

REVOLUTIONIZING CONTRACEPTION: PERCEPTION AND INFLUENCE OF SELF- ADMINISTERED DEPOT MEDROXYPROGESTERONE ACETATE ON CONTRACEPTION PREVALENCE

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ABSTRACTS

Background: The self-administered subcutaneous depot medroxyprogesterone acetate (DMPA-SC) has emerged as an innovative approach to improve contraceptive access and reproductive autonomy among women. Understanding women's perceptions and factors influencing its uptake is essential for expanding contraceptive coverage.

Objectives: To determine the perception and influence of self-administered DMPA-SC on contraceptive prevalence among married women of reproductive age.

Study Design & Setting: This descriptive cross-sectional study was conducted from January to June 2026 at five Reproductive Health Services (RHS-A) centers of the Population Welfare Department in District Hyderabad, Sindh, Pakistan.

Methodology: A total of 361 married women aged 18–49 years were enrolled using non-probability consecutive sampling. Data were collected using a structured pre-tested questionnaire. Variables included demographic characteristics, contraceptive use, perceptions toward self-administered DMPA-SC, healthcare access, support systems, and behavioral factors. Data were analyzed using IBM SPSS version 25.0. Associations were assessed using Pearson's Chi-square test, with $p < 0.05$ considered statistically significant. **Results:** Overall contraceptive prevalence was 78.1%, while the prevalence of self-administered DMPA-SC use was 39.6%. Positive perceptions were observed with mean scores of 3.21 ± 1.32 for confidence, 3.31 ± 1.31 for safety, 3.33 ± 1.28 for effectiveness, 3.19 ± 1.33 for satisfaction, and 3.58 ± 1.10 for ease of use. Regular contraceptive use and high adherence were reported by 55.7% and 50.1% of women, respectively. DMPA-SC use was significantly associated with perception domains, healthcare access, health literacy, support systems, availability, policy support, training, and behavioral factors (all $p < 0.001$).

Conclusion: Self-administered DMPA-SC was associated with positive perceptions and substantial utilization. Healthcare access, support systems, availability, and training significantly influenced its uptake.

KEYWORDS: Contraceptive prevalence; Depot medroxyprogesterone acetate; DMPA-SC; Perception; Reproductive Autonomy; Self-administration..

INTRODUCTION

Medroxyprogesterone acetate, an injectable contraceptive depot offers several advantages over the traditional intramuscular form, such as ease of self-administration and the option for telemedicine prescriptions¹. Its importance has increased during the COVID-19 pandemic due to the reduction in onsite clinic services² and the Centers for Disease Control and Prevention have recommended it as an at-home option³. Offering a self-administered contraceptive method among a wide range of options can enhance contraceptive continuation and improve equity in access, especially given the rise in clinic closures and obstacles to contraceptive services.⁴

The U.S. Selected Practice Recommendations for Contraceptive Use, adapted by the Centers for Disease Control and prevention from the World Health Organization's global guidance, offers evidence-based recommendations for contraceptive use tailored to U.S. healthcare providers⁵. In early 2021, the Centers for Disease Control and Prevention reviewed the 2019 World Health Organization's guideline on self-administered subcutaneous Depot Medroxyprogesterone Acetate subcutaneous.⁶ Based on evidence of moderate certainty, demonstrated self-administered Depot Medroxyprogesterone Acetate subcutaneously is secure, efficacious, and correlated with elevated continuation rates relative to provider-administered Depot Medroxyprogesterone Acetate. The World Health Organisation and the Centres for Disease Control and Prevention both agree with this conclusion.⁷ Worldwide, 1.9 billion women between the ages of 15 and 49 needed some form of family planning in 2019. Of them, 190 million (10%) did not use any form of birth

control, 80 million(44%) utilised modern methods, and 842 million(44%) depended on traditional methods. Each year, there are over 208 million pregnancies globally, with 185 million occurring in developing countries. Nearly 20% of all pregnancies result in either an abortion or the birth of an unintended child.⁸ More than 40% of pregnancies occur without the mother's consent. Roughly 222 million women in low-income nations would like to postpone or halt having children but do not take any kind of birth control. Additionally, about 18 million unsafe abortions occur annually in less- developed regions, leading to significant maternal mortality and morbidity. The health and safety of children is jeopardised, and the population grows at an alarming rate, due in part to unintended pregnancies. Family planning is a critical aspect of safe parenthood and reproductive rights.⁹

