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Real-World Effectiveness of Depot Medroxyprogesterone Acetate (DMPA): A Physician Survey on Failure Rates and Contributing Factors

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Abstract: Background:

Depot medroxyprogesterone acetate (DMPA) is a widely used contraceptive, but real-world data on its performance remain limited.

Objective:

This study evaluates physician-reported experiences with DMPA, focusing on failure rates, side effects, and prescribing trends.

Methods:

A cross-sectional survey of 34 obstetrician-gynecologists in Libya assessed: (1) contraceptive failure rates and causes, (2) side effect prevalence, (3) patient adherence behaviors, and (4) provider preferences. Quantitative data were analyzed descriptively; qualitative responses were thematically coded.

Results:

Failure rates: 61.8% of physicians reported 0–1% failure (consistent with perfect use), while 29.4% observed 2–3% failure (attributed to non-compliance [32.4%] and improper administration [29.4%]).

Side effects: Irregular bleeding affected 52.9% of users; 38.2% experienced multiple concurrent side effects. Discontinuation due to side effects occurred in 38.2% of cases.

Prescribing patterns: 50% of providers preferentially recommended DMPA for specific patients (e.g., those needing estrogen-free options), while 35.3% favored alternatives due to adherence challenges.

Conclusions:

While DMPA demonstrates high efficacy in ideal use, real-world effectiveness is compromised by adherence barriers and side effects. Targeted interventions—including improved provider training, patient counseling, and reminder systems—could optimize outcomes. These findings support individualized contraceptive counseling and underscore the need for accessible alternatives in clinical practice.

Key-words: DMPA, Contraceptive Failure, Adherence, Side Effect

Introduction

Contraceptive failure remains a significant global public health concern, contributing substantially to unplanned pregnancy rates worldwide [1]. This complex issue stems from multiple interrelated factors including method effectiveness, user adherence patterns, biological variability, and healthcare system limitations [1]. While modern contraceptives have advanced considerably, all methods carry some risk of failure due to inherent medical, behavioral, and systemic challenges [2]. Common causes of contraceptive failure include inconsistent use of daily oral pills, delayed administration of injectable contraceptives, and suboptimal postpartum contraceptive initiation [2].

Depot medroxyprogesterone acetate (DMPA), marketed as Depo-Provera, represents one of the most widely used long-acting reversible contraceptives (LARCs) globally [3]. Its intramuscular administration every 12-14 weeks offers distinct advantages over daily methods, particularly for patients seeking reliable, discreet, and low-maintenance contraception [3]. Clinical trials demonstrate near-perfect efficacy (<1% failure rate) with proper use, though real-world effectiveness varies considerably [4].

Several factors influence DMPA's real-world performance. Adherence challenges, particularly delayed or missed injections, represent the primary cause of reduced effectiveness [4]. Administration errors and biological factors including metabolic variability may further compromise contraceptive protection [4]. The method's side effect profile - including irregular bleeding (60-80% of users), weight gain (2-5 kg/year), and reversible bone mineral density changes - significantly impacts continuation rates [5-7].

DMPA's practical advantages have made it particularly valuable in resource-limited settings, accounting for 20-40% of contraceptive use in regions like Sub-Saharan Africa and South Asia [8]. Its quarterly administration schedule and minimal infrastructure requirements make it well-suited for delivery by community health workers in rural areas [8].

Aims of the study

This study examines physician-reported data to evaluate DMPA's practical performance, focusing on failure rates, side effects, and prescribing patterns. By analyzing real-world clinical experiences, we aim to identify key factors influencing DMPA's effectiveness and inform strategies to optimize contraceptive outcomes.

Methods

Survey Design

This study employed a structured questionnaire-based survey to evaluate prescribing patterns, failure rates, side effect prevalence, and patient adherence behaviors associated with DMPA. The survey was conducted among 34 Libyan practicing obstetricians and gynecologists (OB/GYNs) with experience in

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contraceptive management. The questionnaire was designed to collect quantitative and qualitative data, ensuring comprehensive insights into real-world clinical practices and patient outcomes in Libya.

Key Metrics and Data Collection

The structured questionnaire was divided into four primary categories, addressing essential aspects of DMPA use in clinical settings:

- **Prescription Frequency:** OB/GYNs were asked to report the frequency with which they prescribe DMPA, including factors influencing method selection, such as patient preference, contraindications to estrogen-based contraceptives, and institutional protocols.
- **Failure Rates and Causes:** Participants provided data on observed contraceptive failure rates, including documented cases of unintended pregnancy among DMPA users. Additional questions explored potential causes of failure, such as missed or delayed injections, metabolic variations, and improper administration techniques.
- **Side Effect Prevalence:** Physicians reported the most frequently observed side effects in DMPA users, such as irregular bleeding, weight gain, and bone mineral density loss. Data were collected on patient complaints, discontinuation rates, and physician recommendations for managing adverse effects.
- **Patient Adherence Behaviors:** OB/GYNs provided insights into patient adherence patterns, highlighting the rate of missed injections, reasons for non-compliance, and strategies used to improve adherence. Follow-up protocols, educational interventions, and appointment reminders were examined to understand their role in maintaining contraceptive efficacy.

Survey Administration and Ethical Considerations

The questionnaire was administered electronically, ensuring ease of participation and standardized data collection. Participants provided informed consent, and all responses were anonymized to maintain confidentiality and ethical integrity. Data analysis focused on identifying trends, correlations, and key factors affecting DMPA effectiveness in routine clinical practice.

