LEVEL AND PATTERN OF INFERTILITY AMONG YOUNG COUPLE IN BANGLADESH

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Medical Education and Family Welfare Division
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Dhaka, Bangladesh

Level and Pattern of Infertility Among Young Couples in Bangladesh

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Human Development Research Centre
humane development through research and action

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FOREWORD

Director General
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The National Institute of Population Research and Training (NIPORT) initiated a study titled "Level and Pattern of Infertility Among Young Couples in Bangladesh" in 2024. To undertake this assignment, NIPORT conducted a competitive bidding process, through which the Human Development Research Centre (HDRC) was selected and assigned to conduct this study to understand the level and pattern of infertility among young couples in Bangladesh. HDRC was entrusted with the task of exploring the care-seeking practices, availability of services and programmes, and current gaps in programmes regarding infertility among young couples in Bangladesh, and the research team successfully provided valuable insights into this assignment.

This research study report is an outcome of the concerted efforts, contributions and involvement of several institutions, researchers, professionals and individuals, including the members of Stakeholder Advisory Committee (SAC), Technical Working Committee (TWC); officials of the Directorate General of Health Services (DGHS); Directorate General of Family Planning (DGFP); Human Development Research Centre (HDRC) research team members; the field staffs; data processing team and especially the respondents. I would like to acknowledge the professionals and individuals for their contributions with great appreciation. I would like to congratulate the professionals of the Research Unit of NIPORT, particularly the guidance of the Director (Research) and Line Director, OP-TRD, NIPORT, Mr. Mohammed Ahsanul Alam, for the successful completion of the research study. We must acknowledge the contribution of the Government of Bangladesh (GOB) in providing financial support. We are deeply indebted and grateful to our Honourable Secretary, Medical Education and Family Welfare Divison, MOHFW, Md Azizur Rahman, for his sincere guidance and direction in the smooth implementation of the survey. Without his guidance, it would not have been possible to complete the work on time.

I am grateful to the HDRC research team. They have devoted their fullest possible intellect, time, and efforts to complete this study report. Special thanks go to the field staff and data reviewers for their tireless efforts in making the fieldwork successful. I am also grateful to the research management team and support staff, registration assistants, coders, editors, and data entry operators for their intensive support in completing this research study promptly. I thank all individual researchers for their contribution to this study.

I hope that the research study results will be helpful in understanding the level and pattern of primary infertility as well as exploring the care-seeking practices and availability of services regarding infertility, focusing on young couples in Bangladesh.

Md. Shafiqul Islam

PREFACE

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The research study titled "Level and Pattern of Infertility Among Young Couples in Bangladesh", conducted during the years 2023-2024, is an outcome of the highest-order intellectual effort of the researchers of the Human Development Research Centre (HDRC). This research study focuses on the level and pattern of infertility as well as exploring the care-seeking practices, availability of services and programmes, and current gaps in programmes regarding infertility among young couples in Bangladesh.

This study belongs to explorative research, where a cross-sectional survey was conducted to understand the level of primary and secondary infertility among young couples, which has never been assessed in Bangladesh at the national level. This research study explored the magnitude of infertility, care-seeking behaviour, and service availability. Data from couples (both partners aged between 15 and 34) was primarily collected through household questionnaires and individual surveys with a combination of primary and secondary data analysis structures.

This research study is a commendable activity of NIPORT. It is the outcome of dedication, support, involvement, and inputs of several institutions and professionals convened under the Stakeholder Advisory Committee (SAC) and the Technical Working Committee (TWC) consisting of experts, researchers and professionals working in the Health Nutrition and Population Sector. I would like to extend my thanks to the SAC and TWC members, officials of the Directorate General of Family Planning (DGFP) and Directorate General of Health Services (DGHS) for their support and valuable suggestions in all stages of the study. I would like to congratulate the professionals of the Research Unit of NIPORT for their active participation in every stage of the study.

I express my heartfelt thanks to the professionals and the staff of the Human Development Research Centre (HDRC) and the professionals of the research unit of NIPORT for their sincere efforts in successfully completing the study. We sincerely thank the study respondents who willingly cooperated with the survey teams by providing information. We are deeply indebted and grateful to the GOB for providing financial support. Last but not least, I would like to express my special gratitude to the honourable Director General of NIPORT for his valuable guidance and direction at every stage of the survey's implementation.

