



International Journal of Public Health and Nursing (IJPHN)

ISSN: 3070-202X (ONLINE)

VOLUME 2 ISSUE 2 (2026)



PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

Fertility Information Quality and Intentions to Seek Hormonal and Reproductive Care among Women with Polycystic Ovary Syndrome in Bangladesh

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Article Information

Received: July 13, 2026

Accepted: September 28, 2026

Published: October 29, 2026

Keywords

Intention Seek Care, Polycystic Ovary Syndrome, Perceived Treatment Effectiveness, Quality of Fertility Information, Reproductive Autonomy

ABSTRACT

The polycystic ovary syndrome (PCOS) is a multifaceted reproductive and endocrine disorder that may impact the fertility issues, treatment choices, and prompt access to professional care. In this research, the quality of fertility information was tested to influence the hormonal and reproductive care-seeking intention of PCOS women in Bangladesh, with reproductive autonomy and perceived treatment effectiveness as sequential mediators. A cross-sectional survey provided 610 valid responses among women who were aged 18-49 years and had a professional diagnosis of PCOS diagnosis. Partial least squares structural equation modelling was used in the analysis of data. The measurement model exhibited high indicator reliability, internal consistency, convergent validity, discriminant validity as well as acceptable collinearity. The quality of fertility information was associated with a large improvement in reproductive autonomy, perceived treatment effectiveness, and intention to seek care. Reproductive autonomy had also a positive effect on perceived treatment effectiveness and care-seeking intention, with a direct impact on care-seeking intention being the highest in perceived treatment effectiveness. The quality of fertility information to reproductive autonomy and perceived effectiveness of treatment had a significant sequential indirect pathway. The model accounted 45.3% of the variation in care-seeking intention, and showed a positive predictive relevance and good out-of-sample prediction. The results indicate that comprehensible, correct, and personally applicable fertility knowledge can enhance engagement in care by enhancing the sense of ownership of decisions and trust in professionally delivered PCOS treatment. These results provide practical advice.

INTRODUCTION

Polycystic ovary syndrome is a type of one of the most significant consequences of reproductive and endocrine disorders in women of reproductive age. It has a heterogenous clinical manifestation. Menstrual irregularity, hyperandrogenic, weight-related, metabolic complications, and fertility issues can be experienced in various combinations in varying degrees of severity. It is a chronic illness that cannot be dealt with in just one clinical encounter (Rao *et al.*, 2022). Females usually require repetitive messages, clarification of diagnosis, lifestyle education, hormonal control, reproductive counselling and where needed, fertility-based treatment. The choice of such care is influenced not only by the symptoms but also by the knowledge women have about PCOS, the extent to which they are confident in making reproductive decisions, and whether they think professional help is likely to be effective (Bulsara *et al.*, 2021).

These choices occur in a Bangladesh health system where there is a potential overlap of specialist availability, household resources, health literacy, social expectations, and unequal access to reliable digital information. Fertility is social, too. Women may face pressure towards marriage, bearing children, family participation, and when to get pregnant (Chouhan & Dadhich, 2022). This situation can make the procedure of information

collection about PCOS interpretation and defining when to visit a gynaecologist, endocrinologist, fertility specialist or any other qualified specialist complicated. Information may be excessive and yet confusing. Messages in social media, in general health websites, in family networks, support groups can be of very different quality, as well as those of clinics and medical professionals (Alhazmi *et al.*, 2022). The presence of information, therefore, does not imply that the information is informed to allow informed healthcare action.

This paper dwells upon the issue of the quality of fertility information as a potentially significant upstream antecedent of professional care-seeking intention (Shahzad *et al.*, 2022). Information of high quality must be factual, complete, up-to-date, comprehensible, and consistent between credible sources, pertinent to individual reproductive requirements, and able to differentiate between evidence-based treatment and unsubstantiated assertions. These attributes may help lessen the uncertainty about PCOS and simplify the assessment of the impacts of various healthcare decisions. Nonetheless, information yet is not necessarily able to affect intention by a purely cognitive pathway (Zou *et al.*, 2022). Women should also be comfortable to utilize the same information in making decisions about their reproductive health.

The first mediating mechanism of the proposed model

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is consequently reproductive autonomy. It indicates the perceived ability to take personal reproductive-health choices, communicate fertility issues, inquire, take part in treatment options, and seek care despite others disagreeing (Markin *et al.*, 2023). Particularly, autonomy applies in those settings where family influence and societal expectations may dictate healthcare behaviour. The possibilities of enhanced information to reinforce autonomy are by decreasing the reliance on informal interpretations and providing women with more comprehensive language with which to talk about fertility, symptoms, and treatments.

Perceived treatment effectiveness is specified as a second mechanism (Kamrul-Hasan *et al.*, 2020). Females might learn about PCOS and become confident enough to make decisions but continue to put off treatment in case they are not sure that professional assistance can bring significant changes. Informed autonomy can be transformed into concrete intention by positive expectations about managing symptoms, fertility-related outcomes, avoiding long-term consequences, and meeting reproductive goals (Hassan *et al.*, 2023). Treatment beliefs, in this regard, are a motivational interface between the ability to make decisions and how they intend to use care.

As a result, the study conducts an analysis of direct and mediated associations between fertility information quality and reproductive autonomy, perceived effectiveness of treatment, and the hormonal and reproductive care-seeking intention. Its major contribution lies in the combination of these constructs in a sequential explanatory model (Aryal *et al.*, 2022). The model suggests that information can reinforce a woman to own her decision first, thereby enhancing her confidence in professional treatment, which increases her care-seeking intention to seek hormonal and reproductive care, rather than treating care seeking as a mere response to the awareness of health information.

The study has an implication in clinical, electronic health provider and PCOS support efforts. In the case of information quality affecting care intention based on autonomy and expectations of treatment, interventions must go past general awareness (Bhambhu *et al.*, 2022). They ought to offer practical clarifications, promote inquiries and collaborative choices and communicate treatment advantages in a manner that women can use.

LITERATURE REVIEW

Fertility Information Quality

The quality of fertility information is the degree to which information regarding reproductive health and PCOS is reliable and can be used to make personal decisions. Quality is multidimensional (Ishrat *et al.*, 2021). The precision lies at the core since women may be swayed by the false belief that they are mismanaged or that they are experiencing ensurement through unjustified fear or false security. Wholeness is also crucial. Incomplete messages may explain symptoms without explaining the clinical pathways available, anticipated benefits, limitations and

under what conditions expert consultation is necessary (Palomba, 2021). Timeliness is important since the recommendations, practices in diagnosing PCOS, and general knowledge on the same among the population is still developing. Understandability is the reason why technically accurate information can make a difference on whether the patient can actually use that information. Relevance relates general medicine to the reproductive issues of a specific woman (Li *et al.*, 2022).

Coherence among plausible sources can also serve to promote confidence. These conflicting messages during transitions between professional advice, commercial websites, informal communities, and social-media messages are typical (Patel *et al.*, 2020). Unsubstantiated assertions in the case of PCOS could deal with swift fertility repair, low-carb diets, pills, or unproven hormonal therapeutics. Decision quality can be safeguarded by presenting the information that makes a solid distinction between the care that has medical support and claims that are not supported (Bhalerao & Aranha, 2021). The concept applied in this paper thus considers fertility information quality as an evaluative perception of the information surrounding as opposed to mere exposure to information.