Results

Failure Rates

The survey results on failure rates of DMPA indicated that the majority of physicians (61.8%) reported a low failure rate of 0–1%, consistent with controlled clinical trial findings that demonstrate DMPA's high efficacy when administered on schedule. This suggests that in structured healthcare environments, where patients adhere to timely reinjections and receive adequate contraceptive counseling, failure rates remain minimal.

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However, 29.4% of respondents reported a slightly higher failure rate of 2–3%, highlighting real-world challenges such as missed or delayed doses, patient non-compliance, and potential metabolic differences that could reduce effectiveness. This aligns with previous studies suggesting that adherence issues significantly impact the practical performance of injectable contraceptives.

A smaller proportion, 2.9%, observed failure rates of 4–5%, while 5.9% noted rates exceeding 5%, indicating that high-risk populations may experience increased failure rates due to inconsistent injection timing, improper administration, or physiological variations affecting drug metabolism. These cases emphasize the need for enhanced patient education, structured follow-up reminders, and alternative contraceptive options for individuals prone to non-adherence. (See Figure (1) for more details).

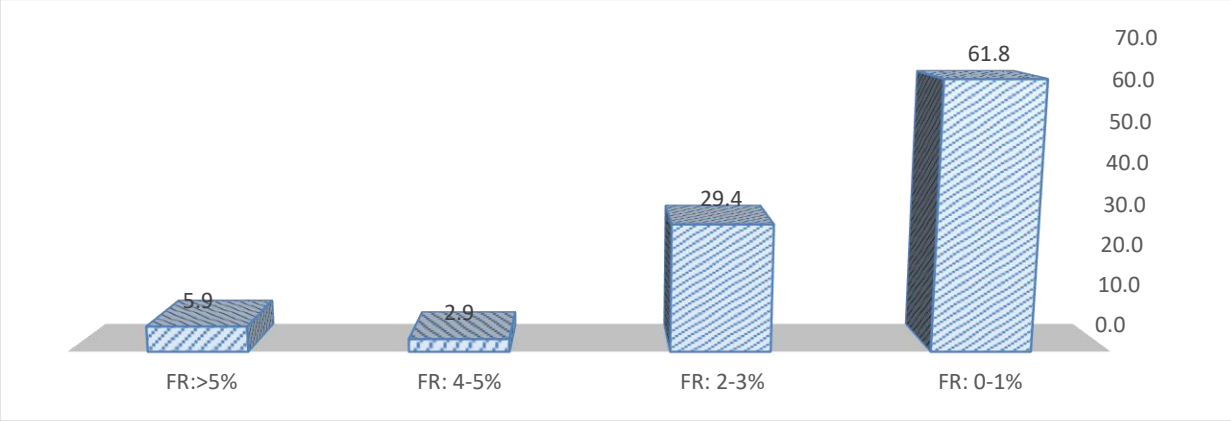

Fig (1): Failure rates of DMPA

Primary Causes of Failure

The survey findings highlight four primary reasons contributing to the failure of DMPA as a contraceptive method. Among the reported causes, patient non-compliance and miscellaneous factors each accounted for 32.4% of failures, making them the most significant contributors. Improper administration followed closely at 29.4%, while late injections were responsible for the lowest percentage at 8.8%.

1. Patient Non-Compliance (32.4%)

Non-compliance remains one of the leading factors affecting DMPA's effectiveness. Patients may miss their scheduled reinjection due to forgetfulness, lack of awareness about timing, or difficulty accessing healthcare facilities. Additionally, some individuals discontinue use prematurely due to side effects such as irregular bleeding or weight gain. These challenges underscore the need for enhanced patient education, appointment reminders, and potential alternatives for those struggling with adherence.

2. Miscellaneous Causes (32.4%)

The high percentage of failures attributed to "Other" causes suggests a range of individual patient factors, including drug metabolism variations, concurrent medication interference, or underlying medical

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conditions affecting hormonal absorption. Further investigation is required to identify specific patterns among these cases, which could inform strategies for tailoring contraceptive methods to different patient profiles.

3. Improper Administration (29.4%)

Errors in injection technique, dosage accuracy, or site selection account for nearly one-third of reported failures. Suboptimal administration may result in lower drug absorption, leading to insufficient contraceptive protection. These findings highlight the importance of standardized training for healthcare providers, quality assurance protocols, and routine administration monitoring to maintain DMPA's effectiveness.

4. Late Injections (8.8%)

While late reinjection accounts for the lowest percentage of failure cases, it remains a critical risk factor for unintended pregnancy. DMPA requires strict adherence to a 12–14-week schedule to ensure continuous contraceptive coverage. Even short delays can result in ovulation and increased pregnancy risk. Implementing structured reminder systems, mobile alerts, and flexible scheduling options could help reduce the occurrence of late injections. (See Figure (2) for more details).

