

Effect of Supportive Educational Guidelines about Hydatidiform Mole on Women's Knowledge, Satisfaction, Compliance with Treatment and Follow up.

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Abstract

The term "Hydatidiform Mole" refers to a group of abnormal gestations caused by villous trophoblastic associated with pregnancy. **Aim:** The present study aimed to evaluate the effect of supportive educational guidelines about hydatidiform mole on women's knowledge, satisfaction, compliance with treatment and follow up. **Design:** A quasi-experimental pre posttest design was utilized to achieve the aim of this study. **Setting:** The study was carried out at Hydatidiform Mole Outpatient Clinic at the Gynecological Hospital in Mansoura University Hospitals, Mansoura City, Dakahlia Governorate, Egypt. **Subjects:** A convenient sample of sixty women was divided into intervention and control groups each containing thirty women. **Tools:** A structured interviewing questionnaire schedule was used to assess socio-demographic women's characteristics, obstetric history, knowledge regarding hydatidiform mole, compliance with treatment and follow up as well as the satisfaction level among the intervention group. **Results:** In terms of general characteristics and obstetric history, there was no statistically significant difference between the studied groups. Nonetheless, statistically significant differences in all issues of hydatidiform mole knowledge were found between the studied groups. Furthermore, highly statistically significant differences were found among the intervention group regarding satisfaction level about supportive educational guidelines provided. **Conclusion:** Supportive educational guidelines about hydatidiform mole had a positive effect on women's knowledge, compliance with treatment and follow-up among the intervention group compared to control group. In addition, the intervention group was more satisfied with supportive educational guidelines. **Recommendation:** Applying supportive educational guidelines about hydatidiform mole should be a one of the routine hospital cares before and after evacuation.

Keywords: Compliance, Knowledge, Hydatidiform Mole, Supportive Educational Guidelines, Treatment.

Introduction

Gestational trophoblastic disease (GTD) is a condition characterized by a relentless autonomous excessive growth of embryonic chorionic tissue or trophoblast (**Sharami & Saffarieh, 2020**). Hydatidiform mole (HM), also known as molar pregnancy, is a type of GTN that has a chance of metastasizing after originating in the placenta. According to gross morphology, histopathology, and karyotype, HM is classified as a complete and partial mole and is generally considered as a non-invasive type of GTN (**Mittal & Menon, 2019 & Sarmadi, et. al., 2019**)

Geographic distribution affects prevalence of the gestational trophoblastic disease. Taiwan had the highest reported incidence of 1/125 live births, while Japan and

Southeast Asia had 2/1000 pregnancies, the United States had 1/1500, and Europe had 1/1000 (**Tse et. al., 2012**). However, if the products of conception is not routinely subjected to histological examination and a registry system is not developed, the molar pregnancy incidence may be underestimated (**Seckl et. al., 2010**). At Mansoura University Hospitals, the incidence of molar pregnancy and GTN is estimated to be 13.1 and 3.2 per 1000 live births, respectively. The complete pregnancy to partial mole ratio was 1.3 (**Zakaria et. al., 2020**).

Molar pregnancy risk factors include genetic, racial and extreme maternal age (**Gockley et. al., 2016 & Lurain, 2019**). In comparison to the risk for the 21–35-years old age group, the risk for complete mole is nearly twice as high for women younger than 21 and

older than 35 years, and 7.5 times higher for women over 40 years old. This suggests an increased risk of abnormal gametogenesis and fertilization of the ovum produced at the extreme of reproductive age. Prior molar pregnancy the risk of sporadic complete moles raises by tenfold, whereas familial clustering and recurrent moles are the norm in familial biparental recurrent moles genes (Fisher, Maher, 2021). Furthermore, dietary, and nutritional factors could increase the risk of hydatidiform mole (Candelier, 2016).

Hydatidiform moles are diagnosed during the first trimester of pregnancy (Cavaliere et al., 2009). The most common symptom of HM is vaginal bleeding. Also, there are accompanying symptoms, such as theca lutein ovarian cysts, hyperthyroidism, and excessive uterine enlargement, all are more common in a complete mole. Nonetheless, such conditions are far less common because frequent ultrasound scans allow for early detection. In females who want to keep their fertility, the retained products of conception are evacuated, preferably by suction curettage, to eliminate all trophoblastic tissue. The majority of such cases should be handled by this manner. However, in some females, HM persists and progresses to a malignant state requiring chemo-based treatment (Sato, et al., 2020).

Complete and partial hydatidiform moles are distinguished. The most common type is a complete mole, which contains no fetal parts, whereas a partial mole may contain detectable fetal residues. Partial moles are typically diploid, whereas complete moles are triploid. One of the main clinical features of this process is that complete moles tend to cause higher levels of human chorionic gonadotropin (HCG). The karyotype in complete moles is 46, XX 90% of the time and 46, XY 10% of the time. It occurs when an enucleated egg is fertilized by either two sperms or a haploid sperm, which then duplicates, resulting in only paternal DNA being expressed. In contrast, the karyotype is 90% of the time in partial moles Figure I (Yuk et al., 2019 & Mendoza et al., 2021).