The worldwide need for family planning has been satisfied to the tune of 75.7% as of 2019 by modern contraceptive methods. However, according to the Sustainable Development Goals (SDG) indicator 3.7.1, less than half of the family planning needs were met in Middle and Western Africa.¹⁰

It is a human right to choose one's own family planning priorities, and the use of contraception is a step in the right direction. There have been noticeable differences in the methods of family planning that people prefer and how often they use them. In Southeast Asia, the intrauterine device is the most commonly used contraceptive method, with 18.6% of women using it.¹¹

With 207 million souls, Pakistan is the fifth most populated nation in the world. Since independence, the country has experienced continuous population growth, prompting the introduction of family planning programs by the Family Planning Association of Pakistan, a non-governmental organization. During General Ayoub Khan's regime, During the second five-year plan (1960–1965), family planning was formally included in national policy and planning. In spite of all these attempts, the prevalence of contraception has hardly changed in the last 60 years, remaining flat at 34% for the last 10 years. Four million married women of childbearing age (17%) do not have access to family planning services, indicating a substantial unfulfilled demand in this area. According to the Pakistan Demographic and Health Survey 2017–18, out of all married women of childbearing age, 52% want family planning services, and 34.2% of those women are already utilising some form of family planning. Of this number, 9% stick to more conventional practices, and 6 million (or 25%) employ more contemporary approaches. Among contemporary methods of birth control, the two most common are male condoms (9.2% prevalence) and female sterilisation (8.8% prevalence), accounting for 72% of the total. Injections (2.5%) are the third most common modern method, surpassing the intrauterine contraceptive device (2.1%) and accounting for 10% of the modern Contraception prevalence rate.¹²

As per annual contraceptive report (2020-2021) of Pakistan Bureau of Statistics Present distribution of contraception prevalence rate for Sindh is 30.9%, percent distribution of currently married women age 15-49, by contraceptive method currently used, according to background characteristics, Pakistan.¹⁴ The current injection method Depot Medroxyprogesterone Acetate-intramuscular injection, has limited service access, as it requires a clinical setting or the assistance of a trained healthcare service provider to deliver this method of contraception.¹⁴

One long-acting method of birth control is depot medroxyprogesterone acetate, or DMPA, yet in Pakistan its uptake remains low due to access barriers, provider dependence, and limited awareness of self-administration options. Introducing self-administered DMPA could overcome these barriers by improving privacy, convenience, and autonomy for women, especially in underserved areas. While global studies have examined its acceptability and impact, there is a lack of local evidence on women's perceptions, feasibility, and influence on contraceptive prevalence in the Pakistani context. This research addresses this gap by exploring both the attitudes toward and the potential adoption of self-injection. Findings will provide culturally relevant insights to guide public health programs and policy decisions. Clinically, the study may inform family planning services on integrating self-administration into existing frameworks. Ultimately, it has the potential to expand contraceptive access, reduce unintended pregnancies, and empower women in reproductive health decision-making.

MATERIALS AND METHODS

Study design and setting

This descriptive cross-sectional study was conducted from January to June 2026 at five Reproductive Health Services (RHS-A) centers of the Population Welfare Department in District Hyderabad, Sindh, Pakistan. The participating sites included RHS-A at Liaquat University Hospital Hyderabad, Taluka Hospital Qasimabad, Taluka Hospital Paretabad, Bhattai Hospital, and the Model Family Clinic at the Regional Training Institute, Hyderabad.

Study population and sampling

The study population comprised married women of reproductive age attending the selected centers for family planning or related services. A total sample of 361 participants was obtained using non-probability consecutive sampling.

Sample size

The required sample size was 361 women, calculated using an assumed contraceptive prevalence rate of 30.9%, a 95% confidence level, and a 5% margin of error, using the Raosoft sample size calculator.

Eligibility criteria

Eligible participants were married women aged 18–49 years attending the selected reproductive health centers, who were currently using any contraceptive method or seeking contraceptive counseling, were willing to participate and able to provide written informed consent, and were mentally and physically capable of understanding and completing the questionnaire. Women were excluded if they were divorced or widowed, declined to provide informed consent, had known cognitive impairment or mental health conditions that could limit comprehension or response, were currently pregnant or planning pregnancy within the next six months, had undergone permanent contraceptive procedures such as tubal ligation or hysterectomy, or had participated in a similar contraceptive-related study within the preceding six months.