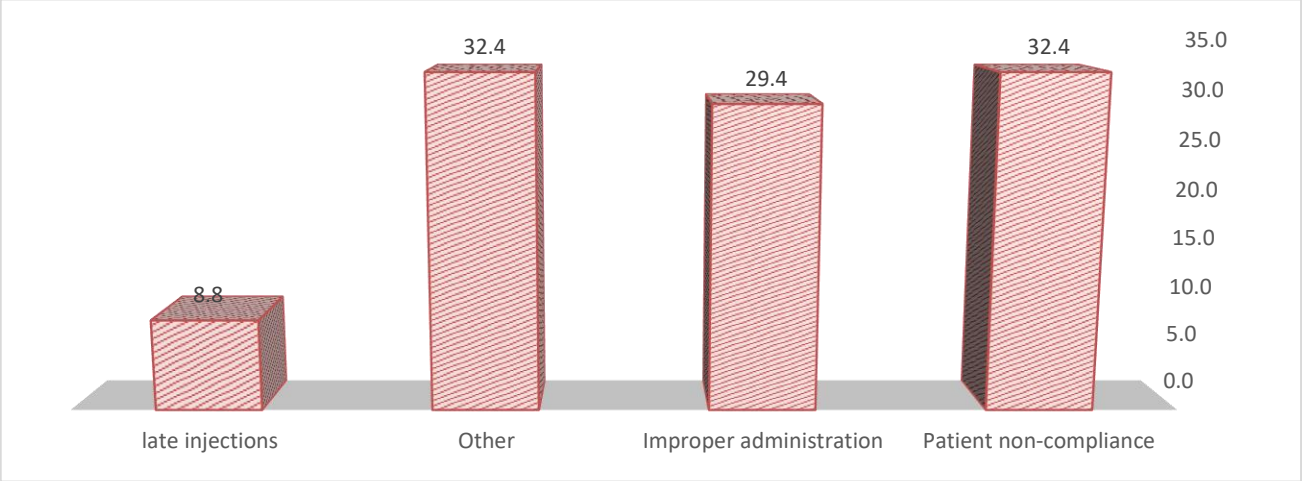

Fig (2) Causes of DMPA Failure

Recommendations for Reducing Failure Rates

- Enhance patient counseling on adherence and potential side effects.
- Develop automated scheduling reminders to reduce missed doses.
- Improve provider training to ensure proper administration techniques.
- Investigate metabolic variations to personalize contraceptive recommendations.

Analysis of Reported Side Effects of DMPA

The survey results indicated that the most frequently reported side effect among DMPA users was irregular

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bleeding, affecting 52.9% of patients. This aligns with existing research, which suggests that breakthrough bleeding and unpredictable menstrual patterns are among the most common concerns leading to discontinuation of DMPA [5]. Irregular bleeding can vary from prolonged spotting to heavier-than-expected cycles, often stabilizing over time but remaining a significant issue for many users.

Interestingly, 38.2% of respondents reported multiple side effects simultaneously, including weight gain, mood changes, and irregular bleeding, suggesting a cumulative impact on patient satisfaction and adherence. These combined side effects may influence the likelihood of discontinuation, especially in users experiencing severe or persistent symptoms.

Weight gain was cited by only 2.9% of participants, which contrasts with some studies that report higher prevalence rates [6]. While not universally observed, weight gain remains an important factor in contraceptive decisions, with some patients opting to discontinue DMPA in favor of alternatives with less metabolic impact.

Similarly, mood changes were reported by 2.9% of participants, suggesting that psychological effects of DMPA may not be as commonly perceived as irregular bleeding or weight gain. However, individual sensitivity to progestin can significantly vary, with some users reporting depression-like symptoms, mood swings, or anxiety [7]. (See Figure (3) for more details).

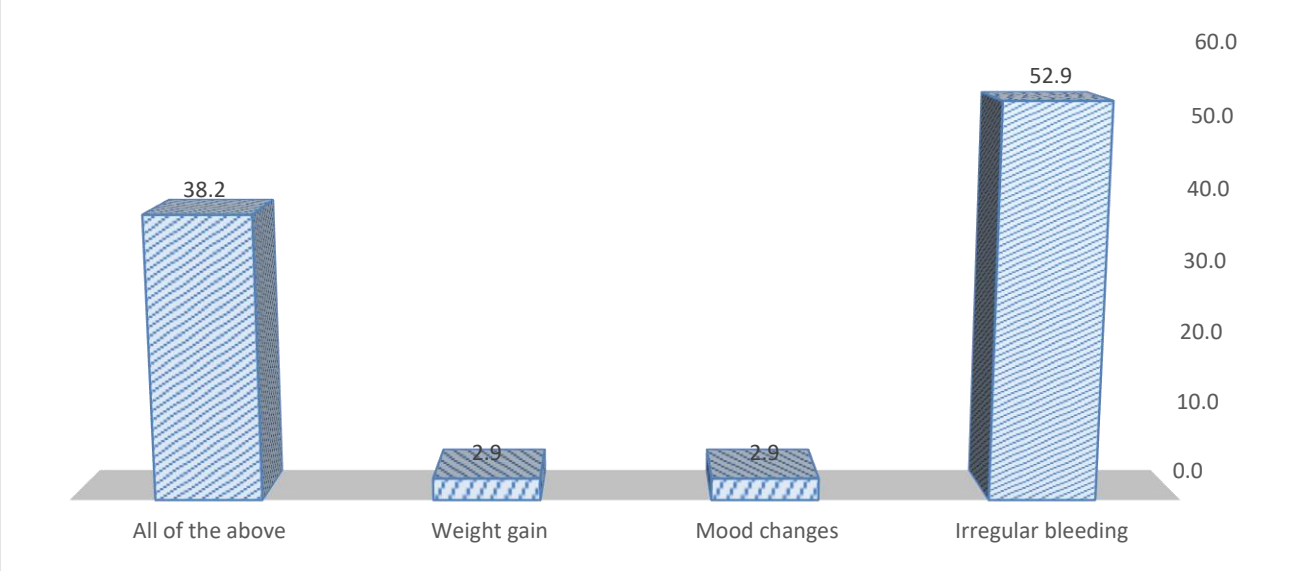

Fig (3) Common side effects of DMPA

Implications and Recommendations

- Irregular bleeding remains the leading cause of dissatisfaction, reinforcing the need for early counseling on expected menstrual changes.
- Patients experiencing multiple side effects may benefit from alternative contraceptive methods

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or symptom management strategies.