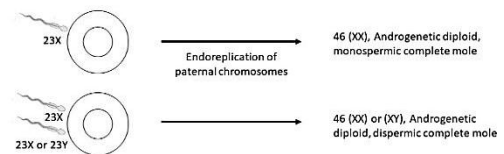


Figure 1: Karyotypes of complete mole Adopted from: Mendoza R, Lanjewar S, Gupta R. Complete hydatidiform mole. Pathology Outlines. com website. <https://www.pathologyoutlines.com/topic/placentacompletemole.html>. Accessed June 12th, 2021.

Molar tissue is typically identified by ultrasound as a diffuse mixed echogenic pattern (snowstorm) replacing the placenta, produced by villi with intervening intrauterine blood clots (Colgan et al., 2017). Suction evacuation with a soft plastic cannula under ultrasound control is used to treat molar pregnancy. Following evacuation, all patients must be monitored in order to diagnose and treat malignant progression (Tidy et al., 2000). Following evacuation, all patients must be monitored to diagnose and treat malignant progression. Post-molar GTN is typically diagnosed in patients whose serum B-HCG levels have risen, plateaued, or remained elevated after 6 months of molar evacuation (Seckl et al., 2013). According to the International Federation of Gynecology and Obstetrics (FIGO) staging and a modified World Health Organization (WHO) risk-factor scoring system, GTN are classified as low or high risk. Patients with FIGO stages I-III and a score of 0-6 are classified as having low-risk GTN, whereas patients with FIGO stage IV or any stage with a WHO score of 7 are classified as having high risk GTN (Stevens et al., 2015 & FIGO Oncology Committee, 2002).

Low-risk GTN is cured with single-agent chemotherapy with either methotrexate or actinomycin-D in 90% of the cases (Maestá et al., 2013). High-risk GTN is treated with combination chemotherapy to optimize outcome (Mangili et al., 2014). Since the incidence, patients, characteristics, treatment modalities, and outcome of gestational trophoblastic disease may differ from country to another (Zakaria et al., 2020).

An interprofessional team, including nurses and pharmacists, is best suited to

managing GTD. Patients with molar pregnancies must be closely monitored for complications such as hyperthyroidism and pre-eclampsia. Molar pregnancy-induced hyperthyroidism which resolved after the uterus is removed. Pre-eclampsia also resolves quickly after the uterus is evacuated. Patients must be counseled on the signs and symptoms of ovarian torsion and ruptured ovarian cysts (Gerstl et al., 2019).

Significance of the study:

In the Western world, hydatidiform mole occurs at a rate of about 1 among 1000 pregnancies. In Denmark, between 1999 and 2010, 130 to 140 cases were diagnosed per year, which was slightly higher than expected (Lund et., al., 2013). The true distribution of complete and partial hydatidiform moles is unknown; however, many people believe that partial moles are more common than complete moles (Seckl et., al., 2010). At the same time, the two types appear to be equally prevalent in Denmark (Lund et., al., 2013). Or complete molar pregnancy, if hCG has reverted to normal within 56 days of the pregnancy event then follow-up will be for 6 months from the date of uterine removal.

A recent study conducted in Baghdad City by (Benyian, 2021) reported that women's knowledge about Hydatidiform mole was inadequate, but there is a moderate level of relative sufficiency and mean score regarding Hydatidiform mole knowledge. So, this level of knowledge may affect future history and women's health if they do not comply with post evacuation treatment and follow-up, using proper family planning method and some cases may become pregnant, as well as liable for recurrence of HM.

Women's health may be affected by a lack of knowledge & education that can lead to negative impact on women's health and increase family burden from disease. So, providing women with supportive educational guidelines could help them to be more knowledgeable and empowering them to get a positive responsible role regarding early detection as possible. Furthermore, their own health can be protected and avoid further complications. By this action women could help in fulfilling Egypt health strategy 2030.

Furthermore, in Egypt, a few studies carried out in this field. Gynecologic nurses have vital role in providing knowledge for women about the signs and symptoms, required diagnostic testing, follow-up, and importance of compliance for treatment to prevent complications. So, the researchers decided to evaluate the effect of supportive educational guidelines about hydatidiform mole on women's knowledge, satisfaction & compliance with treatment and follow up.

Aim of the study:

The current study aimed to evaluate the effect of supportive educational guidelines about hydatidiform mole on women's knowledge, satisfaction, compliance with treatment and follow up

Research hypothesis:

- H₁:** Women who received supportive educational guidelines about hydatidiform mole exhibited an improvement in their knowledge than those who don't.
- H₂:** Women who received supportive educational guidelines about hydatidiform mole exhibited compliance with treatment & follow up than those who don't.
- H₃:** Women who received supportive educational guidelines exhibited more satisfaction with this intervention.

