

Understanding the Predictive Utility of Intention to Use Modern Family Planning Methods: A Comprehensive Theoretical and Empirical Review

Junaid-ur-Rehman Siddiqui¹, Bushra Rahim Butt¹, Aaliya Habib¹, Ghazunfer Abbas¹, Syed Azizur Rab¹

Abstract

According to the Pakistan Demographic and Health Survey (2017-18), there is universal awareness of family planning amongst married women of reproductive age, however, use of modern contraception remains low in Pakistan at 25 percent. This review aims to highlight the value of intention to use modern family planning methods as a critical measure for bridging the awareness-behavior gap. This study conducted a narrative review using systematic searches in PubMed, PsycINFO, Web of Sciences, and Google Scholar for articles published between January 2010 and May 2015. Articles providing theoretical grounding for intention before January 2010 were also included. Search terms included “family planning intention”, “contraceptive adoption”, “theory of reasoned action”, “theory of planned behavior”, “integrated behavioral model”, and “Pakistan family planning intention”. This review discussed the reasoned-action theories which posit intention as the primary predictor of behavior while also underpinning its psychosocial determinants. Moreover, the review also discussed studies that underpin the predictive utility of intention to use over unmet need, traditionally used to inform family planning programs, and how intention captured through demographic surveys can be used to inform program design. Intention alongside its determinants can play a pivotal role in program monitoring and evaluation as well highlighting critical individual and community-level factors that influence modern contraceptive uptake.

Keywords: Intention; reasoned-action theories; behavior change; family planning intention

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Introduction

Modern contraceptive methods i.e., condoms, oral contraceptive pills, injectables, intrauterine devices (IUDs), implants, and male and female sterilization methods, allow individuals and couples to control their fertility while improving their maternal and child health (1). Despite the gains made in medical knowledge and technologies, the global burden of maternal and child mortality still persists, particularly, in sub-Saharan Africa and South Asia (2). Contraception has been touted as the most cost-effective way of reducing maternal and child mortality yet the modern contraceptive prevalence rate remains at below 50 percent globally and in countries where there is high maternal and child mortality (2,3). The persistence of high unmet need and low modern contraceptive prevalence rate in these countries highlight the complexity that lies behind the journey from contraceptive need to contraceptive use.

Intention to use or behavioral intention, a psychosocial construct which underpins an individual's willingness to perform a behavior has historically and theoretically been the most proximal predictor of individual behavior, and in recent times, has shown utility in the prediction of contraceptive use (4-6). Traditionally, unmet need has been used to underpin contraceptive need and predict future contraceptive use (7-9). Unmet need is calculated by estimating the difference between fertility preference and contraceptive use while intention to use captures the individual's willingness to use contraceptives, formed through their attitude, perceived norm, and personal agency around contraceptives (8-10). Considering the lack of gains in improving contraceptive prevalence, it is now imperative to focus on the predictive utility of intention to use to design more effective and tailored interventions.

This review aims to compare the predictive utility of intention to use with unmet need, to review the theoretical evidence on intention and describe its psychosocial determinants, and to assess theory-driven and evidence-based interventional strategies which increase intention and adoption. The review will compile evidence from various contexts with a particular focus on Pakistan to inform future program design and development for family planning programs in the country.



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Methodology

This study conducted a narrative review using systematic searches in PubMed, PsycINFO, Web of Sciences, and Google Scholar for articles published between January 2010 and May 2015. Articles providing theoretical grounding for intention before January 2010 were also included. Search terms included “family planning intention”, “contraceptive adoption”, “theory of reasoned action”, “theory of planned behavior”, “integrated behavioral model”, and “Pakistan family planning intention”. Survey reports from the Pakistan Demographic and Health Survey (PDHS) and Performance Monitoring for Action (PMA) were also reviewed alongside grey literature from reputed international agencies.

A total of 50 studies were selected which included theoretical or meta-analytic reviews, empirical studies, intervention trials, and the aforementioned survey reports. Data extraction focused on studies with adequate design and sampling characteristics, appropriate measures for intention to use, effect sizes, and interventional components, where applicable. The findings were synthesized thematically across four domains: theoretical grounding, empirical evidence, psychosocial determinants, and programmatic applications.

Theoretical Frameworks

Theory of Reasoned Action (TRA)

TRA is the first in the school of reasoned action theories (4,11). TRA postulates that intention as the sole predictor of behavior whereas intention is determined by two proximal indicators i.e., Attitude and Subjective Norms (Figure 1) (10). Attitude is determined by two sets of indicators: Behavioral Beliefs and Outcome Evaluation. Behavioral Beliefs underpin individuals’ attitude towards the behavior while Outcome Evaluation underpin individuals’ evaluation of the behavior reflecting its importance to the individual (11). Subjective norms highlight individuals’ perception of norm around the behavior captured through Normative Beliefs while the individuals’ likelihood of compliance with the perceived norm is captured through Motivation to Comply (11).

