family Planning Estimation Tool. 2017;5(3):e350-e8.
14. Narzary PK, Madhusudana B, Sathiya Susuman AJJoA, Studies A. Unfolding the mystery of reliance on traditional methods of birth control in Assam, India. 2017;52(6):780-93.
15. Shah NM, Shah MA, Al-Rahmani E, Behbehani J, Radovanovic Z, Menon IJMP, et al. Trends, patterns and correlates of contraceptive use among Kuwaitis, 1984–1999. 2001;10(1):34-40.
16. Pathak KB, Feeney G, Luther NY. Alternative contraceptive methods and fertility decline in India. 1998.
17. Bellizzi S, Mannava P, Nagai M, Sobel HJC. Reasons for discontinuation of contraception among women with a current unintended pregnancy in 36 low and middle-income countries. 2020;101(1):26-33.
18. Shastri D, Dev V, Ganguly SJAaS. Factors Affecting Acceptance of Modern Spacing Methods Among Couples in a High Fertility State'Bihar'in Northern India and Potential Opportunity to Expand its Uses. 2019.
19. Leite IC, Gupta NJRH. Assessing regional differences in contraceptive discontinuation, failure and switching in Brazil. 2007;4(1):1-10.
20. Ali MM, Cleland JJSifp. Contraceptive switching after method-related discontinuation: levels and differentials. 2010;41(2):129-33.
21. Subramanian L, Simon C, Daniel EEJGHS, Practice. Increasing contraceptive use among young married couples in Bihar, India: evidence from a decade of implementation of the PRACHAR project. 2018;6(2):330-44.

IIHMR DELHI

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH (IIHMR)

Plot No. 3, Sector 18A, Phase II, Dwarka, New Delhi 110075
Ph. +91-11-30418900, www.iihmrdelhi.org

CERTIFICATE ON PLAGIARISM CHECK

Name of Student (in block letter)	Dr./~~Mrs/Miss~~ TULIKA RAJAN		
Enrollment/Roll No.	PGI/21/122	Batch Year	2021-23
Course Specialization (Choose one)	Hospital Management	Health Management ✓	Healthcare IT
Name of Guide/Supervisor	Dr./~~Prof.~~: SIDHARTH SEKHAR MISHRA		
Title of the Dissertation/Summer Assignment	TRADITIONAL METHOD OF CONTRACEPTION USER PATTERNS AND PREDICTORS - AN EXPLORATORY SYNTHESIS OF A MIXED METHOD RESEARCH IN BIHAR		
Plagiarism detect software used	"TURNITIN"		
Similar contents acceptable (%)	Up to 15 Percent as per policy		
Total words and % of similar contents Identified	14%		
Date of validation (DD/MM/YYYY)	22/06/2023		

Siddharth Sekhar Mishra

Guide/Supervisor

Name:

Signature:

Student

Name: TULIKA RAJAN

Signature: Tulika Rajan

Report checked by

Institute Librarian

Signature:

Date:

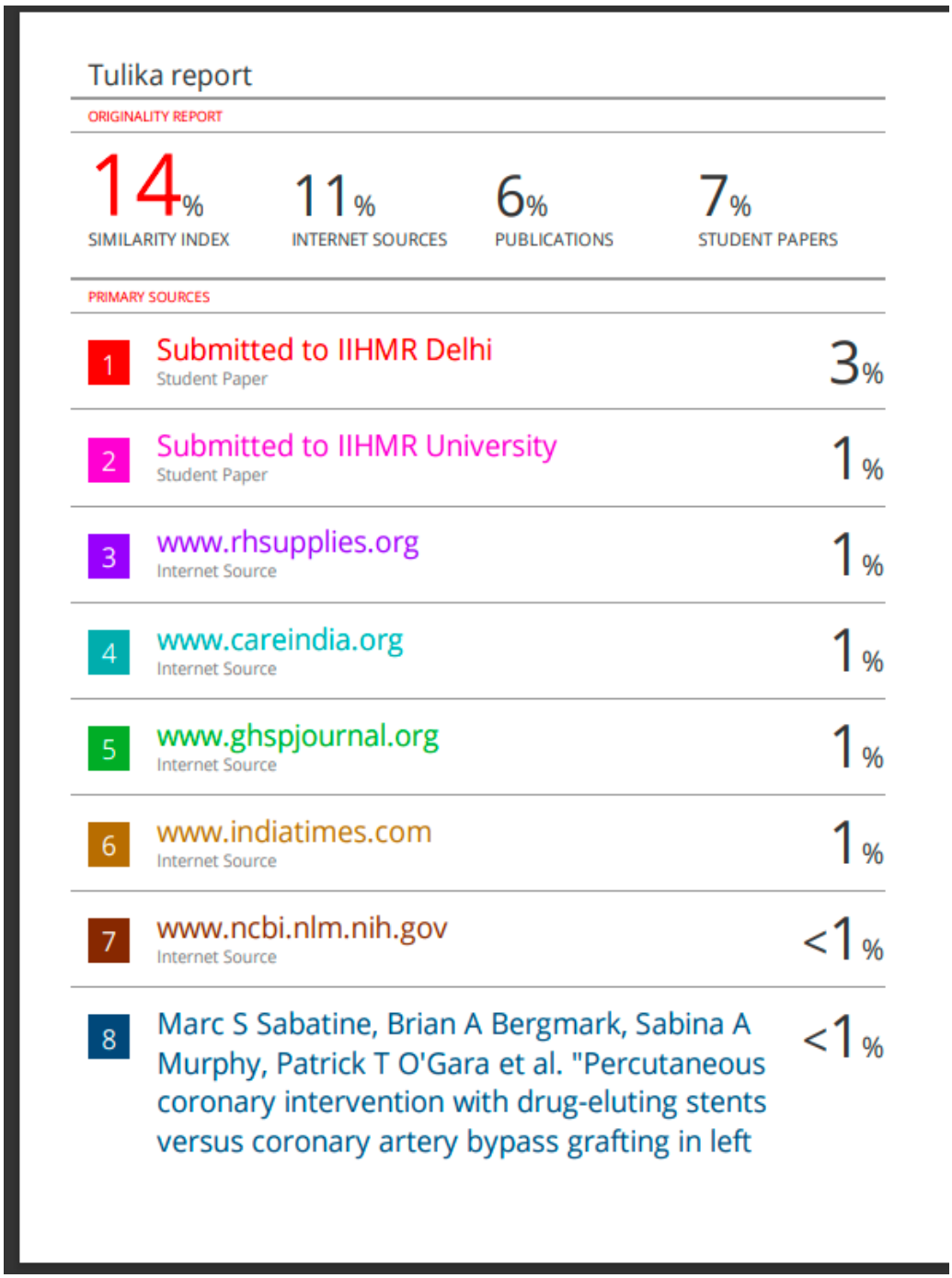
Library Seal

Dean (Academics and Student Affairs)

Signature:

Date:

(Seal)