Operational definitions:

Hydatidiform mole: in this study it is defined as abnormal pregnancy with vesicles.

Supportive Educational Guidelines: in this study means knowledge & supportive instructions aiming to guide the women and support them to be aware about all issues that related to the disorders.

Compliance with treatment: in this study it is defined as, women take their medications regularly, follow the educational instructions and attend for follow-up as prescribed.

Subjects & Method:

Study Design: A quasi-experimental pre & post-test design was utilized to achieve the aim of this study.

Study Setting: This study was conducted at a Hydatidiform Mole Outpatient Clinic at Gynecological Hospital in Mansoura University Hospitals, Mansoura City Dakahlia Governorate, Egypt.

Study Subjects: Sixty women who were diagnosed with hydatidiform mole attended the previously mentioned setting for treatment and follow up, the total sample was divided randomly into two groups, the intervention group consisted of (30) women received routine protocol hospital care in addition to supportive educational guidelines and the control group consisted of (30) women who received routine protocol hospital care only from the beginning of January 2021 to the end of December 2021.

Sample type:

A convenient sample was used according to the following criteria:

Inclusion criteria:

1. Women with an abnormally high HCG level who were diagnosed with hydatidiform mole based on ultrasound criteria.
2. Post molar GTD (with serum -HCG raised, plateauing, or persistent beyond 6 months of molar evacuation) was seen in women with gestational trophoblastic neoplasia (GTN).

Sample size calculation:

G 'power' version 3.1 was used to calculate the sample size. Where effect size =0.4 with a significance level ($\alpha = 0.05$) at two-sided independent samples t-test with statistical power = 90%. The calculated total sample was (60) women, (30) women for each group (control and intervention) (Faul et. al, 2007).

Tools of Data collection

Data of the current study was collected by using the following tool:

A Structured Interviewing Questionnaire Schedule:

This tool was developed by the researchers after extensive review of recent and relevant literatures .It consisted of six parts:

Part I: This part covers the data related to socio-demographic characteristics of women as age, marital status, level of

education, residence, occupation & income

Part II: It includes obstetric history of women as gravidity, parity, birth spacing, number of abortions, number of living children and history of previous vesicular mole.

Part III: Assessment of women's knowledge regarding hydatidiform mole: It included 11 items regarding definition, types, signs & symptoms, predisposing factors, diagnosis, laboratory investigations, complications, treatment, prevention & contraceptive methods. This part was delivered to the women in the study group three times; pre, post the intervention and during the follow-up period

Scoring system:

Each item had three options (Yes, No, and I don't know), and the scores ranged from (1-3). The correct answer = (3) scores, the incorrect answer = (2) score, and I don't know was given (1) score. The total knowledge score was (11-33), and it was classified as follows: (< 18) = poor, (18-< 25) = fair, and (≥ 25) = good.

Part VI: Assessment of women's compliance with follow up & treatment.

It contained four items about the women's compliance through (attend according the follow up card, take treatment as prescribed, HCG monitor as prescribed in card, use proper family planning method). Each item was checked by the researcher as follows : done completely = score (3), incompletely done = score (2), and not done = score(1). The total compliance score was ranged from (3-12), and it was classified as follows: Not compliant=(<6), Moderately compliant = (6-<9), and Compliant = (≥ 9)

Part V: Assessment of HCG level:

Level of HCG was assessed as, if it was, increased= 1score, constant= 2score or decreased = 3score.

Part VI: Assessment of women's satisfaction level

This part included asking women about their satisfaction level after intervention. It

contained 6 items . Each one was scored on three point likert – scale ranging from 1-3. Each item was checked by the researcher as follows: agree = 3, uncertain= 2& disagree= 1.

The total satisfaction score ranged from 3-18. Accordingly each item satisfaction level was categorized as follow:

- Dissatisfied <8
- Moderately satisfied 8- <13
- Satisfied \geq 13

Study procedure:

This study was conducted through three phases of work: preparatory phase, implementation and evaluation phase. The actual field work of the study was conducted for one year starting from the beginning of January 2021 to the end of December 2021.

First preparatory phase:

This phase included preparing the study tools after reviewing the previous studies and related literatures both current national and international. Then the researchers prepared the educational guidelines after massive review of literature and previously mentioned guidelines and based on the women's need assessed post analysis of the pretest for the intervention group.

The content validity of the Tool:

The content validity of the utilized tool was tested by five panels of experts in the field of maternal nursing. Modification was considered in response to expert suggestions and comments.

Reliability:

The reliability analysis was used to ensure that the questionnaire elements were relevant to each other. Cronbach's alpha was used. Reliability of the structured questionnaire schedule was 0.83. As a result, therefore, the tool was reliable.