Meta-analytic reviews showed that TRA cumulatively explained 35%-40% of the variance in behavior, particularly health behaviors (2). In the context of family planning, attitudinal beliefs focus on the benefits of using modern family planning methods (positive attitude) and their concerns around side-effects (negative attitude) (4,5). One study in Pakistan underpinned that positive attitude was linked with significantly higher odds of reporting intention to use modern family planning methods (4,5). Subjective norms in the context of family planning are determined by women’s perception of their key stakeholders’ (mothers-in-law, husbands, and women in their community) on family planning (12,13).

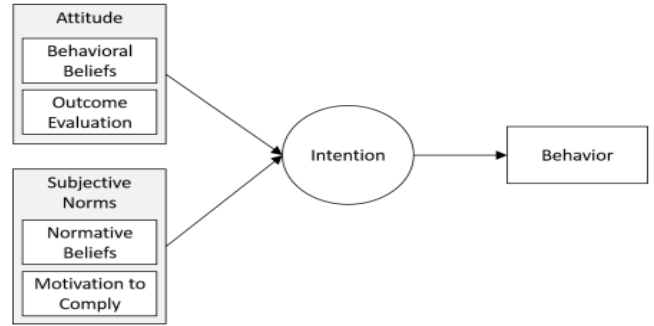


Figure 1: Theory of Reasoned Action (Fishbein, 1979)

Theory of Planned Behavior (TPB)

TPB expands upon TRA with the inclusion of Perceived Behavioral Control as the third predictor of Intention (6,11). Perceived control underpins individuals’ degree of control over the behavior as well as their level of self-efficacy to perform the behavior (4,11). In low volitional settings, perceived control can bypass the pathway to intention and predict behavior directly (4,11,14). Systematic reviews have reported the TPB model cumulatively explained 45-55% of the variance in Intention and 25-35% of the variance in behavior (2,15,16). Perceived control is operationalized in the context of family planning to capture individuals’ capacity to manage side-effects and to access health facilities for services (5).

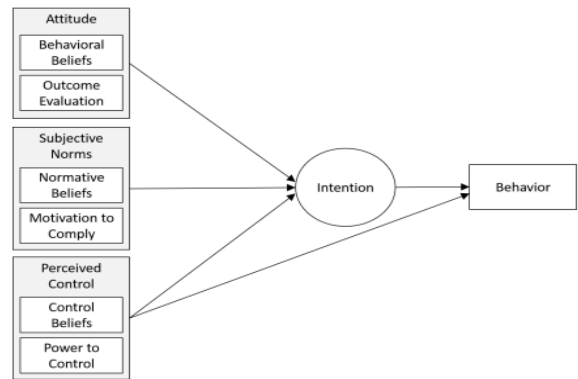


Figure 2: Theory of Planned Behavior (Ajzen, 1985)

Integrated Behavioral Model (IBM)

IBM reframes the determinants of Intention while further expanding upon TPB to include moderators in the relationship between Intention and Behavior (11,15,16). Attitude is composed of Experiential and Instrumental components reflecting cognitive and affective dimensions of attitude, respectively (11,15). Subjective norm is reframed to Perceived Norm, and is composed of Injunctive and Descriptive norms reflecting individuals’ perception of close stakeholders’ beliefs around the behavior and individuals’ perception of behavioral prevalence in the community (17). Perceived behavioral control is reframed to Personal Agency and is composed of Perceived Control and Self-efficacy reflecting individuals’ perception of

control over the behavior and the degree of confidence they have in their ability to perform the behavior (4,11,14,17). IBM further posits that there four constructs moderating the relationship between Intention and Behavior, namely, Knowledge and skills to perform the behavior, Saliency of the behavior, environmental constraints, and habit (17).

A study in Pakistan operationalized and contextualized the IBM to develop and validate the Improving Reproductive health through Awareness, Decision, and Action (IRADA) model in Pakistan (5). IRADA means “Intention” in the local language Urdu. The IRADA model operationalized the IBM’s psychosocial constructs using participatory, reflection, and analysis tools with the aim of increasing modern family planning uptake amongst non-users (5). To evaluate the study, psychometric scales were developed and validated for each of the contextualized IBM constructs, and provided critical evidence on how the constructs are perceived by rural married women of reproductive age in Pakistan’s family planning context (5). The IRADA model when combined with vouchers for long-acting family planning methods cumulatively explained approximately 85 percent of the variance in adoption of long-acting reversible contraception (5).