Quality information could affect behaviour in various ways. It would be possible to enhance the knowledge of the association between PCOS and reproductive functioning. It is able to minimize uncertainty about the timing of care required. It can explain the role of various providers, and the goal of clinical assessment (Saeed *et al.*, 2022). It can as well equip women with words they can use to describe the symptoms and ask certain questions. These functions can make it seem like a complex condition is controllable (Jahan & Wing, 2020). In line with this, the quality of fertility information is presumed to be an up-stream asset that enhances psychological preparedness to make decisions and attitudes towards professional care.

Reproductive Autonomy

Reproductive autonomy deals with the right to make and implement decisions with regard to fertility and reproductive health following individual needs and desires (Shermin *et al.*, 2020). It encompasses not being dependent on others. A woman can appreciate family input without losing valuable authority of decisions. Autonomy in a clinical setting is observed when the individual is capable of expressing his/her concerns freely, demands clarification, compares treatment options, poses questions, consent or refusal to suggestions, and is actively involved in the decision-making process (Che *et al.*, 2023). It also entails the courage to consult when there is disagreement among significant others.

PCOS may be particularly burdensome on reproductive autonomy as fertility issues can be circumscribed within social expectations (Ahmad & Khan, 2022). A diagnosis can cause one to ask questions concerning the future bearing of a child, when to have a child, what to expect in marriage and their femininity. In a society where family

is mainly the place of discussion on reproductive issues, women have little room to say anything, not sure or even liking anything (Akhter *et al.*, 2022). This limitation can be overcome with reliable information that will expand knowledge and minimise reliance on non-professional interpretations. The better a woman can become aware of PCOS and its treatment opportunities, the better she might consider herself able to negotiate with health professionals and reach decisions that align with her values (Fatema *et al.*, 2021).

Downstream beliefs may also be affected by autonomy. Engagement in health care decision making will motivate women to consider treatment rationale in opposition to passive receipts (Rashid *et al.*, 2023). This has the potential to build trust in the relevance and possible effectiveness of professional care. Autonomy can thus be a result of quality information as well as a process where information will be translated into treatment expectation and behavioural intention.

Perceived Treatment Effectiveness

Perceived treatment effectiveness is a belief of a woman that professional care with PCOS can achieve some meaningful hormonal, reproductive or long-term health changes. These beliefs differ with objective clinical effectiveness (Kalra *et al.*, 2023). The reliance of behaviour is tied to the anticipated benefit in the sense of the person. A treatment can be a good clinical choice but when a woman does not anticipate much good, it might not be worth her taking up appointments, go through an assessment or adhering to an action plan as recommended (Akre *et al.*, 2022). On the other hand, professional care can be trusted realistically, which will result in an increase of willingness to invest time, money, emotional effort, and travel to receive the services.

In the case of PCOS, perceived effectiveness may have a number of anticipated results. Women might find it acceptable that their symptoms caused by hormones can be treated, or that long-term effects can be minimized, or that reproductive health will be better, or that fertility objectives can be achieved, or that the disorder can be brought under control (Kalhor *et al.*, 2022). These expectations will probably be influenced by the past experiences, healthcare practitioner explanations, peer discussions, and web-based information. Quality information can rectify the fatalistic ideals and make people understand that management is not instantaneous and is personalized in most cases (Deliwala *et al.*, 2020). It can also discuss the reasons why monitoring and long-term care might be a good idea even in the case that pregnancy is not a direct goal.

Reproductive autonomy can support perceived effectiveness since active women in the treatment decision-making process are in a better position to comprehend why a recommendation suits their situations (Shi *et al.*, 2022). The value of a treatment can be enhanced when the intention behind it is conceived and synchronized with individual ambitions. Perceived effectiveness is

thus placed in the proximal motivational predictor of care-seeking intention and the second mediator in the suggested sequential pathway (Bunyan, 2020).

Hormonal and Reproductive Care-Seeking Intention

Hormonal and reproductive care-seeking intention is a self-report by a woman in regard to her willingness to turn to professionally qualified people, discuss fertility and hormonal issues, visit a consultation, take recommended examinations, reflect on treatment possibilities, and adhere to a proper professional strategy (Rao *et al.*, 2022). Motive is not a certainty of action, but a significant measure of action preparedness. It is particularly practical when the desired behaviour has multiple actions, instead of having a single event.

The construct will deliberately be more comprehensive than fertility treatment only. Most PCOS women might need hormonal/reproductive treatment even without actively trying to conceive (Bulsara *et al.*, 2021). Some of the areas in which professional engagement can be applied include menstrual control, metabolic and endocrine assessment, preconception counselling, fertility, or long-term reproductive health. Any sweeping intention measure thus represents the pragmatic spectrum of PCOS care (Chouhan & Dadhich, 2022).

This intention is supposed to be determined by information quality, autonomy, and treatment beliefs, together. Data can give a rationale to take action (Alhazmi *et al.*, 2022). Autonomy may confer an illusion of authority and ability to act. Strategy and effectiveness of treatment can offer the anticipated advantage that can justify action (Shahzad *et al.*, 2022). Their combination presents a more detailed explanation of care-seeking preparedness than any of the factors taken individually.

Conceptual Framework and Hypothesis Development

The theoretical framework is a sequential model that incorporates the four constructs. The exogenous construct is the fertility information quality (Zou *et al.*, 2022). The first mediator is reproductive autonomy, the second mediator is perceived treatment effectiveness and the last endogenous construct is hormonal and reproductive care-seeking intention. There are also six direct relationships and a sequential indirect relationship in the model (Markin *et al.*, 2023).

The former is hypothesized in the first relationship that the quality of the information on fertility makes reproductive autonomy stronger (Kamrul-Hasan *et al.*, 2020). Evident and authoritative data ought to assist women in knowing the options out there, developing questions and being more competent in making decisions that concerns reproductive-health. H1 thus says that the quality of fertility information plays a vital role in positively influencing the reproductive autonomy of women with PCOS in Bangladesh (Hassan *et al.*, 2023).

The second association is between the quality of information and perceived treatment effectiveness

(Aryal *et al.*, 2022). The expectation of treatment can be enhanced by providing information that clearly defines the intent, probable advantages and restrictions of professional PCOS care. H2 assumes that there is a significantly positive influence of the quality of fertility information on the perceived treatment efficacy (Bhambhu *et al.*, 2022).

The third relationship suggests that perceived effectiveness of treatment is enhanced by reproductive autonomy (Ishrat *et al.*, 2021). When women are able to be involved in decision-making and relate the treatment to the unique needs of the woman, they might have stronger and more realistic beliefs regarding the utility of the care. H3: Reproductive autonomy positively, significantly affects perceived treatment effectiveness.

Three other direct hypotheses are related to the care-seeking intention. According to H4, the quality of fertility information has a positive impact on the hormonal and reproductive care-seeking intention since a better understanding of the information can help decrease uncertainty and find the right way to a professional (Palomba, 2021). H5: Reproductive autonomy has a positive impact on care-seeking intention since women who feel competent to make and express their decisions are better prepared to consult and pursue follow-up (Li *et al.*, 2022). H6 outlines that perceived treatment effectiveness has a positive impact on care-seeking intention since expected clinical benefit offers a direct

motivation rationale to seek care.