Ethical Considerations:

To carry out this study, approval was obtained from the head of the woman health and midwifery nursing department, followed by approval from the ethics research committee of the faculty of nursing at Mansoura University, and finally, a letter of approval from the director of Gynecological Hospital in

Mansoura University (MUH). Before any intervention, each woman provided with the informed consent. They have been informed of their right to refuse or withdraw at any time. The study maneuver cannot endanger the participants. To maintain the study's confidentiality, all data collection tools were burned after statistical analysis. Data collection tools did not touch moral, religious, or cultural issues, and they did not harm women's dignity and rights.

Pilot Study:

The researchers conducted a pilot study on six women to ascertain relevance, clarity, applicability, of the questionnaire as well as to estimate the time needed to answer it. According to statistical analysis of pilot study modifications were considered. These women were excluded from the total study sample.

Second implementation phase:

- This study was conducted at the previously mentioned setting in a period from the beginning of January 2021 to the end of December 2021.
- The researchers attended the clinic at 9:00 am – 1:00 pm, 2 days/ week. Sunday and Wednesday.

For the control group: This group attended the HM outpatient clinic for receiving routine treatment and follow up. The researchers assessed women's socio demographic data, obstetric history, and their knowledge regarding HM both (pre & posttest & after that it was repeated again by the same sheet about knowledge assessment after 3 months at the follow-up period), this group had received only routine protocol hospital care.

For the intervention group: The researchers assessed women's (cases) socio demographic data, obstetric history, and their knowledge regarding HM (pretest). Then women had received the supportive educational guidelines sessions about HM issues as definition, types, signs & symptoms, predisposing factors, diagnosis, laboratory investigations, complications, treatment, prevention, contraceptive methods, follow up & compliance. There are four sessions of contact with cases for giving supportive educational guidelines. Each interviewing session consuming about 15-20 minutes, included 5 women per session. Methods of teaching (lecture, group discussion, media used

lab top). Then the researchers assessed women's knowledge about HM (posttest).

Each session had objective (1st session): established rapport between researcher and cases is very important at the beginning to relieve fear to facilitate cooperation and dissolve iceberg.

Activates during 1st interviewing session (simple explanation of the researcher to the study participants, it began by the purpose of the study. Informed consent was obtained after that, the researcher started data collection by the socio-demographic characteristics, obstetric history.

2nd interviewing session objective: raising and improving knowledge regarding HM definition, types, signs & symptoms, predisposing factors, diagnosis, laboratory investigations, complications, treatment, prevention, contraceptive methods. This part was delivered to the participating women(cases) two times; pre and post the intervention.

At the second session firstly the participant women(cases) watched video about the disease (HM), which educate the participant women about (HM definition, types, signs & symptoms, predisposing factors, diagnosis, laboratory investigations, complications, treatment, prevention and contraceptive methods

3rd interviewing session objective was aiming to augment the participants knowledge through interactive sessions as group discussion & answering their questions.

-At the end of the third interviewing sessions give an instructional supportive guideline about HM to the intervention group.

4th interviewing session objective was aiming to evaluate the participants knowledge, compliance through attending the follow up card according to the schedule, take treatment as prescribed, doing the HCG monitor as prescribed in card, and use the proper family planning method among both groups Also, assessment of satisfaction level about SEG provided to intervention group.

Finally, evaluation phase:

During this phase study women's knowledge was evaluated during of the 4th interviewing session and immediately post interviewing session then repeated after 3 months by using

the same previous tools for both the intervention & control group, at HM outpatient clinic or through using the telephone. Finally, their satisfaction level about SEG was assessed.

The period of study takes more than 6 months due to COVID and limited attendance of cases that affected by this disease.

Statistical Analysis:

The Statistical Packages for Social Science (SPSS) version 16.0 was used for statistical analysis. Descriptive statistics were used to present data in the form of frequencies and percentages for qualitative variables and means and standard deviations for quantitative variables. The (χ^2) test was used to compare qualitative variables, while the paired (t) test was used to compare quantitative data. Cronbach's Alpha was used to assess the tool's reliability. A P-value of 0.05 was used to determine statistical significance.

Results:

Table (1): shows no statistically significant differences are found between the two groups in all terms of their socio-demographic characteristics.

Table (2) Shows no statistically significant differences are found between the intervention and control groups in terms of their obstetric history at $p > 0.05$.

Table (3) shows distribution of the studied groups according to their knowledge about hydatidiform mole before supportive educational guidelines as definition, types, symptoms, causes, diagnostic tests, lab investigations, complications, treatment, prevention, contraceptive methods & follow up system. No statistically significant differences are found in all items of women's knowledge between the intervention and control groups ($p > 0.05$).

Table (4) shows distribution of the studied groups according to their knowledge about hydatidiform mole immediately after supportive educational guidelines as definition, types, symptoms, causes, diagnostic tests, lab investigations, complications, treatment, prevention, the use of contraceptive method & follow up system. Statistically significant differences are found in all items of women's awareness between the intervention and control groups ($p < 0.05$).

Table (5) shows statistically significant differences are found in all items of women's knowledge between the intervention and control group 3 months after supportive educational guidelines ($p < 0.05$).