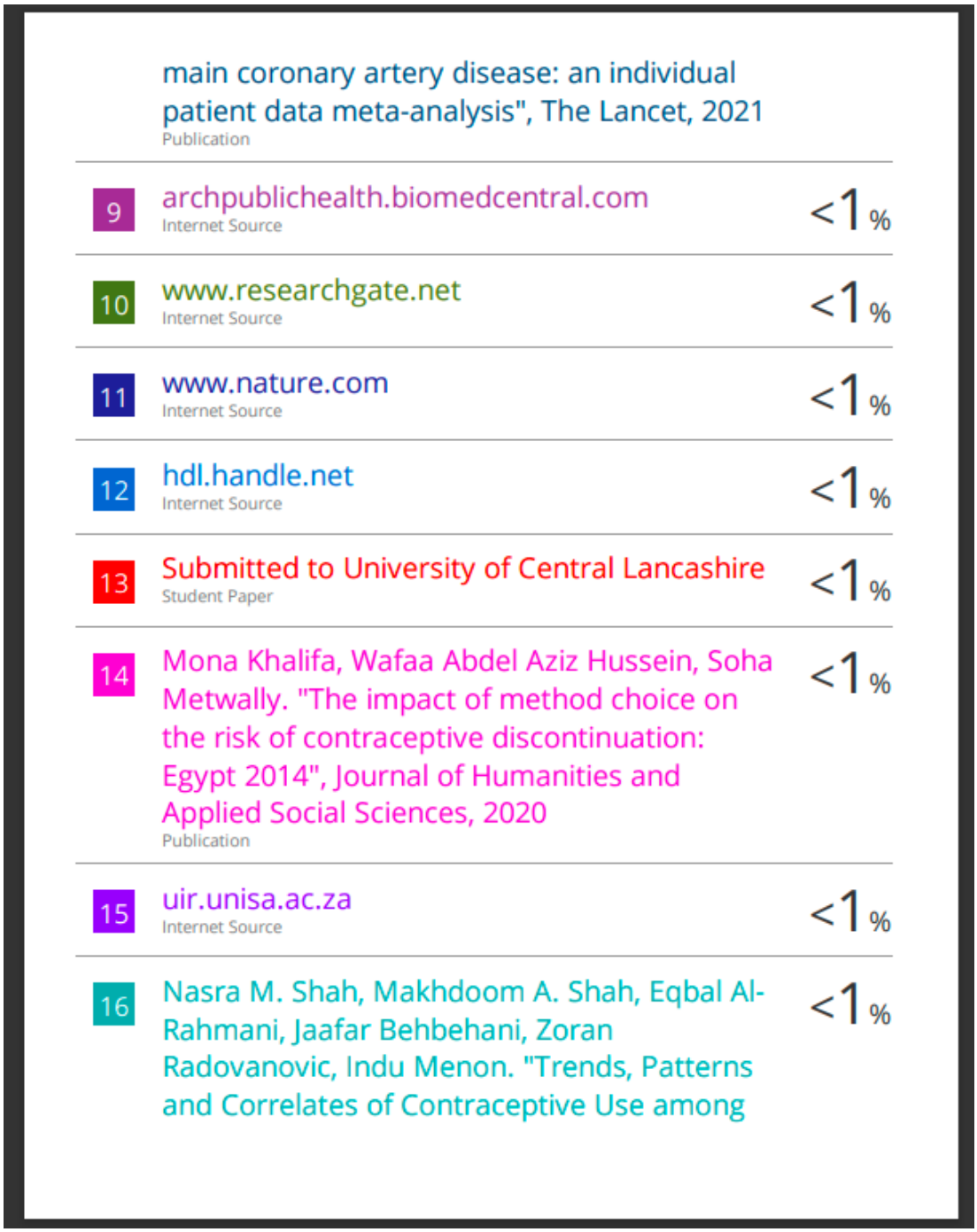
Tulika report

ORIGINALITY REPORT

14%	11%	6%	7%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to IIHMR Delhi Student Paper	3%
2	Submitted to IIHMR University Student Paper	1%
3	www.rhsupplies.org Internet Source	1%
4	www.careindia.org Internet Source	1%
5	www.ghspjournal.org Internet Source	1%
6	www.indiatimes.com Internet Source	1%
7	www.ncbi.nlm.nih.gov Internet Source	<1%
8	Marc S Sabatine, Brian A Bergmark, Sabina A Murphy, Patrick T O'Gara et al. "Percutaneous coronary intervention with drug-eluting stents versus coronary artery bypass grafting in left	<1%