Mohammed Ahsanul Alam

Abbreviations

ART	Assisted Reproductive Technology
BDHS	Bangladesh Demographic and Health Survey
BDT	Bangladesh Taka
BSMMU	Bangabandhu Sheikh Mujib Medical University
CAPI	Computer-Assisted Personal Interviewing
DH	District Hospital
DHS	Demographic Health Surveys
DMC	Dhaka Medical College
DMCH	Dhaka Medical College Hospital
FC	Fertility Centres
FE	Field Enumerator
FGD	Focus Group Discussion
FS	Field Supervisor
HDRC	Human Development Research Centre
ICSI	Intracytoplasmic sperm injection
IVF	In vitro fertilization
KII	Key Informant Interview
LMICs	Low- and Middle-Income Countries
MBBS	Bachelor of Medicine and Bachelor of Surgery
MR	Menstrual Regulation
NGO	Non-Government Organization
NIPORT	National Institute of Population Research and Training
PESA	Percutaneous Epididymis Sperm Aspiration
PSU	Primary Sampling Unit
SAC	Stakeholders Advisory Committee
SM	Survey Manager
TESA	Testicular sperm aspiration

TFR	Total Fertility Rate
TWC	Technical Working Committee
TVS	Transvaginal sonography
UHCs	Upazila Health Complexes
USAID	United States Agency for International Development
VIP	Ventilated Improved Pit
WHO	World Health Organization

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Executive Summary

Infertility is an important health issue that has been neglected in developing countries as the major concern has always been the large population itself. Thus, no demographic survey was conducted to determine the total rate of infertility and its prevalence in Bangladesh. Most of the infertile patients in Bangladesh have no access to adequate comprehensive treatment. Also, some couples use varied traditional methods and religious practices due to a lack of proper knowledge. However, there is a lack of national-level evidential data on the present level of infertility. This study is an attempt to understand the magnitude of infertility in Bangladesh. The objective of the study was: 1) To understand the level and pattern of primary infertility among young couples in Bangladesh, 2) To understand the level and pattern of secondary infertility among young couples in Bangladesh, 3) To explore the care-seeking practices of infertility among young couples in Bangladesh, and 4) To explore the current gaps and programs and availability of services regarding infertility among young couples in Bangladesh.

The study belongs to the category of exploratory research. A cross-sectional survey was conducted to understand the level of primary and secondary infertility among young couples, which has never been assessed in Bangladesh at a national level. The research explored the magnitude of infertility, care-seeking behaviour, and service availability. Data from couples (both partners aged 15-34 years) was primarily collected through structured questionnaires, as well as household and individual surveys. The study was a combination of primary and secondary data analysis. A multi-stage random sampling procedure was used in the survey to select households. A total of 6,849 (Rural: 5,286, Urban: 1,563) young couples were interviewed.

The overall primary infertility rate is 2.2%. In urban areas, the rate of primary infertility is higher (2.9%) compared to rural areas (2%). Primary infertility is highest (3.1%) among the wealthiest group of couples, and in contrast, the poorest group suffers less (1.5%) from it. The tendency of primary infertility is higher (2.6%) among the couples age group of 25-29. Similarly, as the women age, the tendency of primary infertility is also higher (4.5%) among the husbands who are aged between 25-29. From the educational attainment, women who completed primary education and didn't continue schooling later had the highest percentage (2.9%) of primary infertility. Husbands having no education (5%) are suffering from primary infertility. Husbands who were used to tobacco consumption (2.5%) have primary infertility, whereas 2.2% of husbands were also suffering from the same problem without using tobacco.

The overall secondary infertility rate is 8.5%. The rate of secondary infertility is highest (10.3%) in urban areas, whereas, in rural areas, 8% of young couples are suffering from secondary infertility. Among divisions, Chattogram and Rajshahi contain the highest rates of secondary infertility (10.4% and 9.5% respectively). Similarly to primary infertility, among the wealthiest young couples, the percentage of secondary infertility is highest (9.8%). The survey result shows that 16.5% of women who had one child before are suffering from secondary infertility. The percentage of secondary infertility was highest (16.1%) among the highest group of age distribution (30-34). The trend shows that this rate has a steep slope with the increment of age distribution. Similarly to women's age, secondary infertility is majorly noticed (10.3%) when the husband's age group is between 30-34. According to educational attainment, husbands who didn't complete secondary education had the highest percentage (9.4%) of secondary infertility. The percentage of secondary infertility is highest among the uneducated female (12.5%) as well. Based on the survey

results, husbands' health habits were also asked to understand the rate of secondary infertility that may be caused by those practices. The result shows husbands who are addicted to alcohol had secondary infertility (13.6%) compared to those who didn't consume alcohol (8.4%).