Lastly, the model defines a mechanistic mediation process. It is assumed that high-quality fertility information will raise the reproductive autonomy; the enhanced autonomy will result in the perceived effectiveness of the treatment, and the enhanced treatment expectations would raise the intention to seek care (Patel *et al.*, 2020). H7 consequently explains that the relationship between the quality of fertility information and hormonal and reproductive care-seeking intention is mediated by reproductive autonomy, and perceived treatment effectiveness in that order (Bhalerao & Aranha, 2021). The focus of this hypothesis summarises the key theoretical hypothesis of the research: information that people can personally act on and which is supported with plausible expectations that professional care can assist is most behaviourally potent.

In addition to its direct channels, the framework presupposes that the women receive PCOS information in a social and healthcare context (Saeed *et al.*, 2022). Information quality has the potential to decrease uncertainty, though its behavioural worth hinges on women translation capabilities in knowledge to questions, preferences, and confidence in care. The sequential specification does not consider information exposure to be adequate (Jahan & Wing, 2020). It highlights how credible knowledge can develop to agency and agency to treatment confidence and treatment confidence to intention to engage with care.

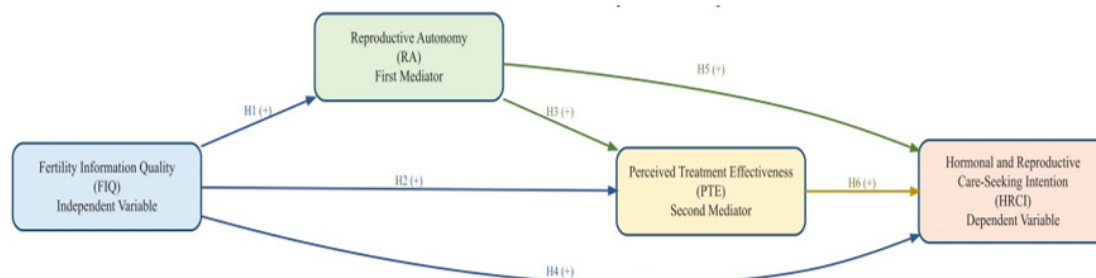


Figure 1: Proposed Conceptual Framework

H1: There is a strong positive impact of fertility information quality on reproductive autonomy in women with PCOS in Bangladesh.

H2: The quality of fertility information significantly positively influences perceived treatment efficacy in women with PCOS in Bangladesh.

H3: Reproductive autonomy is significantly positively related to perceived treatment effectiveness in women with PCOS in Bangladesh.

H4: There is a significant positive impact of fertility information quality on intentions of women to obtain hormonal and reproductive care of PCOS.

H5: Reproductive autonomy is strongly positively correlated with intentions among women to use hormonal and reproductive care to treat PCOS.

H6: Perceived treatment effectiveness is a strong positive influence on women in regards to intentions to seek

hormonal and reproductive care regarding PCOS.

H7: The correlation between the quality of fertility information and hormonal and reproductive care-seeking intention is mediated by reproductive autonomy and perceived treatment effectiveness at the same time among women with PCOS in Bangladesh (Shermin *et al.*, 2020).

MATERIALS AND METHODS

This research design was a quantitative, cross-sectional, explanatory research. The design was chosen due to the fact that the study aimed at estimating relationships between latent psychological and behavioural constructs at a specific point in time. The empirical location was Bangladesh and the study group comprised of women of reproductive age and who had a professionally diagnosed polycystic ovary syndrome (Che *et al.*, 2023). Participants had to be aged 18-49 years, they to be

residents of Bangladesh and must give a report of having been diagnosed with PCOS by a qualified healthcare professional. Participation was voluntary.

The ultimate analysis sample of 610 respondents was obtained. Its size was sufficient to allow the estimation of the proposed PLS-SEM model, which included four reflective latent constructs, 28 indicators, six direct structural paths and a sequential mediation pathway. Subgroup diversity in terms of age, marital status, education, employment, income, residence, administrative division, parenthood status, pregnancy intention, diagnostic duration, recent PCOS care, type of provider, source of information, or health coverage was also supported by the sample (Ahmad & Khan, 2022). The wide profile made the findings more relevant to women who were in various phases of reproductive decision making.

A structured questionnaire was used to gather data. The instrument commenced with information and consent, eligibility screening and sociodemographic questions. The measurement section was based on a five-size Likert response scale, which started with strongly disagree (1) and strongly agree (5). Quality of fertility information was assessed on eight dimensions which checked the accuracy, explanation of fertility consequences, completeness, consistency, currency, understandability, personal relevance, and distinguishing between medically supported treatment and unsupported claims. Reproductive autonomy measured seven items on personal decision authority, open communication, confidence in choice of option, consistency to personal preference, ability to seek care despite disagreement, inquiring questions, and participation.

Efficacy of treatment was rated using six items. These items measured the beliefs that professional care is able to control hormonal effects, minimize longer-term effects, enhance reproductive outcomes, assist fertility worries, rationalize the effort they place in seeking care, and assist in reaching reproductive-health objectives. There were seven items that measured hormonal and reproductive care-seeking intention (Akhter *et al.*, 2022). The issues addressed include intention to see qualified specialists, consult on fertility, have a consultation in the six months, recommended testing, talk about treatment, seek care immediately should the symptoms persist or get worse, and adhere to a plan recommended by a professional. Each of the four constructs was defined as reflective.

The questionnaire was created as academic research and did not need names or any other identifiers. The respondents were made aware that they were participating on a voluntary basis and could withdraw without offer of an explanation. Where necessary some sensitive questions were provided with options like prefer not to disclose. The research design focused on confidentiality as fertility and reproductive-health problems may be sensitive to the society. The measurement method was then to be acceptable to expert review, Bangali translation and back-translation, cognitive testing, and pilot testing

before being used in the field to create items that would be readily understood in terms of meaning and provide a culturally relevant interpretation.

The main analytical method employed is partial least squares structural equation modelling. The use of PLS-SEM was justified by the fact that the study was prediction-based, mediation was used, and measurement and structural associations had to be evaluated simultaneously (Fatema *et al.*, 2021). The analysis was done in phases. First descriptive statistics was studied on all indicators to determine central tendency, dispersion, range, skewness and kurtosis. Second, some outer loadings, Cronbach alpha, composite reliability, and average variance extracted, were used to test the reflective measurement model. Retention of indicators was taken into account in conjunction with construct reliability and convergent validity.

The heterotrait-monotrait ratio of correlations was used to determine the discriminant validity. Full-collinearity variance inflation factors were used to test common method bias and check inner variance inflation factors that would reveal collinearity between structural predictors. These checks were significant in that the survey was based on self-reported perceptions which were gathered using a similar survey tool. The acceptable values demonstrated that there was no significant common method variance or problematic redundancy among the predictors in order to materially distort the estimated structural relationships. The standardized path coefficients, bootstrap standard errors, t-values, p-values and 95% confidence intervals were then used to evaluate the structural model. The direction was taken as the support of the relationship proposed and the bootstrapped effect was statistically significant to regard as supported (Rashid *et al.*, 2023). The coefficients of determination and adjusted coefficients of determination were tested of reproductive autonomy, perception of treatment effectiveness, and intention of seeking care. The f-squared statistics were used to evaluate the effect size of each of the predictors on its endogenous construct.

