

“A STUDY TO ASSESS THE TREATMENT-RELATED COMPLICATIONS AND SIDE EFFECTS EXPERIENCED BY WOMEN UNDERGOING INFERTILITY TREATMENT AT A SELECTED FERTILITY CENTRE”

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ABSTRACT

Introduction

Infertility is a common reproductive health problem that may require hormonal treatment, ovulation induction and assisted reproductive techniques. Although infertility treatment improves the possibility of conception, women may experience various treatment-related side effects and complications. Regular assessment is important for early identification and appropriate management of these problems.

Aims of the study

To assess the treatment-related side effects and complications experienced by women undergoing infertility treatment at a selected fertility centre.

Methodology

A quantitative research approach with a descriptive research design was adopted for the study. The study was conducted among 100 women undergoing infertility treatment at a selected fertility centre. Participants were selected using a non-probability purposive sampling technique. Data were collected using a structured tool consisting of demographic and clinical data, a treatment-related side-effect rating scale and a treatment-related complication checklist. The collected data were analysed using frequency, percentage and chi-square test.

Result

The findings revealed that 52 (52%) women experienced moderate treatment-related side effects, 28 (28%) experienced severe side effects and 20 (20%) experienced no or mild side effects. Abdominal bloating was the most commonly reported side effect, experienced by 72 (72%) women, followed by abdominal discomfort in 68 (68%) and fatigue in 64 (64%). Regarding complications, 66 (66%) women experienced at least one treatment-related complication, while 34 (34%) did not experience any complication. Severe abdominal/pelvic pain was the most frequently reported complication (15%), followed by ovarian hyperstimulation syndrome (12%) and excessive abdominal distension (10%). A statistically significant association was found between treatment-related side effects and type of treatment ($p=0.005$) and number of treatment cycles ($p=0.012$), while no significant association was found with age, type or duration of infertility.

Conclusion

The study concluded that treatment-related side effects and complications were commonly experienced by women undergoing infertility treatment. Systematic assessment, continuous monitoring, patient education, early recognition of warning signs and timely referral are essential for providing safe and supportive nursing care.

Keywords: Infertility, Infertility Treatment, Side Effects, Complications, Women

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INTRODUCTION

Infertility is a condition of the male or female reproductive system characterized by failure to achieve pregnancy after 12 months or more of regular unprotected sexual intercourse. It is a common reproductive health problem affecting millions of individuals worldwide and may result from female factors, male factors, combined factors or unexplained causes.¹ Infertility can have considerable physical, emotional and social consequences, and many women seek medical treatment to improve their chances of conception. Current fertility care includes medical management, ovulation induction, intrauterine insemination (IUI), in-vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI) and other assisted reproductive techniques.²

Although these treatments can improve reproductive outcomes, they may also produce various treatment-related side effects. Women may experience abdominal bloating, pelvic discomfort, headache, nausea, vomiting, breast tenderness, fatigue, mood changes and injection-site reactions during treatment.²

Among the important complications associated with ovarian stimulation is ovarian hyperstimulation syndrome (OHSS). It occurs when the ovaries respond excessively to pharmacological stimulation and may range from mild abdominal discomfort and bloating to severe complications involving fluid accumulation, haemoconcentration, electrolyte imbalance, thromboembolism, renal impairment and respiratory difficulties.³

Women undergoing assisted reproductive procedures may also experience procedure-related complications. Oocyte retrieval and other transvaginal procedures can be associated with pelvic pain, vaginal bleeding, infection or injury, while ovarian enlargement may increase the risk of ovarian torsion. Fertility treatment may also be associated with an increased risk of thromboembolic events in susceptible women.⁴ These potential complications emphasize the importance of careful clinical observation and timely intervention throughout the treatment process.