- Weight gain and mood changes are less frequently reported but should still be addressed during counseling to ensure informed decision-making.
- Further analysis of cumulative effects could provide insight into how overlapping symptoms influence adherence rates and potential discontinuation trends.

Analysis of Patient Responses to Side Effects

The survey results indicated varied patient responses when experiencing side effects from DMPA, with discontinuation being the most frequent reaction (38.2%). This suggests that side effects—particularly irregular bleeding and weight gain—are significant enough to prompt a substantial portion of users to stop using DMPA altogether, reinforcing the need for early counseling and alternative contraceptive options for those unable to tolerate these effects.

Following discontinuation, 32.4% of patients opted to switch methods, indicating that although side effects were bothersome, many preferred adjusting their contraception rather than abandoning birth control entirely. This emphasizes the importance of offering alternative contraceptives such as IUDsor implants, which may provide more predictable side-effect profiles while maintaining long-term efficacy.

Managing side effects accounted for 23.5% of responses, suggesting that some patients attempt to cope with symptoms rather than immediately discontinuing or switching contraceptive methods. These individuals may have received proactive counseling, medical interventions to regulate side effects, or reassurance that certain symptoms diminish over time. Strengthening educational efforts and providing supportive solutions—such as lifestyle modifications for weight concerns or medications to regulate bleeding—could improve adherence.

Notably, only 5.9% of participants reported no response, indicating that most patients actively react to side effects in some manner, rather than passively tolerating them. This reinforces the need for clinician involvement in contraceptive counseling, ensuring that patients are aware of expected symptoms and available coping mechanisms. (See Figure (4) for more details).

Key Insights and Recommendations

1. Discontinuation is the leading response (38.2%), highlighting the importance of early counseling and management strategies to prevent unnecessary contraceptive cessation.
2. Switching methods (32.4%) is a significant trend, suggesting that alternative contraceptive options should be readily available for dissatisfied users.
3. A substantial portion (23.5%) chooses to manage side effects, demonstrating the value of education and proactive interventions to support adherence.

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4. Only 5.9% of patients show no response, reinforcing the necessity for healthcare providers to actively address concerns and provide tailored contraceptive guidance.

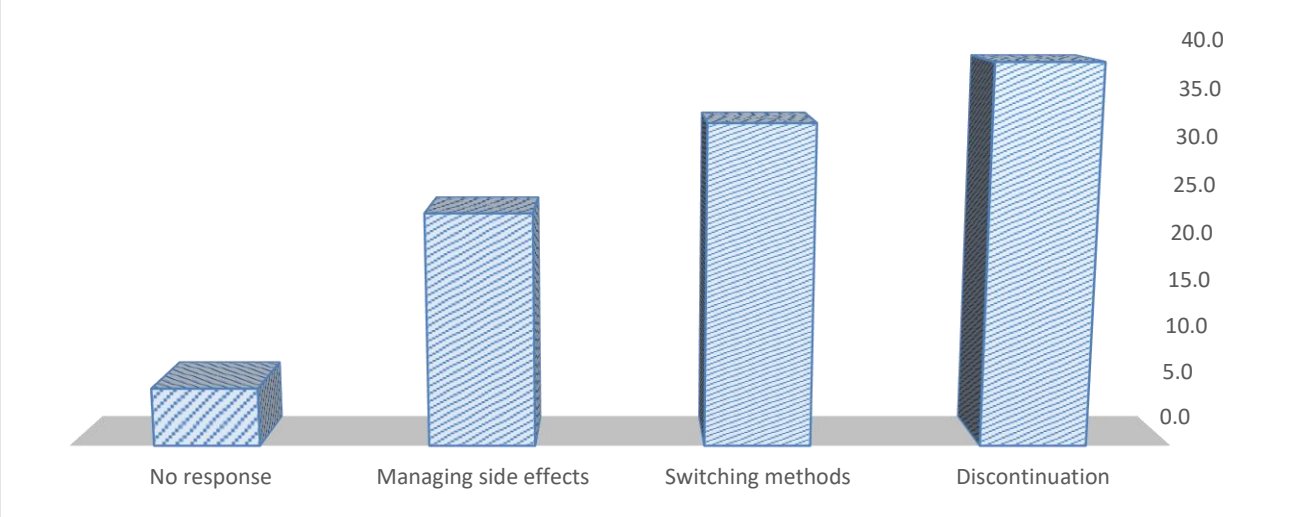

Fig (4) Patient Responses to Side Effects

Analysis of Doctors' Responses on the Effectiveness of DMPA

The survey results indicatedd diverse perspectives among doctors regarding the effectiveness of DMPA compared to other contraceptives. The largest proportion of respondents (40%) rated DMPA as equally effective, suggesting broad clinical agreement that when administered correctly and adhered to, DMPA provides consistent contraceptive efficacy comparable to other methods such as oral contraceptives or intrauterine devices (IUDs).

Additionally, 35% of doctors considered DMPA to be more effective than other contraceptive options. This perception may stem from DMPA's long-acting nature, eliminating the daily compliance issues associated with pills or the device-related complications seen with IUDs and implants. The confidence in its effectiveness could be tied to its low perfect-use failure rate (<1%) reported in clinical studies, reinforcing the idea that strict adherence leads to optimal protection against unintended pregnancy.

In contrast, a smaller proportion (15%) expressed uncertainty about DMPA’s effectiveness compared to other methods. This suggests that some doctors acknowledge variations in individual patient experiences, particularly regarding adherence issues, side effects, and metabolic differences, which could influence overall contraceptive success.