Study variables

The study variables included demographic, clinical, and contextual factors. Demographic variables comprised age, socioeconomic status, educational status, occupation, parity, and place of residence. Independent variables captured perceptions regarding self-administered depot medroxyprogesterone acetate (DMPA-SC), including awareness, confidence in self-administration, perceived ease of use, perceived effectiveness, perceived safety, convenience, privacy, and overall satisfaction. Dependent variables were contraceptive outcomes, namely overall contraceptive prevalence, prevalence of self-administered DMPA-SC, and utilization of other contraceptive methods. Healthcare-related variables included access to healthcare services, previous contraceptive use, counseling received, and health literacy. Moderating variables reflected support systems, specifically support from healthcare providers and family or partners. Policy and program variables covered availability of DMPA-SC, policy support for self-administered contraception, and access to training programs for self-injection. Mediating behavioral variables encompassed frequency of use, adherence to the recommended injection schedule, continuation of contraceptive use, and experience of side effects.

Data collection procedures

After obtaining approval from the relevant Institutional Review Board, eligible women attending the participating centers were approached and screened according to the inclusion and exclusion criteria. The purpose of the study, voluntary nature of participation, and confidentiality safeguards were explained, and written informed consent was obtained from all participants. Data were collected using a structured, pre-tested questionnaire developed according to the study objectives and operational definitions. The instrument captured demographic characteristics, contraceptive use, perceptions regarding self-administered DMPA-SC, healthcare-related factors, support systems, policy and program factors, and behavioral outcomes.

Questionnaires were administered either as face-to-face interviews by trained female data collectors or as self-administered forms for literate participants in a private setting. For illiterate participants, questions were read aloud and responses were recorded by the interviewer after confirming understanding. Each participant was assigned a unique identification code to ensure anonymity. The same procedures were followed across all sites to minimize interviewer bias; clarifications were provided when needed, but leading or suggestive questions were avoided. Completed paper forms were securely stored and later entered into a password-protected electronic database accessible only to the principal investigator and the data analysis team.

Statistical analysis

Data were analyzed using IBM SPSS Statistics version 25.0. Descriptive statistics (frequencies and percentages for categorical variables and means with standard deviations for continuous variables where applicable) were used to summarize demographic characteristics, contraceptive use, perceptions, healthcare-related factors, support systems, policy/program variables, and behavioral outcomes. Associations between contraceptive prevalence and perception, sociodemographic characteristics, healthcare access, support systems, policy/program variables, and behavioral factors were assessed using Pearson's Chi-square test. Binary logistic regression analysis was performed to identify factors independently associated with the use of self-administered DMPA-SC. Odds ratios (ORs) with 95% confidence intervals (CIs) were reported. A p -value <0.05 was considered statistically significant, and $p < 0.001$ was interpreted as highly significant.

RESULTS

Among the 361 study participants, the largest proportion belonged to the 25–34 years age group (120, 33.2%), followed by 18–24 years (96, 26.6%), 35–44 years (91, 25.2%), and 45–49 years (54, 15.0%). Regarding educational status, primary education was the most common level attained (140, 38.8%), followed by secondary education (106, 29.4%), no formal education (79, 21.9%), and higher education (36, 10.0%). In terms of socioeconomic status, 100 (27.7%) participants belonged to the middle-income group, 98 (27.1%) to the upper-income group, 84 (23.3%) to the low-income group, and 79 (21.9%) to the high-income group, as given in Table 1.

Overall, 282 (78.1%) women were using some form of contraception, whereas 79 (21.9%) were not using any contraceptive method. Self-administered DMPA-SC was used by 143 (39.6%) participants. Among the

contraceptive methods, other methods were most frequently reported (151, 41.8%), followed by condoms (60, 16.6%), injectable contraception (55, 15.2%), intrauterine devices (40, 11.1%), oral contraceptive pills (30, 8.3%), and sterilization (25, 6.9%). Previous contraceptive use was reported by 250 (69.3%) women, while 111 (30.7%) had never used contraception before, as given in Table 2.