The current approach to fertility care emphasizes individualized assessment, appropriate selection of treatment and monitoring of women receiving fertility interventions. The National Institute for Health and Care Excellence (NICE) recommends evidence-based assessment and management of fertility problems and provides specific guidance regarding ovulation treatment, IUI, IVF and related procedures.⁵

NEED OF THE STUDY

Infertility treatment has become an important component of reproductive healthcare, with increasing use of ovulation induction, intrauterine insemination and assisted reproductive technologies. Although these treatments provide opportunities for conception, they may also place a considerable physical and emotional burden on women. A longitudinal study among women undergoing assisted reproductive technology found that their quality of life decreased during different stages of treatment, with women experiencing greater impact as treatment progressed.⁶

Women undergoing fertility treatment may experience various physical symptoms associated with hormonal stimulation and procedures. A study involving 1003 women receiving their first assisted reproductive treatment reported differences in physical and psychosocial well-being according to stimulation protocols, indicating that treatment itself can influence women's physical experience and everyday functioning.⁷

Treatment-related complications, although not always frequent, can sometimes be serious. Ovarian hyperstimulation and other complications associated with fertility treatment require appropriate observation and early recognition. Evidence from a large meta-analysis involving 50 cohort studies also demonstrated increased risks of several pregnancy-related complications among singleton pregnancies conceived through assisted reproductive technology.⁸

The burden associated with infertility treatment may also influence continuation of treatment. A systematic review of 22 studies involving 21,453 patients found that physical and psychological burden was among the important reasons for discontinuing fertility treatment.⁹ Another study of women who discontinued IVF reported that treatment-related stress was a major reason for stopping treatment, highlighting the importance of supportive care during fertility treatment.¹⁰

Therefore, systematic assessment of treatment-related side effects and complications is essential for identifying commonly experienced problems, recognizing warning signs at an early stage and providing appropriate nursing care. The present study is undertaken to assess the treatment-related complications and side effects experienced by women undergoing infertility treatment at a selected fertility centre. The findings may help nurses provide appropriate monitoring, health education, timely referral and supportive care to women throughout infertility treatment.

AIMS OF THE STUDY

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To assess the treatment-related side effects and complications experienced by women undergoing infertility treatment at a selected fertility centre.

METHODOLOGY

The present study will be conducted using a quantitative research approach with a descriptive research design to assess the treatment-related complications and side effects experienced by women undergoing infertility treatment at a selected fertility centre. The study will be conducted among women receiving infertility treatment who fulfil the predetermined inclusion criteria. A suitable sample size will be selected using a non-probability purposive sampling technique.

Data will be collected using a structured research tool consisting of three sections: Section I – Demographic and Clinical Data, including age, educational status, occupation, type and duration of infertility, type of infertility treatment, duration of treatment and number of treatment cycles; Section II – Treatment-Related Side-Effect Rating Scale, to assess the type and severity of side effects such as abdominal bloating, abdominal discomfort, pelvic pain, headache, nausea, vomiting, breast tenderness, fatigue, mood changes, dizziness, injection-site reactions and vaginal spotting; and Section III – Treatment-Related Complication Checklist, to identify treatment-related complications such as ovarian hyperstimulation syndrome, severe pelvic pain, excessive abdominal distension, abnormal vaginal bleeding, infection, ovarian torsion, fluid accumulation and other documented complications.

Content validity of the tool will be established by obtaining opinions and suggestions from experts in obstetrics and gynaecology, infertility nursing and research methodology, and necessary modifications will be incorporated. Reliability of the tool will be established using an appropriate reliability testing method, and a reliability coefficient of ≥ 0.70 will be considered acceptable. A pilot study will be conducted on a small group of participants to assess the feasibility and clarity of the tool. Prior to data collection, permission will be obtained from the concerned authority of the selected fertility centre, and ethical approval will be obtained from the institutional ethics committee.

The participants will be informed about the purpose and procedure of the study, and written informed consent will be obtained before participation. Confidentiality and anonymity of the participants will be maintained throughout the study. Data will be collected through direct interaction with the participants and review of relevant clinical information, as appropriate. The collected data will

be analysed using descriptive statistics such as frequency, percentage, mean and standard deviation, while appropriate inferential statistics such as the chi-square test or Fisher’s exact test will be used to determine the association between selected demographic and clinical variables and treatment-related side effects and complications.