Notably, only 5% of respondents rated DMPA as less effective than other contraceptive methods. This minority view likely reflects concerns about higher typical-use failure rates (3–6%) due to missed reinjections, improper administration, or biological factors affecting drug metabolism. (See Figure (5).

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Key Insights and Implications

- The majority (75%) of doctors viewed DMPA as either equally or more effective than other contraceptive methods, reinforcing its clinical reliability and widespread use.
- Adherence remains a crucial factor, as typical-use failure rates can be higher in real-world settings due to late reinjections or patient non-compliance.
- Uncertainty about DMPA's effectiveness (15%) reflects the need for more comparative research and improved patient education on its advantages and limitations.
- Only 5% rated DMPA as less effective, suggesting strong overall confidence in its ability to prevent unintended pregnancies when used correctly.

Future Considerations

To maximize DMPA's effectiveness, healthcare providers may benefit from enhanced patient counseling, structured reinjection reminder systems, and comparative evaluations between DMPA and other long-acting methods like implants or IUDs.

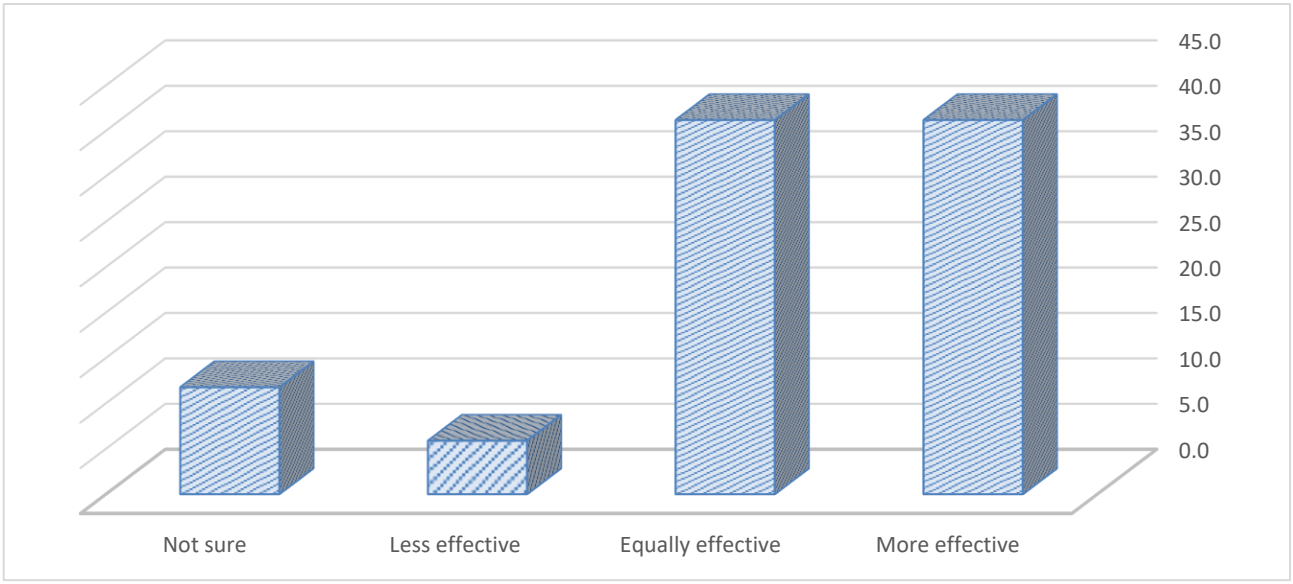

Fig (5) Effectiveness of DMPA according to doctors

Analysis of Doctors' Responses on DMPA Preference

The survey results indicated that half of the respondents (50%) prefer to recommend DMPA for certain patient profiles, demonstrating strong clinical confidence in its suitability for specific cases. This suggests that physicians recognize DMPA's advantages in long-term contraception, adherence benefits, and suitability for patients who may have contraindications to estrogen-containing contraceptives.

However, 35.3% of respondents stated that they do not prefer DMPA over other contraceptive methods, indicating that while effective, DMPA may not be the first-line recommendation for all patients. This

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could be due to concerns about adherence challenges, common side effects (such as irregular bleeding or weight gain), or the availability of alternative long-acting reversible contraceptives like IUDsor implants, which provide more predictable contraceptive coverage.

A smaller proportion (14.7%) expressed uncertainty, suggesting that some clinicians may require further research or clinical experience to determine which patient profiles benefit most from DMPA. This highlights the need for more comprehensive guidelines and comparative evaluations to assist healthcare providers in making informed, evidence-based recommendations. (See Figure (6) for more details).

Key Insights and Clinical Implications

- Half (50%) of doctors prefer recommending DMPA for specific patients, reinforcing its value in certain clinical scenarios.
- 35.3% do not prioritize DMPA, indicating concerns about adherence, side effects, or preference for alternative methods.
- 14.7% are uncertain, highlighting a need for clearer guidelines and more comparative research on DMPA's effectiveness in varied patient populations.
- Further investigation into patient selection criteria could improve personalized contraceptive counseling and optimize clinical outcomes.