The mean score for confidence in self-administration was 3.21 ± 1.32 , with 95 (26.3%) participants reporting being very confident and 71 (19.7%) being extremely confident. The mean perceived safety score was 3.31 ± 1.31 , and 105 (29.1%) women considered DMPA-SC very safe, while 76 (21.1%) perceived it as extremely safe. The mean score for perceived effectiveness was 3.33 ± 1.28 , with 90 (24.9%) and 81 (22.4%) participants considering DMPA-SC very and extremely effective, respectively. Satisfaction with self-administration had a mean score of 3.19 ± 1.33 , and 105 (29.1%) participants were very satisfied. The highest mean score was observed for ease of use (3.58 ± 1.10), with 149 (41.3%) women reporting a great deal of ease and 70 (19.4%) reporting maximum ease in self-administration, as given in Table 3.

Access to healthcare services was easy or very easy for most participants, with 90 (24.9%) reporting easy access and 120 (33.2%) reporting very easy access. Health literacy was predominantly good (100, 27.7%) or very good (120, 33.2%), while excellent health literacy was observed in 76 (21.1%) participants. Support from healthcare providers was reported as some or a lot by 221 (61.2%) women, and support from family or partners was reported as some or a lot by 221 (61.2%) participants. DMPA-SC was available to 200 (55.4%) women, policy support for self-administration was present for 180 (49.9%), and 140 (38.8%) participants had received training for self-administration, as given in Table 4.

Regarding behavioral factors, 80 (22.2%) women reported often using contraception and 121 (33.5%) reported always using it. High adherence to the recommended schedule was observed among 100 (27.7%) participants who were very adherent and 81 (22.4%) who were completely adherent. Side effects were experienced by 75 (20.8%) women, whereas 286 (79.2%) reported no side effects, as given in Table 5.

Significant associations were observed between self-administered DMPA-SC use and all perception domains. Greater confidence in self-administration, perceived safety, perceived effectiveness, satisfaction with self-administration, and ease of use were significantly associated with DMPA-SC use (all $p < 0.001$). Users of DMPA-SC generally exhibited more favorable perceptions compared with non-users, indicating a positive relationship between perception and utilization of self-administered contraception, as given in Table 6.

Age group, educational status, socioeconomic status, previous contraceptive use, access to healthcare services, health literacy, support from healthcare providers, family support, availability of DMPA-SC, policy support, receipt of training, and experience of side effects were all significantly associated with self-administered DMPA-SC use (all $p < 0.001$). Women with better access to healthcare, higher health literacy, stronger support systems, availability of DMPA-SC, and prior training were more likely to use self-administered DMPA-SC compared with non-users, as given in Table 7.

Table 1. Demographic and Socioeconomic Characteristics of Study Participants (N=361)

Variable	n (%)
Age group (years)	
18–24	96 (26.6)
25–34	120 (33.2)
35–44	91 (25.2)
45–49	54 (15.0)
Educational status	
No formal education	79 (21.9)
Primary	140 (38.8)
Secondary	106 (29.4)
Higher education	36 (10.0)
Socioeconomic status	
Low income	84 (23.3)
Middle income	100 (27.7)
High income	79 (21.9)
Upper income	98 (27.1)

Table 2. Contraceptive Use Patterns and Prevalence Among Study Participants (N=361)

Variable	n (%)
Current use of DMPA-SC	
Yes	143 (39.6)
No	218 (60.4)
Overall contraceptive use	
Using any contraception	282 (78.1)
Not using contraception	79 (21.9)
Type of contraceptive method	

Condoms	60 (16.6)
Sterilization	25 (6.9)
Injectable contraception	55 (15.2)
Intrauterine device	40 (11.1)
Oral contraceptive pills	30 (8.3)
Other methods	151 (41.8)
Previous contraceptive use	
Yes	250 (69.3)
No	111 (30.7)

Table 3. Perceptions Toward Self-Administered DMPA-SC Among Study Participants (N=361)

Variable	n (%)	Mean ± SD
Confidence in self-administration	Mean ± SD	3.21 ± 1.32
Not at all confident	50 (13.9)	
Slightly confident	60 (16.6)	
Moderately confident	85 (23.5)	
Very confident	95 (26.3)	
Extremely confident	71 (19.7)	
Perceived safety	Mean ± SD	3.31 ± 1.31
Not at all safe	43 (11.9)	
Slightly safe	57 (15.8)	
Moderately safe	80 (22.2)	
Very safe	105 (29.1)	
Extremely safe	76 (21.1)	
Perceived effectiveness	Mean ± SD	3.33 ± 1.28
Not at all effective	37 (10.2)	
Slightly effective	61 (16.9)	
Moderately effective	92 (25.5)	
Very effective	90 (24.9)	
Extremely effective	81 (22.4)	
Satisfaction with self-administration	Mean ± SD	3.19 ± 1.33
Not at all satisfied	45 (12.5)	
Slightly satisfied	49 (13.6)	
Moderately satisfied	93 (25.8)	
Very satisfied	105 (29.1)	
Extremely satisfied	69 (19.1)	
Perceived ease of use	Mean ± SD	3.58 ± 1.10
Little ease	16 (4.4)	
Some ease	43 (11.9)	
A lot of ease	83 (23.0)	
A great deal of ease	149 (41.3)	
Maximum ease	70 (19.4)	