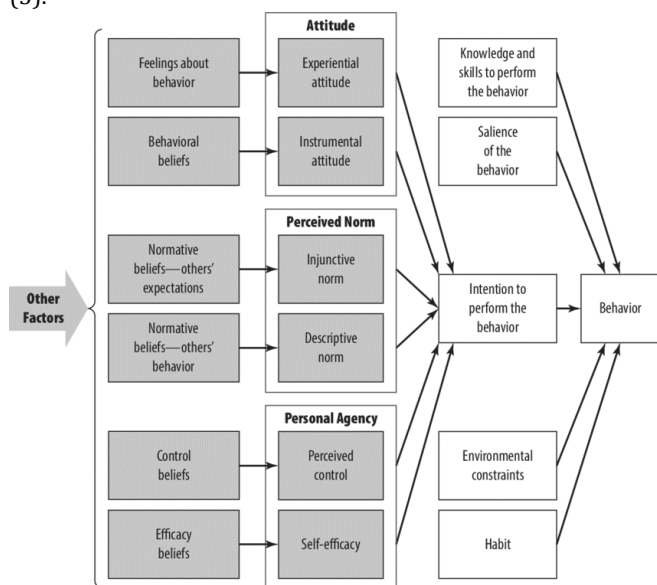


Figure 3: Integrated Behavioral Model (Kasprzyk et al., 1998)

Comparison with Unmet Need

Unmet need has been historically used to ascertain the level of contraceptive need which is not being met by asking women of reproductive age who express a desire to limit or space their births (18). The indicator has been used to inform family planning programming globally despite the fact that it does not account for individual’s motivation to use modern contraceptive methods. Panel studies in Uganda and Ethiopia using Performance Monitoring for Action (PMA) survey data compared the predictive utility of unmet need and intention to predict time to adoption of contraception (8,9,19). These studies found that women reporting intention to use had hazard ratios of 2.2-2.8 for adopting a modern contraceptive method within a

year while women reporting unmet need only reported hazard ratios of 1.5-1.8 (8,9,19). Similar multi-country analyses have also shown that intention functions as a better predictor of future adoption compared to unmet need, and improves predictive accuracy by 15-25 percent, particularly in low and middle income countries (20,21). These findings provide strong evidence for inclusion of intention to use in population-based surveys for informing family planning program design and development. While the Demographic and Health Survey (DHS) and PMA surveys record it, Multiple Indicator Cluster Survey (MICS) does not. The DHS program uses an extensive questionnaire to estimate need and use of modern contraception. Furthermore, the DHS survey additionally collects data on intentionality to use modern contraception from all women of reproductive age (WRA), married WRA (MWRA) in Pakistan’s context, with need but are currently not using a method of contraception (22). The study used the DHS data to map consumers’ journey from need to use (22). In the first stage of the journey, WRA with Need and Demand for Modern Contraceptives are identified as being served by the market as their need is being captured (22). However, WRA whose need is not being assessed by the DHS are not included in the estimates for Need; this represents a failure of market intelligence as a large number of WRA could potentially fall in this cadre resulting in an underestimation of demand and contraceptive prevalence rate (22). In the second stage, WRA with Unmet Need and Traditional Contraceptive Use are categorized by their Intention to use contraceptives in the future (22). WRA with Intention or WRA currently using traditional methods represent a market success as some exposure to contraceptive messaging has turned them into Intenders, and be readily tapped into by the public and private sectors for converting them into users (22). However, WRA with Unmet Need and no intention to use contraceptives in the future represent a market failure as despite having need, they do not have intention due to little exposure to contraceptive messaging, and are vulnerable to unintended pregnancies and unsafe abortions (22). The study further found that high prevalence of unfavorable predictors of intention (personal opposition, potentially driven by fear of side-effects, opposition from husband, religious prohibition, and agency to spend) amongst non-intenders compared to intenders (22). Lack of access/distance to and cost of FP services are primary barriers to adoption of FP by intenders (22). The study’s methodology and findings broke new ground using existing datasets, and highlighted that intenders represent low-hanging fruit for family planning programmes as they can be easily tapped into and converted into family planning users. Factors restricting modern contraceptive use amongst intenders revolve around issues pertaining agency to access sources for obtaining modern contraceptive methods. These issues can easily be addressed through community health workers who often function as a bridge between MWRA with need and the family planning service providers. Moreover, community health workers can also play a critical role in reaching out to non-intenders and

converting them into intenders and subsequently, users. MWRA in this cadre of demand are at the highest risk as these women report a need for modern contraception, however, since they are not using, they are at risk of unintended pregnancies and unsafe abortions. This approach segmented unmet need into intenders and non-intenders and explored their reasons for non-use, and the results can inform specific social and behavior change communication strategies and messages for converting these intenders and non-intenders into future contraceptive users.