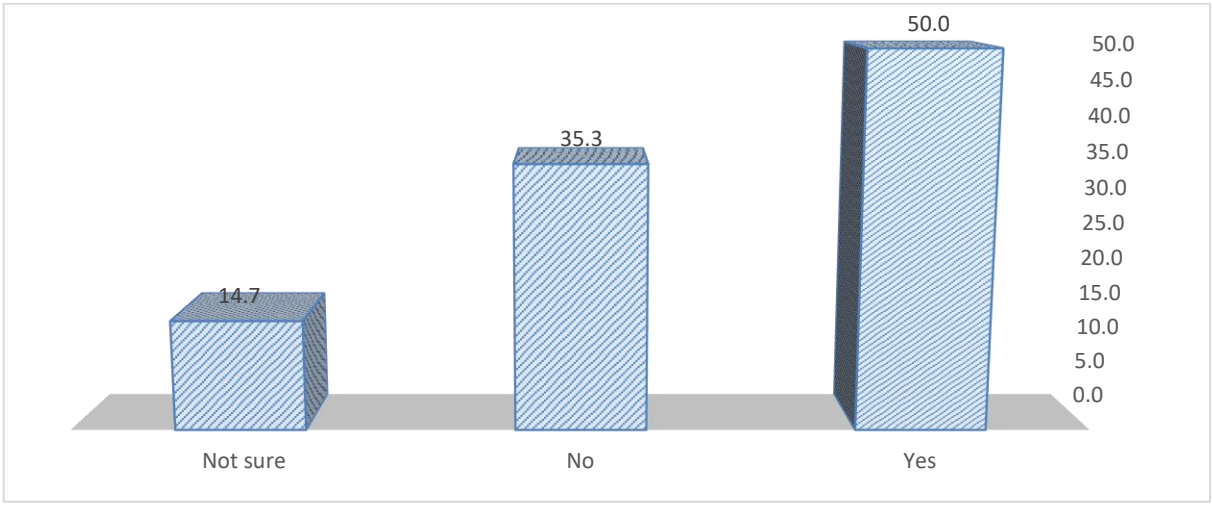

Fig (6) Doctors' Responses on DMPA Preference

Analysis of Doctors' Responses on the Key Advantages of DMPA

The survey results indicated that doctors recognize several key advantages of DMPA particularly its long-lasting effect as the most frequently cited benefit. 58.8% of respondents identified long duration as the primary advantage, highlighting the appeal of extended contraceptive protection without the need for daily adherence. This aligns with previous studies that emphasize DMPA's efficacy in reducing user burden compared to oral contraceptives or other short-term methods.

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Additionally, 23.5% of doctors highlighted convenience as a major benefit. This suggests that physicians appreciate the simplicity of the injection schedule, reducing frequent patient visits and offering a discreet, low-maintenance contraceptive option. This is especially valuable for individuals who may struggle with daily pill compliance or prefer a private birth control method.

While 8.8% of respondents identified low cost as the primary advantage, a smaller subset (2.9%) emphasized combinations of factors, such as long-lasting and convenient, or long-lasting and low cost. These responses suggest that some doctors view DMPA as not only effective but also accessible, making it a viable option for lower-income populations or healthcare systems aiming for cost-effective contraceptive solutions. (See figure (7) for more details)

Key Insights and Implications

- Long-lasting protection (58.8%) is the most valued feature, reinforcing DMPA's role as a low-maintenance, effective contraceptive choice.
- Convenience (23.5%) highlights patient adherence benefits, reducing the burden of frequent contraceptive management.
- Low cost (8.8%) is recognized as an advantage, making DMPA accessible for cost-sensitive demographics.
- Combination benefits (2.9%) indicated that some physicians see DMPA as a multi-faceted solution, addressing both effectiveness and affordability.

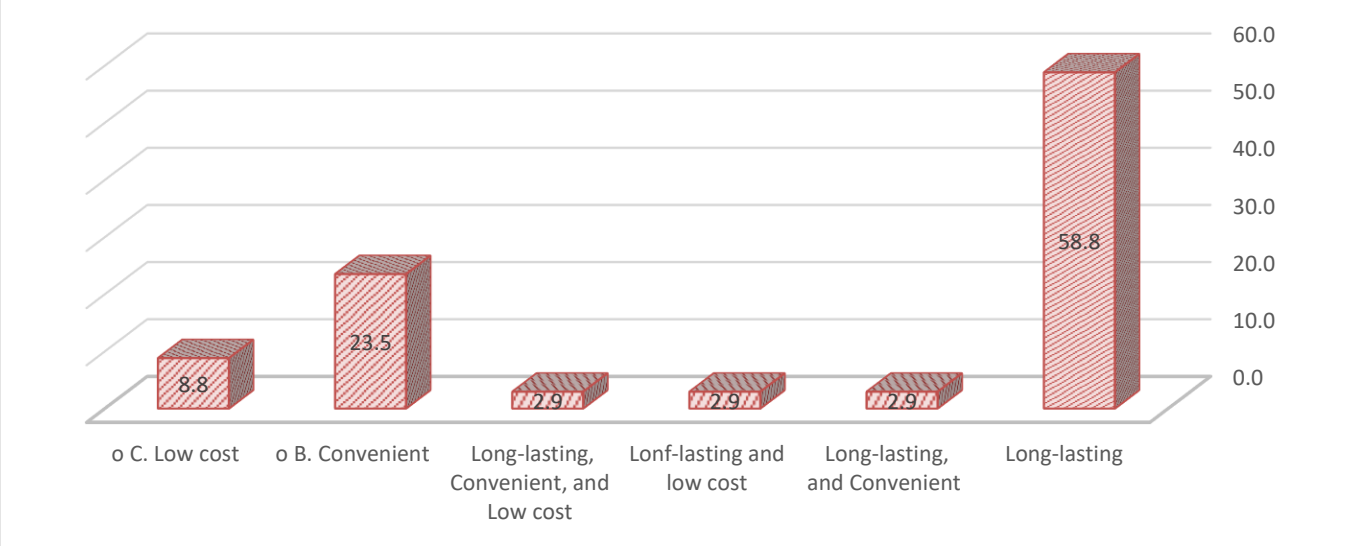

Fig (7) Doctors' Responses on the Key Advantages of DMPA

Clinical Considerations

The findings suggest that DMPA's extended duration and ease of administration are its most widely appreciated features. To maximize its benefits, healthcare providers may focus on enhancing patient

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education, improving reinjection adherence, and addressing concerns related to discontinuation due to side effects such as irregular bleeding or weight gain. Further comparisons with alternative contraceptive methods could offer insights into which patient populations benefit most from DMPA's advantages.