Figure (I) interprets that nearly all women (95%, 83%) in the intervention group have good knowledge about hydatidiform mole compared to no one in the control group post intervention & follow up.

Table (6) shows statistically significant differences are found in all items of women's compliance between the intervention and control groups after implementing supportive educational guidelines ($p < 0.05$).

Figure (II) shows that 70.9% of the study group comply completely after implementation of the supportive educational guidelines compared to 40.8% of the control group.

Figure (III) interprets that no women in both intervention & control groups has constant level of HCG, while only 6.7% of the intervention group has increased HCG versus two fifth (40%) of the control group. Also

93.3% of the intervention group has decreased HCG compared to 60% in the control group.

Table (7): shows no statistically significant difference is found between the intervention and control groups regarding HCG level before evacuation. While significant differences are found between both groups post & follow up post the evacuation with ($p = 0.08$ & 0.06 respectively).

Figure (IV) illustrates that most of both intervention & control groups (96.7%) had no occurrence of pregnancy after evacuation while 3.3% had pregnancy.

Table (8): shows highly statistically significant differences among women in the intervention group regarding all terms of their satisfaction about hydatidiform mole supportive educational guidelines with ($p < 0.05$).

Figure (V) illustrates that 70% of women in the intervention group are satisfied also, 22.2% are moderately satisfied, and 7.8% are dissatisfied with supportive educational guidelines.

Table (1): Distribution of the studied groups according to their socio-demographic characteristics (N =60)

Socio-demographic characteristics	Intervention group (n=30)		Control group (n= 30)		Test of significance	P-value
	No.	%	No.	%		
Age (years)						
less than 23	11	36.7	7	23.3	1.28	0.53
23 less than 30	8	26.6	10	33.3		
30 and more	11	36.7	13	43.4		
Mean ± SD	29.03 ± 9.79		30 ± 8.66		t= 0.41	0.69
Duration of marriage in (years)						
Mean ± SD	7.3 ± 8.8		8.1 ± 7.7		t= 0.62	0.70
Educational level						
Primary	2	6.7	5	16.7	X ² = 2.24	0.52
Secondary	15	50	16	53.3		
Middle	4	13.3	2	6.7		
University	9	30	7	23.3		
Residence						
Rural	21	70	23	76.7	X ² =0.34	0.56
Urban	9	30	7	23.3		
Occupation						
Working	9	30	9	30	X ² = 0.000	1
Housewife	21	70	21	70		
Income level						
Enough	28	93.3	27	90.0	X ² = 0.21	0.64
Not Enough	2	6.7	3	10.0		

X²:Chi square test, t: Student t-test. Statistically significant at $p < 0.05$.

Table (2): Distribution of the studied groups according to their obstetric history.

Obstetric history	Intervention group (n= 30)		Control group (n= 30)		Test of significance	P-value
	No.	%	No.	%		
Gravidity						
1	11	36.7	10	33.3	X ² = 0.07	0.79
2-5	19	63.3	20	66.7		
Parity						
Non	11	36.7	11	36.7	X ² = 0.54	0.76
One	6	20	4	13.3		
Two and more	13	43.3	15	50		
Type of labor						
Normal	6	20	8	26.6	X ² = 0.45	0.80
Cesarean section	13	43.3	11	36.7		
Duration between previous & current pregnancy (in months)	15.07 ± 13.21		14.73± 12.67		t=0.10	0.92
Abortion						
No	27	90	24	80	X ² = 1.18	0.28
Yes	3	10	6	20		
No of abortions	0.13 ± 0.43		0.30 ± 0.65		t=1.17	0.25
No of Living children	1.63±1.96		1.77±1.74		t= 0.28	0.78
No. of previous vesicular mole						
Non	20	66.7	16	53.3	X ² = 1.24	0.74
One	8	26.7	12	40		
Two	1	3.3	1	3.3		
Three and more	1	3.3	1	3.3		
Types of molar pregnancy						
Partial	17	56.7	15	50	X ² = 0.27	0.61
Complete	13	43.3	15	50		

X²: Chi square test, t: Student t-test. Statistically significant at p < 0.05.

Table 3: Distribution of the studied groups according to their knowledge about hydatidiform mole implementing before supportive educational guidelines.

knowledge about hydatidiform mole	Intervention group (n= 30)				Control group (n= 30)				X ²	p- value
	Correct		incorrect		Correct		incorrect			
	No	%	No	%	No	%	No	%		
Definition	10	33.3	20	66.7	11	36.7	19	63.3	0.07	0.79
Types	7	23.3	23	76.7	8	26.7	22	73.3	0.09	0.77
Symptoms	6	20	24	80	5	16.7	25	83.3	0.11	0.74
Causes	8	26.7	22	73.3	10	33.3	20	66.7	0.32	0.57
Diagnostic tests	11	36.7	19	63.3	12	40	18	60	0.07	0.79
Lab investigations	8	26.7	22	73.3	6	20	24	80	0.37	0.54
Complications	9	30	21	70	11	36.7	19	63.3	0.30	0.58
Treatment	7	23.3	23	76.7	9	30	21	70	0.34	0.56
Prevention	10	33.3	20	66.7	8	26.7	22	73.3	0.32	0.57
Contraceptive methods	9	30	21	70	10	33.3	20	66.7	0.08	0.78
Follow up system	8	26.7	22	73.3	7	23.3	23	76.7	0.09	0.77

Statistically significant at p < 0.05.