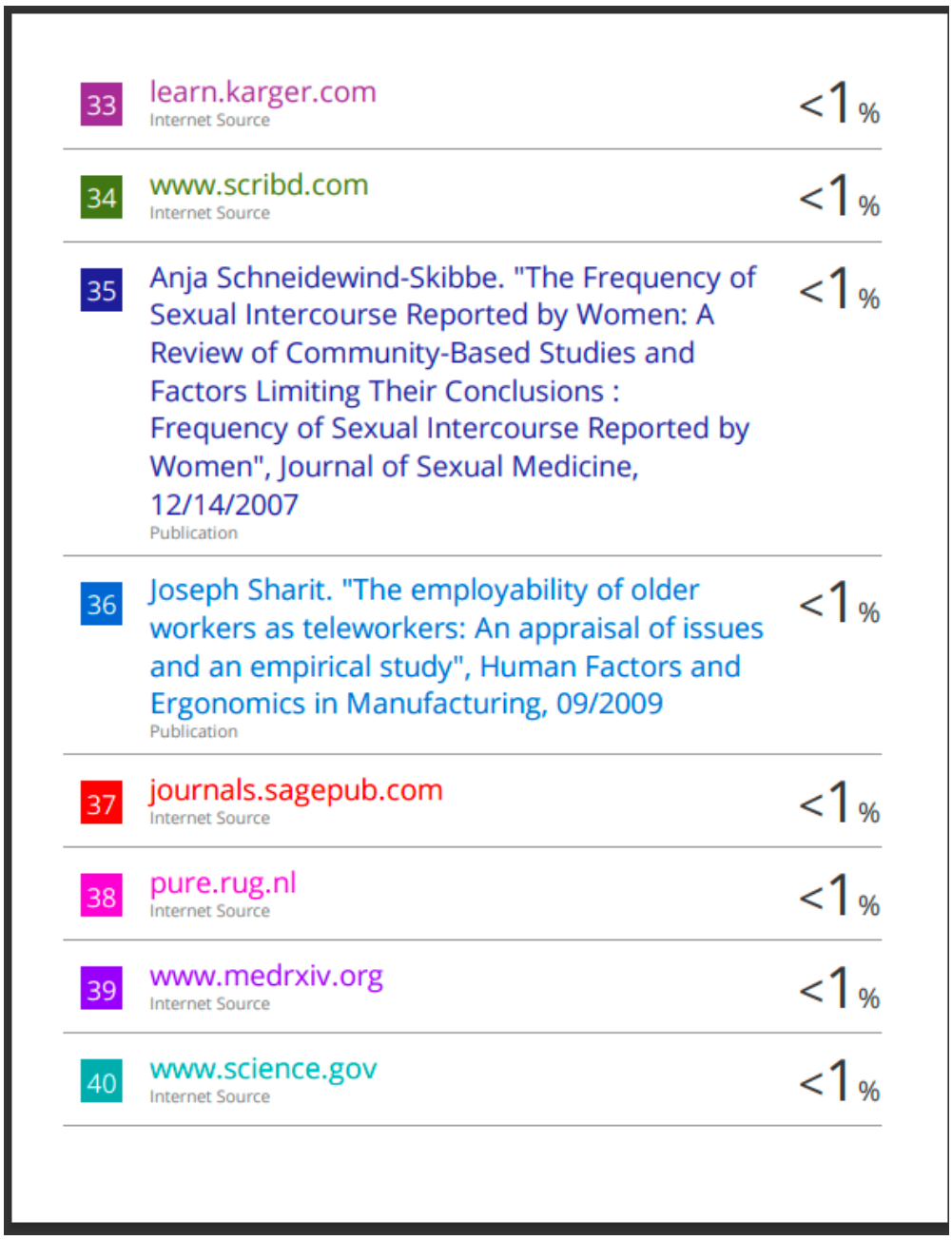


main coronary artery disease: an individual patient data meta-analysis", The Lancet, 2021
Publication