Analysis of Doctors' Responses on the Key Disadvantages of DMPA

Survey results highlighted that the most frequently cited disadvantage of DMPA was side effects, reported by 73.5% of respondents. This underscores the significant impact of irregular bleeding, weight gain, and bone mineral density loss, which often lead patients to discontinue use or seek alternative contraceptive methods. The high prevalence of side effects suggests that improved patient counseling and symptom management strategies may be necessary to enhance adherence and satisfaction with DMPA.

Additionally, 14.7% of doctors identified potential health risks as a concern. This likely refers to long-term effects such as bone mineral density reduction, which, while reversible after discontinuation, remains a key factor in contraceptive decision-making, especially for younger users or those with existing risk factors for osteoporosis. Further research and guidelines for prolonged use may help clarify best practices for minimizing long-term health consequences.

A smaller proportion, 5.9%, cited adherence issues, highlighting the challenge of ensuring timely reinjections every 12–14 weeks. Missed doses can significantly increase failure rates, reinforcing the need for structured follow-up and reminder systems to support patient compliance.

Finally, another 5.9% listed "Other" concerns, which may include individual patient responses, administration challenges, or healthcare system limitations affecting access to injections. This suggests the need for more tailored contraceptive solutions based on patient-specific needs and medical history. (Figure 8)

Key Insights and Clinical Implications

- Side effects (73.5%) remain the primary disadvantage, requiring better patient education and proactive management strategies.
- Potential health risks (14.7%) emphasize concerns about long-term effects, particularly bone mineral density loss.
- Adherence issues (5.9%) reinforce the need for improved reinjection scheduling and patient follow-up systems.
- Other concerns (5.9%) highlight individual variations in tolerance and accessibility, requiring more personalized contraceptive counseling.

Future Considerations

To address these concerns, healthcare providers may benefit from enhanced education on expected side

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effects, alternative contraceptive recommendations for high-risk patients, and improved adherence support mechanisms. Comparing DMPA's disadvantages with those of other contraceptive options could provide a more comprehensive framework for guiding patient decisions.

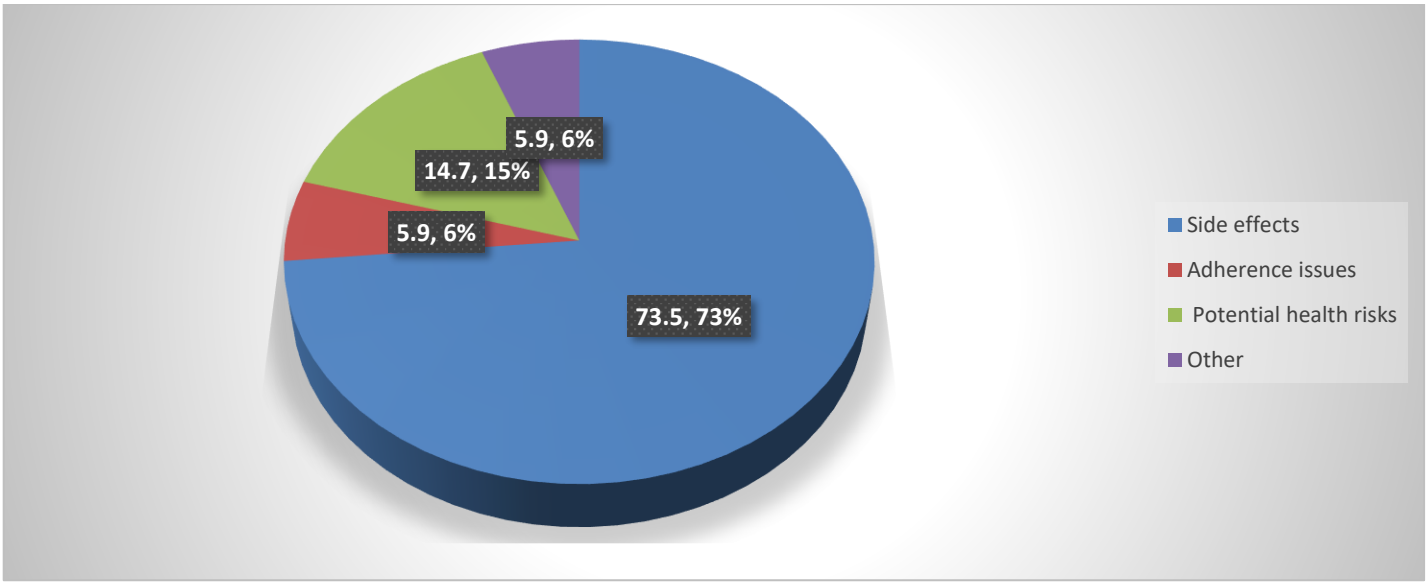

Fig (8) Doctors' Responses on the Key Disadvantages of DMPA

Analysis of Open-Ended Responses on DMPA Experiences

The responses provide valuable insights into doctors' practical experiences with DMPA highlighting both its benefits and challenges in clinical practice.