Psychosocial Determinants of Intention

Studies have consistently reported Attitude to be the strongest predictor of intention to use (4,5,17). As mentioned earlier, attitude has been theorized to encompass cognitive and affective dimensions. Cognitive dimension of attitude in the context of family planning underpin beliefs around the effectiveness of family planning and concerns around side-effects while the affective dimension captures the individual's emotional reaction towards the idea of using modern methods such as fear and embarrassment (5). Studies have shown that women who hold positive beliefs around the effectiveness of modern contraceptive methods are likely to report higher intention to use modern methods in the future (2,5,23). Conversely, those individuals who report greater concerns around side-effects or exhibit negative emotional reactions towards the idea of using modern contraception are less likely to report positive beliefs around the effectiveness of contraception and are more likely to report lower intention (5,24).

Perceived or subjective norm is a unique predictor of intention as it behaves differently in different contexts. Perceived norm in the context of family planning refers to the individuals' perception of others' beliefs and usage of modern contraception, particularly key stakeholders such as the husband, mother-in-law, and neighboring women (5). In Western contexts with individualistic ideals and societal structures, perceived norm directly predicts intention, however, in Eastern contexts with more collectivist structures, perceived norm's relationship is often either completely or partially mediated by attitude and personal agency (4,5,25). Studies in Pakistan have found similar findings whereby attitude and personal agency is determined by perceived norm i.e., if individuals perceived the norm to be favorable around a behavior, they are more likely to have a positive attitude towards that behavior and also have greater agency to perform that behavior (4,5,25). Hence, family planning programs that utilize community-based interventions and specifically engage husbands and mothers-in-law are more likely to report better intention scores and contraceptive use (5,26,27).

Personal agency, as mentioned earlier, in the latest theoretical iteration of the reasoned-action theories is composed of perceived control and self-efficacy. Both of these constructs independently and combined are critical predictors of intention and behavior directly, in low volitional settings. Increased self-efficacy and reduction in barriers such as cost and distance,

reflected by perceived control result in increased intention (14,28,29).

Implications for Family Planning Programs

Integration of intention into family planning programmes at all levels can significantly improve the effectiveness of the program. At the program design and development stage, intention to use family planning amongst non-users captured through DHS and PMA surveys can be used for psychographic segmentation of women into intenders and non-intenders; this segmentation can inform distinct social and behavior change communication strategies to improve contraceptive uptake in these groups (12,22,25,30). Additionally, MICS and any other population-based surveys focusing directly or indirectly on family planning outcomes should also incorporate intention as a measure (22,30). Programs utilizing intention for monitoring and evaluation should also focus on its psychosocial determinants as well to identify underlying reasons particularly for low intention, and adapt and tailor the intervention accordingly to address the specific determinant. For instance, if a cohort reports low attitude, then it requires communication messaging focusing on the benefits of using modern contraception or through value clarification exercises from a health worker to alleviate concerns around side-effects. If a cohort reports low scores for perceived norm, then community-based adaptations to the intervention are required to improve the normative environment overall. Lastly, if a cohort reports low scores for personal agency, then scaling up of outreach and voucher programs can be considered to reduce mobility and financial concerns, respectively. Alignment of family planning programs with the psychosocial determinants of intention can make family planning programs being more effective reaching their target populations and improve sustained use of modern contraception

Conclusion

Intention to use modern contraception is a theoretically driven measure and is a robust predictor of modern contraceptive uptake as it explains greater variance compared to traditional unmet need indicators across diverse contexts. Using the theoretical lens of reasoned-action theories allows for greater extrapolation of the underlying factors (attitude, perceived norm, and personal agency) behind intention. These theoretical frameworks can be adapted to diverse cultural contexts for implementation and validation. Embedding measures of intention and its psychosocial determinants can significantly reduce the intention-behavior gap by informing family planning programmatic design, monitoring, and evaluation.

Ethical Approval:

The study protocol was reviewed and approved by the Research Ethics Committee of Research and Development Solutions (RADS)

Ref: No. RADS/IRB-GSM/26-11-2024/067) Date: 26-11-2024

Data Availability: Data supporting the findings are available upon reasonable request.

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Authors' Contribution:

All Authors: Design, analysis, writing of the manuscript, final review

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