Both primary and secondary infertile young couples are seeking some care to resolve their infertility. About 91.5% of the primary infertile couples and 85.9% of the secondary infertile couples go to the gynaecologist for treatment. However, 27.7% of primary infertile couples and 23.4% of secondary infertile couples go to Kabiraj or Fakir for treatment. Young couples prefer seeking private facilities (Primary:87.2%, Secondary: 79.7%) instead of public (Primary: 21.3%, Secondary: 21.9%) or non-formal facilities (Primary:27.7%, Secondary: 25.0%) for their treatment. Both husband and wife (87.2%) decide to seek treatment for primary infertility problems jointly. On the other hand, among the secondary infertile young couples, 93.8%in most cases, husbands are seeking help for any treatment. The majority of the primary and secondary infertile young couples get to know about the service provider from relatives/ friends, family members, and neighbours. TVS is the most suggested type of test for wives (Primary:79.1%, Secondary: 78.2%) and semen analysis for primary infertile husbands (Primary:67.6%, Secondary:56.4%). On average, primary infertile couples sought treatment for 16.2 months and secondary infertile couples for 14.2 months for infertility problems. On average, the primary infertile young couples spent BDT 82,148, while secondary infertile young couples spent BDT 59,087. Most (72.3%) of the primary infertile couples have discontinued their treatment, highlighting a concerning trend where most couples either did not find the treatment effective, encountered financial or emotional barriers, or lost hope to achieve successful outcomes. Survey findings show that 44.1% of the primary infertile young couples have discontinued treatment because of the high treatment cost. Similar situations are seen among secondary infertile couples. About 60.9% of the secondary infertile couples had discontinued their treatmentbecause of high cost.

The survey results show that most young couples sought treatment from gynaecologists. The treatment facilities are limited to tertiary medical facilities, so the overall treatment cost is too high. The treatment of infertility is not available in any of the primary or secondary hospitals. Among all the tertiary-level hospitals, Dhaka Medical College Hospital (DMCH) is the only place where all the facilities for treating infertility have recently been included. Assisted Reproductive Technology (ART) is a very sophisticated and costly treatment, and few private centres are available in Bangladesh, but it is still beyond the reach of the general public. The quality and quantity of infertility care depend on the available resources and the use of the resources by the patients. In developing countries, the resources are merging and confined to specified areas that cannot meet the demands of their population. The etiology of infertility varies to regional, social, and cultural conditions, so proper diagnosis is required, and this problem must be treated accordingly. It is necessary to build up a proper referral system, and proper training should be needed for service providers and traditional healers. Reproductive technology should be widely available in our society, where motherhood is one of the most desired stages of a woman's life.

To increase accessibility, infertility clinics in primary and secondary hospitals must be fully equipped and staffed by trained specialists. These clinics should be monitored and assessed regularly to ensure they provide high-quality services. Incorporating ART services, such as IVF and ICSI, into major regional hospitals with sufficient healthcare practitioner training and well-equipped laboratories is critical. Financial incentives or subsidies should be offered to make ART more affordable for low-income couples. Education and awareness programs should be developed nationwide through various media channels to educate information about infertility, minimise stigma, and encourage timely medical advice. Myths and misconceptions should be addressed through community participation, which includes community, religious or political leaders and influencers. Creating educational materials for dissemination in healthcare

facilities and community centres is also critical. Regular nationwide surveys are required to collect accurate statistics on infertility, as is the establishment of a centralised database to document diagnosis, treatments, and results. This database must be continuously updated and available to healthcare practitioners and policymakers. Strengthening healthcare infrastructure entails investing in healthcare provider training, assuring access to key diagnostic equipment and treatments at all levels, and developing alliances to streamline instrument and medication procurement. Policymakers and donors should promote the recognition of infertility as a public health issue, offer financial assistance or subsidised treatment to low-income couples, and establish clear qualifying criteria and application procedures. Community support networks should include support groups and counselling services led by experienced professionals and community-based programs that promote awareness and provide aid. Long-term goals include expanding nationwide access to comprehensive infertility services, tracking progress, decreasing stigma through ongoing community participation, and revising policies in response to data-driven insights and changing needs. To ensure that policies stay relevant and successful, stakeholders must be engaged regularly, and feedback from healthcare providers, patients, and advocacy groups must be considered.