Q-squared values were used to test predictive relevance. The positive values were considered as indicating that the model was predictively relevant to the corresponding endogenous construct. Mediation analysis provided approximations of certain indirect effects, such as the sequential route between fertility information quality and reproductive autonomy and perceived treatment effectiveness to care-seeking intention (Kalra *et al.*, 2023). The comparison of direct, total indirect, and total effects was done to establish the nature of mediation. Since the effects were very high in the same positive direction, when complementary effects occurred, the applicable classification was complementary mediation.

Lastly, PLSpredict was used to estimate out-of-sample predictive performance on 10-fold cross-validation 10 times. Root mean squared error, mean absolute error and Q²_{predict} values were used to compare prediction errors of PLS-SEM with a linear-model benchmark. It

was assumed that a model would be predictively useful when Q2 predicts values were non-negative and PLS-SEM produced smaller predictions error than the benchmark over a significant share of the endogenous indicators. Such a last step referred to the explanatory statistics in that it showed whether the proposed model could predict the observations outside of the estimation sample.

Sampling and analytical preparation was done according to the eligibility logic that was within the questionnaire. The responses of women who fell within the specified reproductive-age bracket and who were living in Bangladesh and had been diagnosed with professional PCOS were the only ones that were expected to be analyzed (Akre *et al.*, 2022). The last dataset was structured in such a way that demographic variables still took categorical values and the 28 measuring indicators had their five-point codes. Prior to model estimation, the workflow involved a check of variable names, ranges of responses, and missingness and consistency between the questionnaire coding and construct assignment. This minimized the chances of importing screening variables or descriptive categories into the latent-variable model. The stability of structural estimates and indirect effects was

assessed using bootstrapping since mediation inference is based on the product distributions of coefficients. The analysis thus took into account bootstrap means, standard errors, t-values, probability values and percentile confidence intervals instead of solely depending on point estimates (Kalhor *et al.*, 2022). In the case of sequential mediation, the indirect chain was measured together in a way that the support of component path did not necessarily support the mechanism. Such a difference was relevant as H7 was about the transfer of the effect of the information quality via autonomy and the efficacy of treatment to the intention to seek care.

Explanatory assessment and prediction were separated in the analysis. R-squared and f-squared statistics revealed a phrase of variance clarification and sequential infrastructure worthiness within the approximated sample, and Q-squared and PLSpredict investigated forecastful usefulness. With repeated cross-validation in the PLSpredict procedure, there was less reliance on a single arbitrary partitioning of the data. The comparison to a linear model offered a point of reference to determine whether the PLS-SEM model included extra predictive information or was simply adding in-sample correlations.

Table 1: Measurement and Structural Model Specification

Construct	Role	Items	Indicators
Fertility Information Quality (FIQ)	Independent variable	8	FIQ1-FIQ8
Reproductive Autonomy (RA)	First mediator	7	RA1-RA7
Perceived Treatment Effectiveness (PTE)	Second mediator	6	PTE1-PTE6
Hormonal and Reproductive Care-Seeking Intention (HRCI)	Dependent variable	7	HRCI1-HRCI7

RESULTS AND DISCUSSION

Respondent Profile

An analytical sample had 610 women who had a professional diagnosis of PCOS. The sociodemographic

and clinical profile is given in Table 2. The largest age category was 25-29 years (26.89%), followed by 30-34 years (23.11%) and 18-24 years (21.80%). The majority of the respondents were married (72.13%).

Table 2: Sociodemographic and Clinical Profile of Respondents

Variable	Category	Frequency	Percentage
Age Group	18-24	133	21.8
Age Group	25-29	164	26.89
Age Group	30-34	141	23.11
Age Group	35-39	97	15.9
Age Group	40-44	39	6.39
Age Group	45-49	36	5.9
Marital Status	Divorced	19	3.11
Marital Status	Married	440	72.13
Marital Status	Never married	134	21.97
Marital Status	Separated	7	1.15
Marital Status	Widowed	10	1.64
Education	Higher secondary education	146	23.93
Education	Postgraduate degree or above	77	12.62
Education	Primary education	30	4.92
Education	Secondary education	123	20.16

Education	Undergraduate degree	234	38.36
Employment Status	Employed	163	26.72
Employment Status	Homemaker	176	28.85
Employment Status	Self-employed	95	15.57
Employment Status	Student	121	19.84
Employment Status	Unemployed	55	9.02
Monthly Household Income BDT	100,000 or above	59	9.67
Monthly Household Income BDT	25,000-49,999	189	30.98
Monthly Household Income BDT	50,000-74,999	143	23.44
Monthly Household Income BDT	75,000-99,999	70	11.48
Monthly Household Income BDT	Below 25,000	130	21.31
Monthly Household Income BDT	Prefer not to disclose	19	3.11
Residence Type	Major metropolitan city	197	32.3
Residence Type	Other urban area	181	29.67
Residence Type	Rural area	107	17.54
Residence Type	Semi-urban area	125	20.49
Division	Barishal	38	6.23
Division	Chattogram	108	17.7
Division	Dhaka	164	26.89
Division	Khulna	65	10.66
Division	Mymensingh	50	8.2
Division	Rajshahi	67	10.98
Division	Rangpur	71	11.64
Division	Sylhet	47	7.7
Has Children	No	350	57.38
Has Children	Yes	260	42.62
Trying to Conceive	No	320	52.46
Trying to Conceive	Prefer not to disclose	20	3.28
Trying to Conceive	Unsure	54	8.85
Trying to Conceive	Yes	216	35.41
PCOS Diagnosis Duration	1-2 years	175	28.69
PCOS Diagnosis Duration	3-5 years	178	29.18
PCOS Diagnosis Duration	Less than 1 year	145	23.77
PCOS Diagnosis Duration	More than 5 years	112	18.36
PCOS Care Last 12M	No	325	53.28
PCOS Care Last 12M	Yes	285	46.72
Primary Provider	Endocrinologist	103	16.89
Primary Provider	Fertility specialist	74	12.13
Primary Provider	General physician	110	18.03
Primary Provider	Gynaecologist	255	41.8
Primary Provider	No current provider	42	6.89
Primary Provider	Other qualified professional	26	4.26
Primary Information Source	Family or friends	47	7.7
Primary Information Source	Government health sources	27	4.43
Primary Information Source	Healthcare professionals	211	34.59
Primary Information Source	Hospital or clinic websites	57	9.34
Primary Information Source	Online health websites	94	15.41
Primary Information Source	PCOS support groups	46	7.54

Primary Information Source	Social media	128	20.98
Health Coverage	No	485	79.51
Health Coverage	Unsure	31	5.08
Health Coverage	Yes	94	15.41

Homemakers formed the biggest employment group (28.85%) and undergraduate degree holders formed the biggest educational group (38.36%). The distribution of household income was done in all categories with 30.98% reporting to have BDT 25,000-49,999 per month. These participants were spread geographically in all the eight administrative divisions albeit Dhaka had the highest population (26.89%).

There was also significant heterogeneity in the reproductive and care profile (Deliwala *et al.*, 2020). Most of them were not having kids (57.38%), whereas 35.41% were trying to have a child. The duration of the most frequent diagnosis was three to five years (29.18%), and secondly, one to two years (28.69%). Only a minority of the respondents (46.72%), had undergone hormonal or reproductive treatment to treat PCOS within 12 months.

The primary providers were gynaecologists (41.80%). The primary source of fertility information (34.59%) was dominated by healthcare professionals, and social media was also high (20.98%). Formal health coverage was rare: 79.51% have no health insurance or other similar cost-covering system. These attributes mean that the sample included women with varied engagement levels of care, fertility orientation, exposure of information and financial protection.