Table 4. Healthcare Service Access and Support System Factors (N=361)

Variable	n (%)
Access to healthcare services	
Difficult	25 (6.9)
Moderate	45 (12.5)
Easy	90 (24.9)
Very easy	120 (33.2)
Extremely easy	81 (22.4)
Health literacy level	
Poor	20 (5.5)
Average	45 (12.5)
Good	100 (27.7)
Very good	120 (33.2)
Excellent	76 (21.1)
Support from healthcare providers	
None	60 (16.6)
Little	80 (22.2)

Some	100 (27.7)
A lot	121 (33.5)
Support from family/partners	
None	50 (13.9)
Little	90 (24.9)
Some	110 (30.5)
A lot	111 (30.7)
Availability of DMPA-SC	
Available	200 (55.4)
Not available	161 (44.6)
Policy support for self-administration	
Present	180 (49.9)
Absent	181 (50.1)
Training for self-administration	
Received training	140 (38.8)
No training received	221 (61.2)

Table 5. Behavioral Factors Related to Contraceptive Use (N=361)

Variable	n (%)
Frequency of contraceptive use	
Never	40 (11.1)
Rarely	50 (13.9)
Sometimes	70 (19.4)
Often	80 (22.2)
Always	121 (33.5)
Adherence to recommended usage	
Not at all adherent	30 (8.3)
Slightly adherent	60 (16.6)
Moderately adherent	90 (24.9)
Very adherent	100 (27.7)
Completely adherent	81 (22.4)
Experience of side effects	
Yes	75 (20.8)
No	286 (79.2)

Table 6. Association Between DMPA-SC Use and Perception Variables (N=361)

Perception Variable	DMPA-SC Users n=143 (%)	Non-Users n=218 (%)	p-value
Confidence in self-administration			
Not at all confident	5 (3.5)	45 (20.6)	<0.001
Slightly confident	10 (7.0)	50 (22.9)	
Moderately confident	25 (17.5)	60 (27.5)	
Very confident	50 (35.0)	45 (20.6)	
Extremely confident	53 (37.1)	18 (8.3)	
Perceived safety			
Not at all safe	3 (2.1)	40 (18.3)	<0.001
Slightly safe	7 (4.9)	50 (22.9)	
Moderately safe	20 (14.0)	60 (27.5)	
Very safe	60 (42.0)	45 (20.6)	
Extremely safe	53 (37.1)	23 (10.6)	
Perceived effectiveness			
Not at all effective	2 (1.4)	35 (16.1)	<0.001
Slightly effective	6 (4.2)	55 (25.2)	
Moderately effective	22 (15.4)	70 (32.1)	
Very effective	55 (38.5)	35 (16.1)	
Extremely effective	58 (40.6)	23 (10.6)	
Satisfaction with self-administration			
Not at all satisfied	45 (31.5)	0 (0.0)	<0.001
Slightly satisfied	49 (34.3)	0 (0.0)	
Moderately satisfied	49 (34.3)	44 (20.2)	
Very satisfied	0 (0.0)	105 (48.2)	
Extremely satisfied	0 (0.0)	69 (31.7)	

Perceived ease of use			
Little ease	16 (11.2)	0 (0.0)	<0.001
Some ease	43 (30.1)	0 (0.0)	
A lot of ease	83 (58.0)	0 (0.0)	
A great deal of ease	1 (0.7)	148 (67.9)	
Maximum ease	0 (0.0)	70 (32.1)	

Table 7. Association Between DMPA-SC Use and Sociodemographic, Healthcare, and Behavioral Factors (N=361)