9	archpublichealth.biomedcentral.com Internet Source	<1 %
10	www.researchgate.net Internet Source	<1 %
11	www.nature.com Internet Source	<1 %
12	hdl.handle.net Internet Source	<1 %
13	Submitted to University of Central Lancashire Student Paper	<1 %
14	Mona Khalifa, Wafaa Abdel Aziz Hussein, Soha Metwally. "The impact of method choice on the risk of contraceptive discontinuation: Egypt 2014", Journal of Humanities and Applied Social Sciences, 2020 Publication	<1 %
15	uir.unisa.ac.za Internet Source	<1 %
16	Nasra M. Shah, Makhdoom A. Shah, Eqbal Al-Rahmani, Jaafar Behbehani, Zoran Radovanovic, Indu Menon. "Trends, Patterns and Correlates of Contraceptive Use among	<1 %

	Kuwaitis, 1984–1999", Medical Principles and Practice, 2001 Publication	
17	ijfscfrtjournal.isrra.org Internet Source	<1 %
18	doczz.net Internet Source	<1 %
19	iipsindia.org Internet Source	<1 %
20	pesquisa.bvsalud.org Internet Source	<1 %
21	Submitted to PES University Student Paper	<1 %
22	Submitted to Gretna High School Student Paper	<1 %
23	live.guttmacher.org Internet Source	<1 %
24	reproductive-health-journal.biomedcentral.com Internet Source	<1 %
25	Amanuel Mengistu Merera, Mesfin Esayas Lelisho, Digvijay Pandey. "Prevalence and Determinants of Contraceptive Utilization among Women in the Reproductive Age Group in Ethiopia", Journal of Racial and Ethnic Health Disparities, 2021	<1 %

	Publication	
26	S. Bellizzi, P. Mannava, M. Nagai, H.L. Sobel. "Reasons for discontinuation of contraception among women with a current unintended pregnancy in 36 low and middle-income countries", Contraception, 2020 Publication	<1 %
27	www.census2011.co.in Internet Source	<1 %
28	Manas R. Pradhan, Sourav Mondal. "Predictors of contraceptive use among young married women in India: Does pregnancy history matter?", Journal of Obstetrics and Gynaecology Research, 2022 Publication	<1 %
29	Vithya Murugan, Shanta Pandey. "Correlates of Female Sterilization in Bihar: Does Women's Empowerment Matter?", Global Social Welfare, 2018 Publication	<1 %
30	www.dailypioneer.com Internet Source	<1 %
31	gkv.ac.in Internet Source	<1 %
32	knowledgecommons.popcouncil.org Internet Source	<1 %



33	learn.karger.com Internet Source	<1 %
34	www.scribd.com Internet Source	<1 %
35	Anja Schneidewind-Skibbe. "The Frequency of Sexual Intercourse Reported by Women: A Review of Community-Based Studies and Factors Limiting Their Conclusions : Frequency of Sexual Intercourse Reported by Women", Journal of Sexual Medicine, 12/14/2007 Publication	<1 %
36	Joseph Sharit. "The employability of older workers as teleworkers: An appraisal of issues and an empirical study", Human Factors and Ergonomics in Manufacturing, 09/2009 Publication	<1 %
37	journals.sagepub.com Internet Source	<1 %
38	pure.rug.nl Internet Source	<1 %
39	www.medrxiv.org Internet Source	<1 %
40	www.science.gov Internet Source	<1 %

41 Ifeyinwa Chizoba Akamike, Ugochukwu Chinyem Madubueze, Ijeoma Nkem Okedo-Alex, Chika Julius Anyigor et al. "Perception, pattern of use, partner support and determinants of uptake of family planning methods among women in rural communities in Southeast Nigeria", Contraception and Reproductive Medicine, 2020 <1%
Publication

Exclude quotes Off
Exclude bibliography On
Exclude matches Off