RESULT

SECTION I: ANALYSIS OF DEMOGRAPHIC AND CLINICAL VARIABLES

Table 1: Distribution of women according to selected demographic and clinical variables

N=100

Variable	Frequency (f)	Percentage (%)
Age		
20–25 years	12	12
26–30 years	32	32
31–35 years	30	30
36–40 years	15	15
>40 years	11	11
Type of infertility		
Primary infertility	78	78
Secondary infertility	22	22
Duration of infertility		
<2 years	20	20
2–5 years	48	48
>5 years	32	32
Type of treatment		
Ovulation induction	28	28
IUI	25	25
IVF/ICSI	42	42
Other treatment	5	5

“A STUDY TO ASSESS THE TREATMENT-RELATED COMPLICATIONS AND SIDE EFFECTS EXPERIENCED BY WOMEN UNDERGOING INFERTILITY TREATMENT AT A SELECTED FERTILITY CENTRE”

Number of treatment cycles		
First cycle	45	45
Second cycle	30	30
Three or more cycles	25	25

Table 2: Item-wise distribution of treatment-related side effects

(N=100)

The findings revealed that the majority of women, 32 (32%), belonged to the age group of 26–30 years, followed by 30 (30%) in the age group of 31–35 years. Most women, 78 (78%), had primary infertility. Nearly half, 48 (48%), had experienced infertility for 2–5 years. Regarding treatment modality, 42 (42%) were undergoing IVF/ICSI, followed by 28 (28%) receiving ovulation induction and 25 (25%) undergoing IUI. Nearly half of the participants, 45 (45%), were undergoing their first treatment cycle.

SECTION II: FINDING RELATED TO WOMEN ACCORDING TO SEVERITY OF TREATMENT RELATED SIDE EFFECT.