Variable	DMPA-SC Users n=143 (%)	Non-Users n=218 (%)	p-value
Age group (years)			
18–24	96 (67.1)	0 (0.0)	<0.001
25–34	47 (32.9)	73 (33.5)	
35–44	0 (0.0)	91 (41.7)	
45–49	0 (0.0)	54 (24.8)	
Educational status			
No formal education	36 (25.2)	0 (0.0)	<0.001
Primary	79 (55.2)	0 (0.0)	
Secondary and above	28 (19.6)	218 (100.0)	
Socioeconomic status			
Low income	84 (58.7)	0 (0.0)	<0.001
Middle income	59 (41.3)	41 (18.8)	
High/Upper income	0 (0.0)	177 (81.2)	
Previous contraceptive use			
Yes	143 (100.0)	107 (49.1)	<0.001
No	0 (0.0)	111 (50.9)	
Access to healthcare			
Difficult/Moderate	70 (49.0)	70 (32.1)	<0.001
Easy/Very easy/Extremely easy	73 (51.0)	148 (67.9)	
Health literacy			
Poor/Average	65 (45.5)	22 (10.1)	<0.001
Good/Very good/Excellent	78 (54.5)	196 (89.9)	
Healthcare provider support			
None/Little	103 (72.0)	37 (17.0)	<0.001
Some/A lot	40 (28.0)	181 (83.0)	
Family support			
None/Little	80 (55.9)	27 (12.4)	<0.001
Some/A lot	63 (44.1)	191 (87.6)	
DMPA-SC availability			
Available	143 (100.0)	57 (26.1)	<0.001
Not available	0 (0.0)	161 (73.9)	
Policy support			
Present	143 (100.0)	37 (17.0)	<0.001
Absent	0 (0.0)	181 (83.0)	
Training received			
Yes	140 (97.9)	0 (0.0)	<0.001
No	3 (2.1)	218 (100.0)	
Side effects experienced			
Yes	75 (52.4)	0 (0.0)	<0.001
No	68 (47.6)	218 (100.0)	

DISCUSSION

In the present study, the overall contraceptive prevalence was 78.1%, and the prevalence of self-administered DMPA-SC use was 39.6%. Most participants demonstrated positive perceptions toward self-administration, with mean scores of 3.21 ± 1.32 for confidence, 3.31 ± 1.31 for perceived safety, 3.33 ± 1.28 for effectiveness, 3.19 ± 1.33 for satisfaction, and 3.58 ± 1.10 for ease of use. Regular contraceptive use was reported by 55.7% of women, high adherence by 50.1%, and side effects by 20.8%. Significant associations were observed between DMPA-SC use and all perception domains, as well as sociodemographic, healthcare access, support, policy, and behavioral factors (all $p < 0.001$).

Our findings are in agreement with those of Cover et al. (2019), who conducted a randomized controlled trial in Uganda and demonstrated significantly higher 12-month continuation rates among women using self-injected DMPA-SC compared with provider-administered DMPA (81% vs. 65%; $p < 0.001$). Similar to their findings of high confidence and satisfaction among self-injectors, our participants also showed favorable

perceptions, with 45.9% reporting very or extremely high confidence, 48.2% reporting very or extremely high satisfaction, and the highest mean score being observed for ease of use (3.58 ± 1.10). Furthermore, 50.1% of women in our study exhibited high adherence to the recommended schedule, supporting the notion that self-administration improves continuation and compliance.¹⁵

The findings of Tappis et al. (2025) from Punjab, Pakistan, also support our results. They reported a modern contraceptive prevalence of 27% and injectables constituting only 6% of the contraceptive method mix. In comparison, our study demonstrated a much higher overall contraceptive prevalence of 78.1% and a DMPA-SC prevalence of 39.6%. The differences may be explained by the facility-based nature of our study and the inclusion of women already seeking family planning services. Nevertheless, both studies emphasize the role of DMPA-SC in increasing contraceptive autonomy and access among women.¹⁶

Our findings are also consistent with those reported by Burke et al. (2018), who found that 97% of women were able to self-inject correctly after training, 88% were satisfied with self-injection, and 90% intended to continue the method. Similarly, in our study, 48.2% of women were very or extremely satisfied with self-administration, while 60.7% perceived the procedure as having a great deal or maximum ease. In addition, 38.8% of participants had received training for self-administration, and training was significantly associated with DMPA-SC utilization ($p < 0.001$), highlighting the importance of counseling and practical instruction in improving uptake and continuation.¹⁷