Table (4): Distribution of the studied groups according to their knowledge regarding hydatidiform mole immediately after implementing of the supportive educational guidelines.

Knowledge about hydatidiform mole (HM)	Intervention group (n= 30)				Control group (n= 30)				X ²	p- value
	Correct		incorrect		Correct		incorrect			
	N	%	N	%	N	%	N	%		
Definition	24	80	6	20	16	53.3	14	46.7	4.80	0.02*
Types	22	73.3	8	26.7	12	40	18	60	6.79	0.009**
Symptoms	19	63.3	11	36.7	11	36.7	19	63.3	4.27	0.04*
Causes	21	70	9	30	13	43.3	17	56.7	4.34	0.04*
Diagnostic tests	26	86.7	4	13.3	19	63.3	11	36.7	4.36	0.04*
Lab investigations	25	83.3	5	16.7	14	46.7	16	53.3	8.86	0.003**
Complications	23	76.7	7	23.3	15	50	15	50	4.59	0.03*
Treatment	28	93.3	2	6.7	16	53.3	14	46.7	12.27	0.001**
Prevention	25	83.3	5	16.7	17	56.7	13	43.3	5.08	0.02*
Contraceptive methods	27	90	3	10	20	66.7	10	33.3	4.81	0.03*
Follow up system	24	80	6	20	13	43.3	17	56.7	8.53	0.003*

Statistically significant at p < 0.05.

Table (5): Distribution of the studied groups according to their knowledge regarding hydatidiform mole 3 months (follow up) after implementing supportive educational guidelines.

Knowledge about hydatidiform mole(HM)	Intervention group (n= 30)				Control group (n= 30)				X ²	p- value
	Correct		incorrect		Correct		Incorrect			
	N	%	N	%	N	%	N	%		
Definition	19	63.3	11	36.7	10	33.3	20	66.7	5.41	0.02*
Types	17	56.7	13	43.3	7	23.3	23	76.7	6.94	0.008**
Symptoms	15	50	15	50	8	26.7	22	73.3	3.46	0.06*
Causes	19	63.3	11	36.7	10	33.3	20	66.7	5.41	0.02*
Diagnostic tests	21	70	9	30	13	43.3	17	56.7	4.34	0.04*
Lab investigations	20	66.7	10	33.3	10	33.3	20	66.7	6.66	0.01*
Complications	19	63.3	11	36.7	10	33.3	20	66.7	5.41	0.02*
Treatment	23	76.7	7	23.3	11	36.7	19	63.3	9.77	0.002
Prevention	20	66.7	10	33.3	12	40	18	60	4.28	0.04*
Contraceptive methods	22	73.3	8	26.7	15	50	15	50	3.45	0.06*
Follow up system	20	66.7	10	33.3	10	33.3	20	66.7	6.66	0.01*

Statistically significant at p < 0.05.

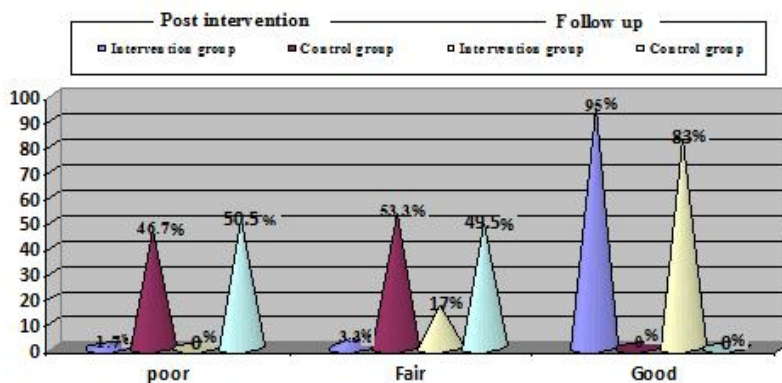


Figure (I): Total knowledge scores about hydatidiform mole between the intervention & control groups post intervention & follow up after 3 month (n= 60).

Table (6): Distribution of the studied groups according to their compliance level with treatment after implementing of the supportive educational guidelines.