Item-Level Descriptive Statistics

The descriptive statistics of items are reported in Table 3. Mean scores were clustered around the middle of five-point response scale. The range of fertility information quality items was 2.989 to 3.125, reproductive autonomy items 3.031 to 3.092, perceived treatment effectiveness

Table 3: Item-Level Descriptive Statistics

Construct	Item	Mean	Standard Deviation	Minimum	Maximum	Skewness	Kurtosis
Fertility Information Quality	FIQ1	3.105	1.196	1	5	-0.076	-0.884
Fertility Information Quality	FIQ2	3.051	1.185	1	5	-0.027	-0.869
Fertility Information Quality	FIQ3	3.075	1.205	1	5	-0.038	-0.888
Fertility Information Quality	FIQ4	3.061	1.193	1	5	-0.042	-0.847
Fertility Information Quality	FIQ5	3.064	1.158	1	5	-0.023	-0.789
Fertility Information Quality	FIQ6	3.064	1.205	1	5	-0.061	-0.878
Fertility Information Quality	FIQ7	2.989	1.222	1	5	0.000	-0.945
Fertility Information Quality	FIQ8	3.125	1.236	1	5	-0.076	-0.972
Reproductive Autonomy	RA1	3.092	1.214	1	5	-0.005	-0.936
Reproductive Autonomy	RA2	3.089	1.211	1	5	-0.026	-0.923
Reproductive Autonomy	RA3	3.074	1.176	1	5	-0.028	-0.85
Reproductive Autonomy	RA4	3.075	1.196	1	5	-0.065	-0.872
Reproductive Autonomy	RA5	3.069	1.208	1	5	-0.009	-0.938
Reproductive Autonomy	RA6	3.069	1.212	1	5	-0.005	-0.935
Reproductive Autonomy	RA7	3.031	1.169	1	5	0.014	-0.811
Perceived Treatment Effectiveness	PTE1	3.041	1.11	1	5	-0.016	-0.691
Perceived Treatment Effectiveness	PTE2	3.044	1.134	1	5	0.015	-0.787
Perceived Treatment Effectiveness	PTE3	3.048	1.13	1	5	0.037	-0.714
Perceived Treatment Effectiveness	PTE4	3.126	1.171	1	5	-0.056	-0.804
Perceived Treatment Effectiveness	PTE5	3.064	1.152	1	5	0.017	-0.784
Perceived Treatment Effectiveness	PTE6	3.057	1.143	1	5	0.053	-0.806

Hormonal and Reproductive Care-Seeking Intention	HRCI1	3.082	1.194	1	5	0.004	-0.922
Hormonal and Reproductive Care-Seeking Intention	HRCI2	3.066	1.185	1	5	-0.026	-0.884
Hormonal and Reproductive Care-Seeking Intention	HRCI3	3.038	1.209	1	5	0.023	-0.888
Hormonal and Reproductive Care-Seeking Intention	HRCI4	3.052	1.201	1	5	-0.055	-0.88
Hormonal and Reproductive Care-Seeking Intention	HRCI5	3.085	1.231	1	5	-0.052	-0.985
Hormonal and Reproductive Care-Seeking Intention	HRCI6	3.07	1.203	1	5	0.017	-0.888
Hormonal and Reproductive Care-Seeking Intention	HRCI7	3.082	1.162	1	5	0.016	-0.834

items 3.041 to 3.126 and items on care-seeking intentions 3.038 to 3.085. The trend indicates the absence of homogeneous positive or homogeneous negative scoring allowing enough variation to be structural modelling. Inter-item standard deviations were around 1.11-1.24 and this shows that there is a significant dispersion of the respondents.

The range of full responses was five to one and was used on all items. The values of skewness were close to zero and there was small positive or negative asymmetry. The values of kurtosis were negative and moderate. The distributions did not then exhibit extreme departures of univariates that would invalidate interpretation of the survey indicators (Shi

et al., 2022). The central means and significant distribution combination is substantively helpful: there was a significant difference between the respondents in perceptions of the information quality, perceived autonomy, and expectations of treatment and the desire to obtain professional PCOS care.

Measurement Model Assessment

The reflective measurement model showed good psychometric performance. According to Table 4, all of the 28 indicators were retained. Outer loadings were between 0.765 and 0.821 which implies that every item was making an important contribution to its intended construct. The

Table 4: Indicator Loadings, Reliability, and Convergent Validity

Construct	Indicator	Outer Loading	Cronbach Alpha	Composite Reliability	AVE	Indicator Decision
FIQ	FIQ1	0.798	0.921	0.936	0.645	Retained
FIQ	FIQ2	0.821				Retained
FIQ	FIQ3	0.812				Retained
FIQ	FIQ4	0.797				Retained
FIQ	FIQ5	0.793				Retained
FIQ	FIQ6	0.795				Retained
FIQ	FIQ7	0.81				Retained
FIQ	FIQ8	0.797				Retained
RA	RA1	0.792	0.906	0.925	0.639	Retained
RA	RA2	0.804				Retained
RA	RA3	0.812				Retained
RA	RA4	0.798				Retained
RA	RA5	0.807				Retained
RA	RA6	0.78				Retained
RA	RA7	0.803				Retained
PTE	PTE1	0.765	0.871	0.903	0.608	Retained
PTE	PTE2	0.766				Retained
PTE	PTE3	0.776				Retained
PTE	PTE4	0.8				Retained
PTE	PTE5	0.793				Retained

PTE	PTE6	0.78				Retained
HRCI	HRCI1	0.819	0.906	0.925	0.639	Retained
HRCI	HRCI2	0.788				Retained
HRCI	HRCI3	0.791				Retained
HRCI	HRCI4	0.816				Retained
HRCI	HRCI5	0.799				Retained
HRCI	HRCI6	0.792				Retained
HRCI	HRCI7	0.791				Retained

values of Cronbach alpha were 0.921 on the quality of fertility information, 0.906 on reproductive autonomy, 0.871 on perceived treatment effectiveness, and 0.906 on care-seeking intention. The reliability based on composites was between 0.936 and 0.903. These values show high internal consistency without indicating weak or unstable indicators

used to measure the constructs.

The quality of fertility information, reproductive autonomy, perceived treatment effectiveness, and care-seeking intention had an average variance goal of 0.645, 0.639, 0.608, and 0.639 respectively. Consequently, all the constructs had over 50% of the variance of their indicators, which is a conclusion in

Table 5: Heterotrait-Monotrait Ratio of Correlations

Construct	FIQ	RA	PTE	HRCI
FIQ	1	0.553	0.582	0.58
RA	0.553	1	0.595	0.596
PTE	0.582	0.595	1	0.659
HRCI	0.58	0.596	0.659	1

favor of convergent validity. Table 5 also indicates that the ratios of the HTMT were in the range of 0.553 and 0.659. The greatest was between perceived treatment effectiveness and the care-seeking intention, but was still far short of conservative thresholds to indicate inadequate discriminant validity (Bunyan, 2020). The four concepts were thus empirically separate although their theoretical relationship within the model could have been related.

Common Method Bias and Collinearity

Table 6 shows the complete-collinearity test. Values of VIF were between 1.627 and 1.827, less than the mentioned value of 3.30. This finding suggests that full-collinearity diagnostic did not reveal serious common method bias.