1. Effectiveness and Ease of Administration

Several respondents emphasized that DMPA is effective and easy to administer, reinforcing its value as a low-maintenance contraceptive option. Unlike daily pills, which require continuous adherence, DMPA's long-acting nature reduces user burden, making it a preferred choice for individuals who may struggle with daily contraceptive routines. This aligns with clinical evidence supporting its reliability when injections are received on time.

2. Fertility and Discontinuation Concerns

A recurring observation is delayed fertility return after stopping DMPA, with some respondents mentioning concerns about secondary infertility, particularly when used after age 35. While existing research suggests that ovulation typically resumes within 6–12 months post-discontinuation, individual variations exist, and some patients may experience longer delays. This perception reinforces the importance of patient counseling, ensuring users understand the potential timeline for fertility restoration.

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3. Musculoskeletal Side Effects

The mention of joint pain, particularly in the wrist and back, adds to the growing discussion about progestin-related effects on musculoskeletal health. While DMPA is well-documented for its temporary impact on bone mineral density (BMD), reports of joint discomfort highlight a need for further investigation into its broader skeletal effects and potential management strategies.

4. Weight Gain

Weight gain remains a significant concern among DMPA users, with multiple respondents identifying it as a frustrating side effect. While some studies indicated that weight gain is more pronounced in certain individuals, it is a well-recognized challenge that contributes to discontinuation rates. Patients experiencing substantial weight changes may benefit from dietary guidance, exercise recommendations, or alternative contraceptive methods with lower metabolic impact.

5. Irregular Bleeding and Poor Response to Treatment

Irregular bleeding was frequently cited, with some doctors noting that patients do not respond well to tranexamic acid or combined oral contraceptive (COC) pills for symptom control. This suggests limited success in managing breakthrough bleeding, potentially leading to dissatisfaction and discontinuation. In these cases, alternative counseling strategies or transitioning to hormonal IUDs or implants may be preferable for individuals seeking more predictable menstrual cycles.

6. Patient Irritability and Psychological Impact

Repeated injections every three months were identified as a source of frustration for some patients, with doctors observing irritability, distress, and dissatisfaction related to both the injection process and persistent spotting. This emotional and psychological burden may negatively affect adherence and should be acknowledged during contraceptive counseling. Providing structured reminders, reassurance, and addressing patient concerns proactively could enhance long-term satisfaction.

7. Suitability for Specific Patient Profiles

One respondent highlighted that DMPA is particularly useful for patients who may not remember to take daily pills, reinforcing its role in simplifying contraceptive adherence for individuals with busy lifestyles or forgetfulness.

8. Considerations for Older Women

One response suggested using DMPA after age 35 due to concerns about its potential link to secondary infertility. While long-term effects on fertility remain debated, this viewpoint highlights the cautious approach some clinicians take when prescribing injectable contraceptives to older patients. Further studies on DMPA's impact on ovarian function in different age groups could help refine prescribing

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recommendations.

Key Takeaways

- DMPA is widely valued for its effectiveness and ease of use, especially for patients struggling with daily adherence.
- Concerns about delayed fertility return post-discontinuation highlight the need for enhanced patient counseling.
- Musculoskeletal symptoms and weight gain contribute to dissatisfaction and may require additional management strategies.
- Persistent irregular bleeding unresponsive to standard treatments suggests the need for alternative contraceptive options in some cases.
- Patient frustration due to frequent injections and side effects may impact adherence, requiring greater psychological support.
- DMPA remains a strong choice for patients who struggle with daily pill compliance, but its use in older women warrants further discussion.

Discussion

Our physician survey findings both corroborate and extend existing knowledge about DMPA's real-world performance. Several key insights emerge from this analysis.

The reported failure rates show important divergence between ideal and typical use conditions. While 61.8% of physicians observed failure rates of 0-1% (consistent with clinical trial data [3]), 29.4% reported 2-3% failure rates, aligning with population studies documenting 3-6% failure rates under typical use [4]. This discrepancy primarily reflects adherence challenges, particularly inconsistent injection timing - a well-documented barrier to optimal effectiveness [4].

The side effect profile in our survey mirrors established literature but reveals important nuances. Irregular bleeding (reported by 52.9% of respondents) remains the predominant concern, consistent with clinical studies [5]. However, the relatively low reporting of weight gain (2.9% vs. 20-30% in some trials [6]) may reflect differences in patient populations or physician awareness. The substantial proportion of patients switching methods (32.4%) rather than abandoning contraception entirely supports the value of offering alternative LARCs, as demonstrated in large-scale implementation projects [9].

Our findings regarding prescribing patterns in developing countries complement recent global health analyses [8]. The 50% physician preference for DMPA in specific patient profiles reflects pragmatic clinical decision-making that balances the method's advantages against its limitations in resource-constrained settings.

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Three key clinical implications emerge:

1. Adherence support systems (e.g., mobile reminders, community-based delivery) could substantially improve effectiveness [4]
2. Method switching protocols should be readily available to maintain contraceptive coverage when side effects occur [2]
3. Enhanced counseling about expected bleeding patterns and weight management may improve continuation [5,6]

Study limitations include the modest sample size and potential recall bias inherent in physician surveys. Future research should incorporate larger, prospective designs with both provider and patient perspectives. Additional investigation is needed into strategies for managing side effects and improving adherence across diverse clinical contexts.

Conclusions

This physician survey provides critical insights into the real-world performance of DMPA, bridging the gap between clinical trial efficacy and practical implementation. While DMPA remains a highly effective contraceptive when used correctly, our findings highlight significant challenges—particularly adherence barriers and side effects—that contribute to variable effectiveness in typical use. The substantial proportion of patients who switch methods rather than discontinue contraception entirely underscores the importance of offering alternative LARCs as part of comprehensive family planning services.

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