Compliance level with treatment	Intervention group (n= 30)			Control group (n= 30)			X ²	P-value
	Completely comply	Fairly comply	Non-comply	Completely comply	Fairly comply	Non-comply		
Attend according the follow up card	19(63.4%)	7(23.3%)	4(13.3%)	10(33.3%)	8(26.7%)	12(40%)	13.4	0.01*
Compliance with treatment after evacuation	19(63.3%)	6(20%)	5(16.7%)	9(30%)	9(30%)	12(40%)	12.8	0.02*
HCG monitor as prescribed in card	18(60%)	9(30%)	3(10%)	8(26.7%)	7(23.3%)	15(50%)	15.2	0.00*
Use proper family planning method	30(100%)	0(0%)	0(0%)	18(60%)	7(23.3%)	5(16.7%)	75	0.00*

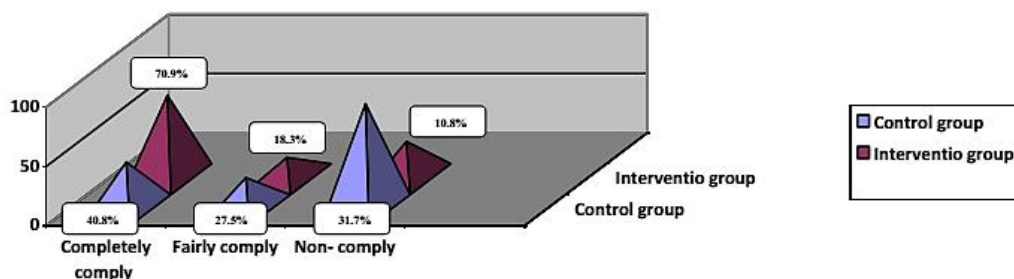


Figure (II): Total score of compliance level with treatment after implementing of the supportive educational guidelines

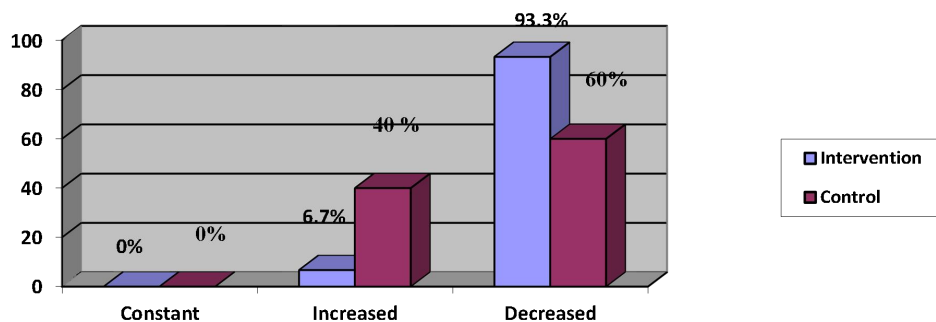


Figure (III): Distribution of the studied groups regarding level of HCG hormone 3 months post evacuation (n= 60).

Table (7): Mean and standard deviations regarding level of HCG hormone between the intervention and control groups during before, post and follow up period post the evacuation

Level of HCG hormone	Intervention group (n= 30)	Control group (n= 30)	t-test	P-value
	Mean ± SD	Mean ± SD		
Before evacuation	32790.733 ± 5226.66	21568.97 ± 50215.198	0.74	0.46
Post evacuation	1130.79 ± 1632.48	2133.36 ± 2615.85	0.02	0.08*
Follow up post evacuation	40.59 ± 3960	97.36 ± 155.78	0.008	0.06*

Statistically significant at p < 0.05.

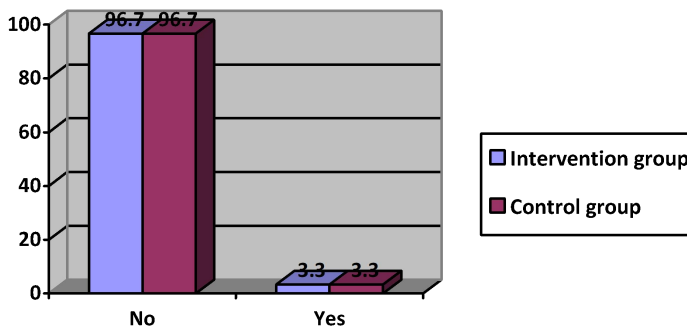


Figure (IV) Occurrence of pregnancy after evacuation among both intervention and control group.

Table (8): Distribution of the studied group according to their satisfaction after implementing supportive educational guidelines

Women's satisfaction after intervention	Intervention group (n=30)						X ²	p- value
	Agree		Uncertain		Don't agree			
	N	%	N	%	N	%		
Information of the supportive educational guidelines is clear	21	70	7	23.33	2	6.67	19.40	0.001**
Supportive educational guidelines is comprehensive& clarify the provided health services from hospital	20	66.67	7	23.33	3	10	15.80	0.001**
Language of the supportive educational guidelines is easy	18	60	9	30	3	10	11.40	0.003**
Supportive educational guidelines helped improve knowledge	23	76.67	4	13.33	3	10	25.40	0.001**
Supportive educational guidelines helped women to adhere to follow up	19	63.33	8	26.67	3	10	13.40	0.001**
Recommend this supportive educational guidelines for similar cases	25	83.33	5	16.67	0	0.0	13.33	0.001**

Statistically significant at $p < 0.05$.