Table 7 is the inner VIF statistics of the structural model. All the values were between 1.000 and

Table 6: Full Collinearity Assessment for Common Method Bias

Construct	Full Collinearity VIF	Threshold	Assessment
FIQ	1.627	< 3.30	No serious common method bias
RA	1.656	< 3.30	No serious common method bias
PTE	1.787	< 3.30	No serious common method bias
HRCI	1.827	< 3.30	No serious common method bias

1.582 and less than 3.000 of every predictor endogenous construct combination (Rao *et al.*, 2022). Multicollinearity, therefore, was not substantively a

matter, and the direct path estimates could be read without flaunting of unstable inflation due to strongly redundant predictors.

Table 7: Inner Variance Inflation Factors

Predictor	Endogenous Construct	Inner VIF	Threshold	Assessment
FIQ	RA	1	< 3.00	No collinearity concern
FIQ	PTE	1.344	< 3.00	No collinearity concern
RA	PTE	1.344	< 3.00	No collinearity concern
FIQ	HRCI	1.53	< 3.00	No collinearity concern
RA	HRCI	1.545	< 3.00	No collinearity concern
PTE	HRCI	1.582	< 3.00	No collinearity concern

Structural Model and Direct Hypotheses

The direct hypothesis results are presented in Table 8. The six of the hypothesized direct relationships were

all positive and statistically significant at $p < 0.001$. The quality of fertility information was positively related to reproductive autonomy ($\beta = 0.506$, $t = 16.578$) in favor

Table 8: Structural Path Coefficients and Direct Hypothesis Decisions

Hypothesis	Relationship	Beta	Bootstrap Mean	Standard Error	T Value	P Value	CI 2.5 Percent	CI 97.5 Percent	Decision
H1	FIQ -> RA	0.506	0.508	0.031	16.578	< 0.001	0.446	0.565	Supported
H2	FIQ -> PTE	0.343	0.343	0.036	9.56	< 0.001	0.272	0.412	Supported
H3	RA -> PTE	0.356	0.358	0.033	10.672	< 0.001	0.29	0.421	Supported
H4	FIQ -> HRCI	0.231	0.232	0.038	6.069	< 0.001	0.158	0.307	Supported
H5	RA -> HRCI	0.246	0.247	0.039	6.387	< 0.001	0.17	0.322	Supported
H6	PTE -> HRCI	0.335	0.336	0.037	9.05	< 0.001	0.263	0.409	Supported

of H1. And it positively directly influenced perceived treatment effectiveness ($\beta = 0.343$, $t = 9.560$), which confirms H2. H3 was supported with a significant positive beta of 0.356 and a $t = 10.672$ in favor of reproductive autonomy over perceived treatment effectiveness.

Hormonal and reproductive care-seeking intention was also directly affected by all the three predictors. H4 was supported by a positive effect ($\beta = 0.231$, $t = 6.069$). H5 was supported as Reproductive autonomy had a direct impact with a slightly higher effect ($\beta = 0.246$, $t = 6.387$).

Direct effect on care-seeking intention was the greatest ($\beta = 0.335$, $t = 9.050$) with perceived treatment effectiveness in favor of H6. The 95% confidence intervals of all six paths did not contain zero, which further supported stability of these effects.

The estimated PLS-SEM structural model with the standardized path coefficients and the coefficient of determination of the endogenous constructs is presented in figure 2. Each of the six direct structural relationships was significant and positive. The strongest direct impact

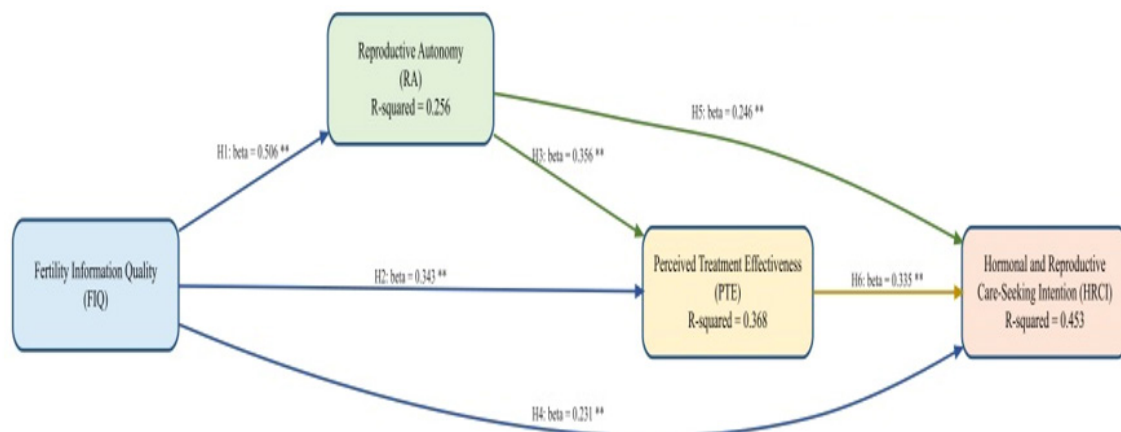


Figure 2: PLS-SEM Structural Model with Standardized Path Coefficients and R^2 Values

was fertility information quality ($\beta = 0.506$), and with reproductive autonomy having the positive impact towards perceived treatment effectiveness ($\beta = 0.356$). The quality of fertility information also had a direct impact on the perceived treatment efficacy ($\beta = 0.343$) and hormonal and reproductive care-seeking intent ($\beta = 0.231$). Moreover, autonomy over reproductive issues ($\beta = 0.246$) and the perceived efficacy of treatment ($\beta = 0.335$) had a significant positive effect on care-seeking

intention. The model accounted 25.6, 36.8 and 45.3 percent variance in reproductive autonomy, perceived treatment efficacy and hormonal and reproductive care-seeking intention, respectively.

The explanatory power of the model is presented in Table 9. Fertility information quality was able to explain 25.6% of the difference in reproductive autonomy. The quality of fertility information and reproductive autonomy were associated with an equal likelihood to explain 36.8% of

Table 9: Explanatory Power of Endogenous Constructs

Endogenous Construct	R Squared	Adjusted R Squared	Explanatory Power
RA	0.256	0.255	Weak
PTE	0.368	0.366	Weak
HRCI	0.453	0.45	Weak

the perceived treatment effectiveness (Bulsara *et al.*, 2021). The combination of the three antecedents explained 45.3% of the variation in the care seeking intention and the adjusted R-squared is 0.450. Even though the classification used to provide them classifies these values as weak, the care-intention equation is able to explain a large amount of individual variance in a behavioural

outcome that is influenced by numerous social, clinical, economic and contextual factors.

Effect Sizes and Predictive Relevance

Table 10 results are effect-size, giving a more detailed perspective. The influence of the quality of fertility information on the reproductive autonomy was medium

Table 10: Effect Sizes of Structural Relationships

Relationship	F Squared	Effect Size
FIQ -> RA	0.344	Medium
FIQ -> PTE	0.138	Small
RA -> PTE	0.150	Small
FIQ -> HRCI	0.064	Small
RA -> HRCI	0.072	Small
PTE -> HRCI	0.130	Small

(f-squared = 0.344). Fertility information quality and reproductive autonomy had a small effect on the perceived treatment effectiveness (0.138 and 0.150). In the care-seeking equation, the quality of fertility information, reproductive autonomy, and perceived treatment effectiveness had small incremental effects of 0.064, 0.072, and 0.130 respectively. The trend follows

a multicausal behavioural model: there is no dominant predictor of the final intention, but all of them provide specific explanatory value.