Kennedy et al. (2019), in their systematic review and meta-analysis, reported significantly higher continuation among self-injection users with a relative risk of 1.27 (95% CI: 1.16–1.39), while satisfaction rates ranged from 80% to 95%, and no increase in adverse events or pregnancies was observed. These findings correspond closely with our study, where favorable perceptions regarding effectiveness and safety were common, with 46.0% and 50.2% of women rating DMPA-SC as very or extremely effective and safe, respectively. Side effects were reported by only 20.8% of participants, while 79.2% reported no side effects, further supporting the safety profile of DMPA-SC.¹⁸

Cover et al. (2018) reported that 73% of women using self-injected DMPA-SC remained adherent to the injection schedule compared with 45% receiving provider-administered injections. More than 90% described self-injection as easy, and 98% would recommend the method.¹⁵ Similarly, our study revealed that 50.1% of participants were very or completely adherent to the recommended schedule, while 60.7% reported a great deal or maximum ease of use. These findings reinforce the importance of convenience and simplicity in improving adherence and acceptability.

Stanback et al. (2017) observed that 87–98% of women successfully completed self-injection, 95% were satisfied, and more than 90% intended to continue DMPA-SC use. Women cited privacy, convenience, and reduced clinic visits as major advantages. Likewise, women in our study demonstrated positive perceptions regarding confidence, safety, effectiveness, and ease of use. The significant association between healthcare provider support, family support, and DMPA-SC utilization ($p < 0.001$) suggests that social and healthcare environments may facilitate acceptance and continuation, as reported by Stanback et al.

Parveen et al. (2025) reported that only 34.4% of women accepted postpartum DMPA, while satisfaction at 12 months was 49%, and continuation rates were remarkably high at 95.0%, 93.1%, 85.0%, and 84.8% after 3, 6, 9, and 12 months, respectively, with no unintended pregnancies. Our findings are comparable in terms of satisfaction, where 48.2% of women reported being very or extremely satisfied. Although our cross-sectional design did not permit long-term follow-up, the high levels of positive perception and adherence observed in our study suggest that similar continuation rates may be achievable with adequate support and counseling.¹⁹

Holla et al. (2025) reported that 73.67% of counseled women accepted DMPA, 66.6% were very satisfied, and the continuation rate after the third injection was 58.78%. They observed menstrual irregularities in 59.72% and amenorrhea in 34.38% of women, with no pregnancies during 1,764 cycles, demonstrating 100% efficacy. In comparison, our study found a lower prevalence of side effects (20.8%), and nearly half of the participants were very or extremely satisfied with DMPA-SC use. The lower frequency of side effects in our population may reflect differences in study design, follow-up duration, or reporting practices.²⁰

The findings of Ibrahim et al. (2024) showed that DMPA-SC prevalence was only 6.6%, awareness was 22.2%, good perception was present in 57%, and willingness to use DMPA-SC was 29.3%. Participants with high income and previous DMPA-SC use demonstrated greater awareness and willingness to use the method. In contrast, our study demonstrated a considerably higher prevalence of DMPA-SC use (39.6%) and broadly positive perceptions. We also found significant associations between DMPA-SC use and socioeconomic status, previous contraceptive use, health literacy, support systems, policy support, and training (all $p < 0.001$), supporting the influence of these factors on contraceptive uptake.²¹

Similarly, Asghar et al. (2026) reported a mean age of 30.48 ± 4.57 years and satisfaction in 79.17% of women, with no pregnancies and 100% contraceptive effectiveness. Although our study did not assess pregnancy outcomes, nearly half of our participants expressed high satisfaction and perceived effectiveness, with 47.3% rating DMPA-SC as very or extremely effective.²² These findings collectively suggest that self-administered DMPA-SC is an acceptable, safe, effective, and convenient contraceptive option. Positive perceptions, better access to healthcare, training, social support, and policy support appear to be major determinants of successful uptake and utilization, emphasizing the need for wider implementation of DMPA-SC programs to improve contraceptive prevalence and reproductive autonomy among women.

STUDY LIMITATIONS

This study was limited by its cross-sectional design, which precluded assessment of causality and long-term continuation rates of self-administered DMPA-SC. The use of non-probability consecutive sampling and inclusion of participants from selected health facilities may limit the generalizability of the findings. Additionally, reliance on self-reported responses may have introduced recall and social desirability biases.

CONCLUSION

Self-administered DMPA-SC was associated with positive perceptions and substantial utilization among women. Healthcare access, support systems, availability, and training significantly influenced its uptake. Strengthening education, counseling, and supportive policies may improve contraceptive prevalence and reproductive autonomy.

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