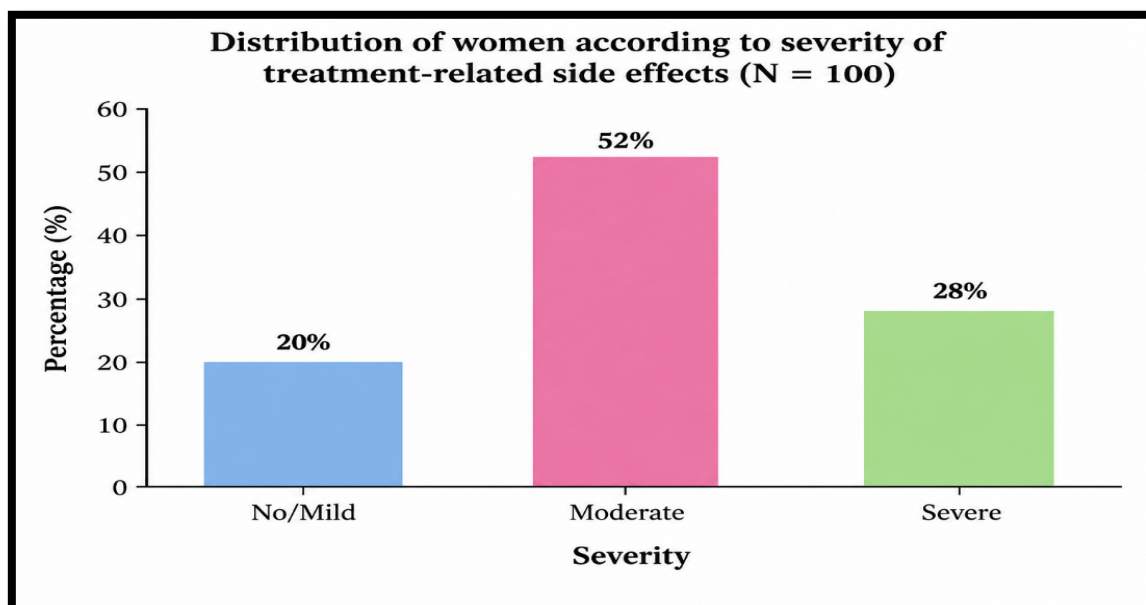


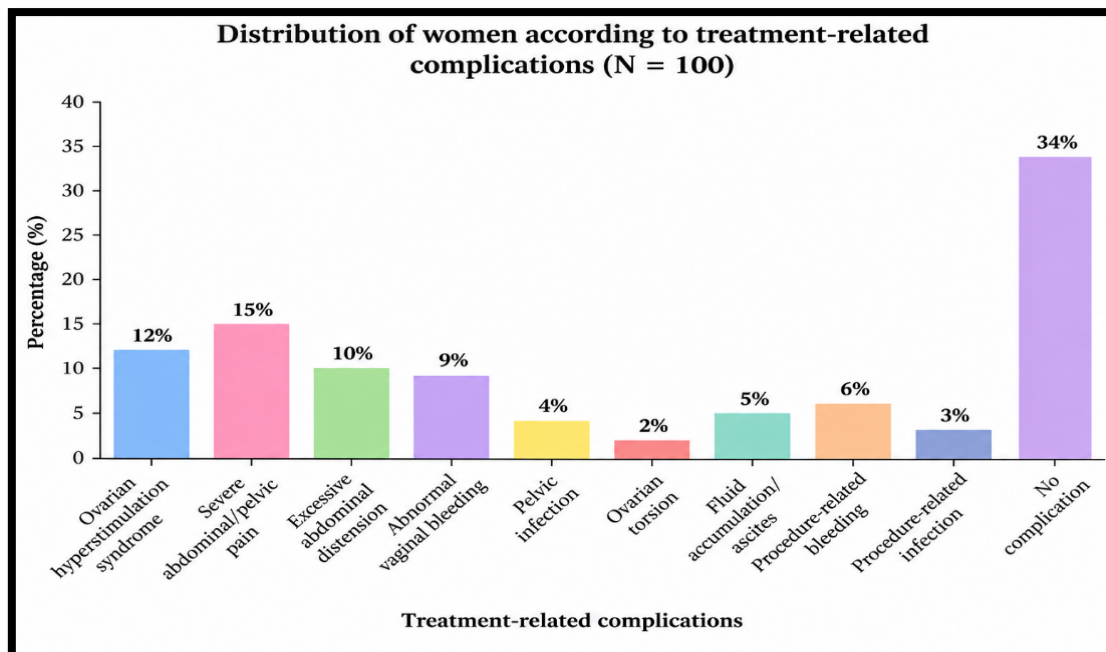
Figure no 1: Finding related to women according to severity of treatment related side effect

The findings revealed that the majority of women, 52 (52%), experienced moderate treatment-related side effects, followed by 28 (28%) who experienced severe side effects, while 20 (20%) experienced no or mild side effects. The findings indicate that treatment-related side effects were commonly experienced among the study participants.

Side effect	Frequency (f)	Percentage (%)
Abdominal bloating	72	72
Abdominal discomfort	68	68
Fatigue	64	64

“A STUDY TO ASSESS THE TREATMENT-RELATED COMPLICATIONS AND SIDE EFFECTS EXPERIENCED BY WOMEN UNDERGOING INFERTILITY TREATMENT AT A SELECTED FERTILITY CENTRE”

and 27 (27%) women, respectively. Vomiting was the least commonly reported side effect, occurring in 18 (18%) women.



Headache	56	56
Breast tenderness	54	54
Mood changes	51	51
Pelvic pain	48	48
Nausea	42	42
Injection-site pain	39	39
Vaginal spotting	32	32
Skin allergies	29	29
Dizziness	27	27
Vomiting	18	18

The item-wise findings revealed that abdominal bloating was the most commonly experienced side effect, reported by 72 (72%) women, followed by abdominal discomfort in 68 (68%) and fatigue in 64 (64%). Headache and breast tenderness were experienced by 56 (56%) and 54 (54%) women, respectively. Mood changes were reported by 51 (51%) participants, while pelvic pain was experienced by 48 (48%). Nausea and injection-site pain were reported by 42 (42%) and 39 (39%) women, respectively. Vaginal spotting was experienced by 32 (32%) participants, while skin allergies and dizziness were reported by 29 (29%)

SECTION III: FINDINGS RELATED TO DISTRIBUTION OF WOMEN ACCORDINGTOTREATMENT-RELATED COMPLICATIONS.

Figure no 2: Distribution of women according to treatment-related complications.