Table 11 indicates Q-squared of 0.250 of reproductive autonomy, 0.363 of perceived treatment effectiveness and 0.445 of care seeking intention. All values exceeded zero

Table 11: Predictive Relevance of the Structural Model

Endogenous Construct	Q Squared	Criterion	Predictive Relevance
RA	0.25	> 0	Established
PTE	0.363	> 0	Established
HRCI	0.445	> 0	Established

which made the endogenous constructs have predictive relevance. A high valuation of care-seeking intention is especially significant since the ultimate goal of the model is to clarify and project a desire to seek professional hormonal and reproductive care.

Mediation and Total Effects

This mediation analysis shows that all specific indirect impacts are statistically significant at $p < 0.001$ (Table 12). The quality of fertility information determines the care-seeking intention, both in reproductive independence

Table 12: Mediation and Specific Indirect Effects

Hypo thesis	Indirect Relationship	Indirect Effect	Bootstrap Standard Error	T Value	P Value	CI 2.5 Percent	CI 97.5 Percent	Decision
Additional mediation	FIQ -> RA -> HRCI	0.125	0.021	5.972	< 0.001	0.084	0.164	Supported
Additional mediation	FIQ -> PTE -> HRCI	0.115	0.018	6.256	< 0.001	0.081	0.151	Supported
Additional mediation	RA -> PTE -> HRCI	0.119	0.018	6.806	< 0.001	0.087	0.155	Supported
Additional mediation	FIQ -> RA -> PTE	0.180	0.021	8.465	< 0.001	0.141	0.223	Supported
H7	FIQ -> RA -> PTE -> HRCI	0.060	0.010	6.200	< 0.001	0.043	0.081	Supported

and the perceived effectiveness of the treatment. The sequential mediation pathway $FIQ \rightarrow RA \rightarrow PTE \rightarrow HRCI$ is also significant ($\beta = 0.060$, $t = 6.200$, 95%

CI [0.043, 0.081]). Based on this, H7 is acceptable, revealing the sequential mediating effects of reproductive autonomy and perceived treatment effectiveness.

Table 13 to compare direct, indirect and total effects. The overall impact of the quality of fertility information on care seeking intention was 0.531 which is made up of both a direct impact of 0.231 and a total impact of

Table 13: Direct, Indirect, and Total Effects

Relationship	Direct Effect	Total Indirect Effect	Total Effect	Direct Effect P Value	Indirect Effect P Value	Mediation Type
FIQ -> HRCI	0.231	0.3	0.531	< 0.001	< 0.001	Complementary mediation
RA -> HRCI	0.246	0.119	0.366	< 0.001	< 0.001	Complementary mediation
FIQ -> PTE	0.343	0.18	0.523	< 0.001	< 0.001	Complementary mediation

0.300. Reproductive autonomy was associated with a total effect of 0.366 on care seeking intention whereas quality of fertility information was associated with a total effect of 0.523 on perceived treatment effectiveness. Since the direct and indirect effects were both noteworthy and run in a similar positive direction, the type of mediation reported was complementary (Chouhan & Dadhich, 2022). This establishes the fact that the information

quality affects intention in both immediate and mediating psychological-processes and not a single route.

Out-of-Sample Predictive Performance

The predictive usefulness of the model is heavily supported by out-of-sample performance in Table 14. PLSpredict used all 20 endogenous indicators, which all had positive Q2 predict. PLS-SEM also generated a lower

Table 14: Out-of-Sample Predictive Performance (10-Fold Cross-Validation with 10 Repetitions)

Construct	Indicator	PLS SEM RMSE	LM RMSE	RMSE Difference	PLS SEM MAE	LM MAE	Q2 Predict	Predictive Relevance	RMSE Comparison
RA	RA1	1.11	1.119	-0.009	0.92	0.929	0.162	Established	PLS-SEM error is lower
RA	RA2	1.116	1.128	-0.012	0.926	0.934	0.149	Established	PLS-SEM error is lower
RA	RA3	1.079	1.093	-0.013	0.895	0.905	0.156	Established	PLS-SEM error is lower
RA	RA4	1.089	1.097	-0.008	0.896	0.9	0.169	Established	PLS-SEM error is lower
RA	RA5	1.112	1.122	-0.01	0.913	0.92	0.151	Established	PLS-SEM error is lower
RA	RA6	1.101	1.111	-0.011	0.911	0.918	0.174	Established	PLS-SEM error is lower
RA	RA7	1.078	1.086	-0.008	0.888	0.891	0.148	Established	PLS-SEM error is lower
PTE	PTE1	1.002	1.011	-0.009	0.818	0.827	0.183	Established	PLS-SEM error is lower
PTE	PTE2	1.015	1.027	-0.013	0.826	0.838	0.199	Established	PLS-SEM error is lower
PTE	PTE3	1.004	1.019	-0.015	0.809	0.823	0.209	Established	PLS-SEM error is lower
PTE	PTE4	1.023	1.042	-0.019	0.84	0.851	0.236	Established	PLS-SEM error is lower
PTE	PTE5	0.989	1.004	-0.015	0.809	0.82	0.262	Established	PLS-SEM error is lower
PTE	PTE6	1.009	1.027	-0.018	0.824	0.841	0.219	Established	PLS-SEM error is lower
HRCI	HRCI1	1.01	1.033	-0.023	0.84	0.859	0.283	Established	PLS-SEM error is lower

HRCI	HRCI2	0.995	1.007	-0.012	0.819	0.827	0.294	Established	PLS-SEM error is lower
HRCI	HRCI3	1.043	1.057	-0.013	0.838	0.856	0.254	Established	PLS-SEM error is lower
HRCI	HRCI4	1.02	1.043	-0.023	0.831	0.854	0.277	Established	PLS-SEM error is lower
HRCI	HRCI5	1.031	1.047	-0.016	0.832	0.844	0.298	Established	PLS-SEM error is lower
HRCI	HRCI6	1.012	1.032	-0.02	0.819	0.825	0.292	Established	PLS-SEM error is lower
HRCI	HRCI7	0.987	1.011	-0.024	0.809	0.826	0.277	Established	PLS-SEM error is lower
Overall model	Summary							20 of 20 indicators have Q2 predict > 0	High predictive power: PLS-SEM has lower RMSE for 20 of 20 indicators

RMSE than the linear-model benchmark in any indicator. The difference in RMSE was between 0.024 and 0.008. This was noticed in the areas of reproductive autonomy, perceived treatment effectiveness, and care-seeking intention measures. The values of PLS-SEM MAE also tended to be lower than the errors in the benchmarks.

The general comparison thus makes the predictive power to be high as per the assessment provided. This finding adds more strength to the study as opposed to in-sample explanation (Shahzad *et al.*, 2022). The structural relationships are statistically significant, but further the model shows uniform capacity to forecast held-out observations on all the endogenous indicators being tested. The intersection of big path estimates, non-negative Q-squared values, and better PLSpredict errors, give a consistent point of view of the model as explanatory and practically predictive.

Discussion

The results endorse the main hypothesis according to which the quality of fertility information may influence the willingness of women to attend professional hormonal and reproductive healthcare to PCOS both directly and indirectly. The most significant upstream relationship was the quality of fertility information on reproductive autonomy (Zou *et al.*, 2022). It means that information is not a source of knowledge. Women seem to be better equipped to exercise what they recognize as ownership of a decision when the information they receive is perceived to be accurate, complete, understandable, current, consistent, relevant and capable of supporting supported treatment as opposed to unsupported claims (Markin *et al.*, 2023). This facilitating role is especially significant in an environment where there is uncertainty and that fertility is a socially sensitive issue.

The perceived treatment efficacy was also directly related to the quality of fertility information. This implies that

trustworthy information can adjust the expectations about what professional care is capable of. The management of PCOS is usually complicated and personalized, and false hopes can be created when the information offers a solution, one treatment option is suggested to work equally in all cases, or the results of fertility are determined (Kamrul-Hasan *et al.*, 2020). The objective of hormonal management, reproductive assessment, long-term monitoring, and fertility-oriented support can be further explained by better-quality information instead. This kind of clarification might make professional care seem more desirable without suggesting the inevitability of something.

Perceived treatment effectiveness was greatly enhanced by reproductive autonomy. The interpretation of the sequential model with this outcome is important to behaviour (Hassan *et al.*, 2023). Women who feel empowered to ask questions, raise concerns, and make decisions between the options provided to them can be more knowledgeable about how treatment can help them meet their individual reproductive objectives. Their self-belief in care can, thus, be partially a result of involvement and proprietorship and not a result of inactive listening to advice (Aryal *et al.*, 2022). The implication of the finding is that the quality of communication used to deliver PCOS care should not only be determined by the amount of information given by clinicians but also by whether women are able to utilize that information in deciding together.

The influence of the three antecedents on hormonal and reproductive care seeking intention was significant. The greatest direct coefficient was the perceived treatment effectiveness, with reproductive autonomy and fertility information quality coming next (Bhambhu *et al.*, 2022). It is this ordering that the most immediate motivational determinant is the expectation that professional care will be beneficial. Autonomy and information are necessary

since they work directly and indirectly towards that expectation. A woman can have the right knowledge and put off consultation when she is convinced that treatment is not going to assist her. Likewise, she might think that treatment is good yet experiences a problem with acting should she not feel capable of making her own reproductive-health decisions (Ishrat *et al.*, 2021).

The best support of the integrated framework is the significant sequential mediation effect. The quality of fertility information augmented the autonomy in reproduction, augmented the presumed effectiveness of treatment, and augmented intendment of care-seeking. Sequential indirect coefficient is not as large as the direct paths, but it represents a theoretically important process. The behavioural consequences of information are when information initially empowers agency and subsequently leads to the confidence in treatment (Palomba, 2021). The results of the complementary mediation also indicate that such a mechanism exists in addition to direct effects. There is no unique path that can be used to describe the effects of fertility information on intention.

Context is provided by the profile of respondents. Only 46.72% experienced hormonal or reproductive PCOS care within the last year despite the fact that all participants stated that they had been professionally diagnosed. One fifth of the respondents were the sources of fertility information on social media, and nearly four fifths of the respondents were not formally covered by health (Li *et al.*, 2022). The features show that information interventions cannot be neutralized to access to services. An increased intention can be promoted by better information, but intention-to-behaviour may still not become behaviour due to financial constraint, the availability of specialists, travel, or family factors.

Comprehensively, the research pushes towards a patient-centred explanation of PCOS care engagement. These findings suggest that quality fertility information, ability to make reproductive decisions and trust in therapy are complementary factors. Efficient PCOS should not be merely providing information to women regarding symptoms and risks (Patel *et al.*, 2020). It must also assist them to develop preferences, involve in decisions, know realistic treatment objectives and when professional evaluation is warranted. This synergistic strategy has more chances to help maintain sustainability compared to information campaigns that aim at raising general awareness.

Practical and Policy Implications

The implications of the findings are practical in a number of ways. To start with, healthcare providers ought to take the quality of fertility information as a subset of clinical care. The explanations must be precise, up to date, comprehensible, and reproductive priorities specific to the woman. Clinicians must clearly draw the difference between evidence-based management and unverified claims that a patient might be coming across the internet (Bhalerao & Aranha, 2021). Brief written briefings,

credible online materials, and explicit follow-up guidance can assist women to remember and use information following consultations.

Second, care provision must reinforce reproductive self-determination. Consultation forms ought to make room in the question and preference sensitive discourse. Even when fertility is not a pressing target, women should be persuaded to communicate fertility problems. At the family level, clinicians must maintain the power of decision-making on behalf of the woman without interfering with her choice of the desired level of family involvement (Saeed *et al.*, 2022). This is particularly critical on sensitive matters of hormonal therapy, fertility test and pregnancy timing.

Third, perceived treatment effectiveness should be dealt with realistically in communication. Providers are expected to discuss what we can reasonably expect to be improved by treatment, the span of time in which we expect to see the benefits, why monitoring is important, and why management may vary among patients. The content provided on digital PCOS and public-health must neither be therapeutic pessimism nor over-promising. The goal is plausible trust as opposed to conviction on ground of certitude.

The policy makers need to enhance validated information on PCOS in the Bangali language and increase referral and tele-consultation channels that would bridge the gap among informed women and specialist services.

Limitations and Future Research

There are some limitations, which should guide interpretation. The cross-sectional study determines the associations and mediating statistical paths but fails to determine a temporal cause-effect relationship. The intention to seek care was self-reported and might not have a direct impact on later consultation behaviour. The common survey method was also used in the questionnaire, but the collinearity diagnostic showed that there was no severe common method bias (Jahan & Wing, 2020). The sample consisted of women who had a professional diagnosis of PCOS and that the results do not necessarily apply to women without the diagnosis, to women who are younger than 18 years of age or to women who are not in Bangladesh.

Future studies ought to utilize longitudinal designs in which the women were followed after being exposed to information up to real healthcare utilization. The intention to behaviour transition would be tested by linking survey measures to attendance at appointments, initiation of treatment, or follow-up behaviour. Additional predictors or moderators might be investigated in further studies, such as affordability, perceived stigma, family influence, geographic access, provider trust, digital health literacy, or symptom severity (Shermin *et al.*, 2020). Multi-group analysis can also be used to estimate the need of difference in the model on the basis of pregnancy intention, residence, income, duration of diagnosis or primary source of information.

CONCLUSION

As shown in this study, hormonal and reproductive care-seeking intention regarding fertility information quality is a significant factor among Bangladesh women with PCOS. Its action works both directly and in a sequential psychological process. Enhanced reproductive autonomy through enhanced information; enhanced perceived treatment efficacy through enhanced treatment autonomy; enhanced intention to utilize qualified professional care through enhanced treatment expectation. All the six direct hypotheses and the sequential mediation hypothesis were supported.

The model exhibited good measurement characteristics, reasonable collinearity, significant coefficient of explanation, well defined predictive relevance and strong predictive performance out of sample. Perceived treatment efficacy was the most direct predictor of care-seeking intention, whereas fertility information quality was the most upstream predictor with reproductive autonomy. The results thus change the focus on the quantity of information to the usefulness of information and passive education of the patient to informed decisions.

In the case of PCOS treatment, good communication must assist women in becoming aware of their condition, keeping control over the reproductive choice, and gaining confidence in treatment. Minimizing the cost and barriers to access can be coupled with clinical and public-health efforts that integrate credible information, autonomy-supportive communication, and clear explanations of the value of treatment, which can be strengthened to maintain engagement.

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