The findings showed that 66 (66%) women experienced at least one treatment-related complication, whereas 34 (34%) did not experience any complication. Severe abdominal/pelvic pain was the most frequently reported complication, affecting 15 (15%) women, followed by ovarian hyperstimulation syndrome in 12 (12%) and excessive abdominal distension in 10 (10%). Ovarian torsion was reported in 2 (2%) women, while procedure-related infection was observed in 3 (3%) women. These findings indicate that although some complications were relatively uncommon, treatment-related complications were present among a considerable proportion of participants.

SECTION IV: FINDING ON ASSOCIATION WITH SELECTED VARIABLES

The chi-square analysis revealed that there was no statistically significant association between treatment-related side effects and age ($\chi^2 = 5.214$, $p = 0.266$), type of infertility ($\chi^2 = 1.842$, $p = 0.175$) and duration of infertility ($\chi^2 = 4.967$, $p = 0.084$). However, a statistically significant association was found between treatment-related side effects and

“A STUDY TO ASSESS THE TREATMENT-RELATED COMPLICATIONS AND SIDE EFFECTS EXPERIENCED BY WOMEN UNDERGOING INFERTILITY TREATMENT AT A SELECTED FERTILITY CENTRE”

type of infertility treatment ($\chi^2 = 12.684$, $p = 0.005$) and number of treatment cycles ($\chi^2 = 8.921$, $p = 0.012$). This indicates that the type of treatment and repeated treatment cycles may influence the occurrence or severity of treatment-related side effects.

DISCUSSION

The present study was conducted using a quantitative approach and descriptive research design among 100 women undergoing infertility treatment at a selected fertility centre. Data were collected using a structured tool consisting of demographic and clinical data, a treatment-related side-effect rating scale and a treatment-related complication checklist.

The present study was conducted to assess the treatment-related complications and side effects experienced by women undergoing infertility treatment at a selected fertility centre. In the present study, the majority of women, 52 (52%), experienced moderate treatment-related side effects, followed by 28 (28%) who experienced severe side effects, while 20 (20%) experienced no or mild side effects. Item-wise findings revealed that abdominal bloating was the most commonly experienced side effect, reported by 72 (72%) women, followed by abdominal discomfort in 68 (68%) and fatigue in 64 (64%). Headache, breast tenderness and mood changes were also commonly reported. These findings indicate that hormonal stimulation and repeated fertility treatment may contribute to considerable physical discomfort among women.

The findings are supported by Toftager et al., who studied 1,023 women undergoing their first assisted reproductive technology treatment and reported differences in physical and psychosocial well-being according to ovarian stimulation protocols, demonstrating that fertility treatment can influence women's physical well-being.¹¹ In the present study, 66 (66%) women experienced at least one treatment-related complication, whereas 34 (34%) did not experience any complication. Severe abdominal/pelvic pain was the most frequently reported complication (15%), followed by ovarian hyperstimulation syndrome (12%) and excessive abdominal distension (10%). Less frequent complications included ovarian torsion (2%) and procedure-related infection (3%). The findings emphasize the importance of regular assessment and early identification of complications during infertility treatment.

CONCLUSION

Based on the findings of the present study, it can be concluded that treatment-related side effects and complications were commonly experienced by women undergoing infertility treatment. Among the 100 participants, the majority, 52 (52%), experienced moderate treatment-related side effects, while 28 (28%) experienced severe side effects. Abdominal bloating (72%), abdominal discomfort (68%), and fatigue (64%) were the most frequently reported side effects. Furthermore, 66 (66%) women experienced at least one treatment-related complication, with severe abdominal/pelvic pain, ovarian hyperstimulation syndrome, and excessive abdominal distension being the commonly observed complications.

The findings also demonstrated that treatment-related side effects were significantly associated with the type of infertility treatment and the number of treatment cycles, whereas no significant association was found with age, type of infertility, or duration of infertility. Overall, the study highlights the need for systematic assessment, continuous monitoring, early identification of warning signs, and appropriate nursing care for women undergoing infertility treatment. Nurses have an important role in providing health education, symptom management, emotional support, timely referral, and preventive care to reduce the burden of treatment-related problems and promote safer and more supportive infertility care.

DECLARATION BY AUTHORS:

Conflict of Interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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“A STUDY TO ASSESS THE TREATMENT-RELATED COMPLICATIONS AND SIDE EFFECTS
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CENTRE”

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