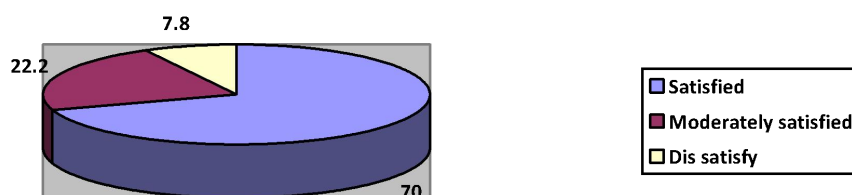


Figure (V): Distribution of women's satisfaction in the intervention group about hydatidiform mole supportive educational guidelines.

Discussion:

Molar pregnancy is considered a problem that affect woman during reproductive age. The study aimed to evaluate the effect of supportive educational guidelines about hydatidiform mole on women's knowledge, satisfaction & compliance with treatment and follow up was achieved. Also, the study hypotheses were achieved within the framework of the present study. The study findings handled the answer of H (1) to H (3) as mentioned before. There statistically significant differences were found in all items of women's knowledge between the intervention and control groups, the intervention group exhibited more comply with HM treatment & follow up. Finally, women who received the supportive educational guidelines (SEG), exhibited more satisfaction level regarding (SEG).

Concerning to the age of studied sample HM occurs in extreme of age this finding is in agreement with **Lepore, and Conran, (2020)** who studied "educational case: hydatidiform, molar pregnancy" who stated that molar pregnancies are more common at the extremes of childbearing age. Women younger than 15 or older than 45 have 1.5 times and 20 to 40 times higher risk of developing GTD, respectively, than women aged 20 to 40. The risk of recurrence after a previous molar pregnancy is approximately 1:80-100 (5 times higher than average). Asian women also have a higher incidence of about 1:390. Only 0.5 to 1 percent of partial moles will become invasive and require further treatment. However, full moles are more likely to progress with 8-10 percent of patients requiring chemotherapy. Healing rates are excellent at 98 to 100 percent

The current study found that the more than half of the studied sample had no history of HM, and around one quarter had previous history of HM, this finding was in agreement with **Liu et. al., (2021)** who conducted a study about "The effect of prophylactic chemotherapy on treatment outcome of post molar gestational trophoblastic neoplasia " mentioned that the effect of prophylactic chemotherapy on the outcome of neoplasia treatment post molar gestational trophoblastic neoplasia (PMGTN).

Concerning to duration between past and present pregnancy less than two years and they had around one tenth had previous history of hydatidiform mole. This represents that the chance of HM to be recurrent in another pregnancy so it's important to delay pregnancy and intention to use contraceptive methods. In the same line **Andreasen et al., (2013)** who carried out a study about "genes and the etiology of molar pregnancies and recurrent miscarriage" they reported that contraception, preferably with oral contraceptives, should be used during chemotherapy and the first year of remission after treatment of gestational trophoblastic neoplasia (GTN). Because of the 1-2 percent risk for a second mole in subsequent pregnancy, early ultrasound examination is recommended during all future pregnancies in addition to histologic evaluation of the placenta, and post-delivery HCG but there are no studies detailing the utility of these measures. There does not appear to be an increase in the risk of congenital malformations or other complications related to pregnancy.

Regarding to women's knowledge about HM at the post and follow up period, (SEG), showed statistically significant differences in all items of women's knowledge between the intervention and control groups. In contrast with **Benyian, (2021)** who conducted a study at Maternity Hospitals in Baghdad City about "assessment of women's knowledge concerning hydatidiform mole" and reported that women's knowledge of HM was inadequate. This reflects that (SEG) played a role in clarifying and correcting misconception regarding HM. It is clear as the study sample more insist on using proper contraception, and compliance with follow up schedule.

Concerning the level of HCG hormone among women included in the intervention group it was decreased after evacuation and they were more complying with treatment & follow up schedule. These findings go with **Coyle et al., 2018.** Who studied " what is the optimal duration of human chorionic gonadotropin surveillance following evacuation of a molar pregnancy?" stated that the risk of (PMGTN), dropped rapidly during the first 6 months of monitoring. Women with complete mole where HCG normalized more than 56 days after evacuation had a 3.8-fold increased

risk of (MGTN) after normalization of HCG. They recommended that HCG monitoring could be stopped for partial moles after a confirmatory HCG but recommended continuing to monitor complete moles for six months.

The International Federation of Gynecology and Obstetrics (FIGO) also recommends confirming HCG normalization with a second value and discontinuing monitoring for partial moles, but to continue monthly monitoring for six months after complete HM. Others have suggested shortening the surveillance period for complete moles after confirming a normal HCG value with two HCG values. The National Comprehensive Cancer Network practice guidelines for (GTN) recommended monitoring with two HCG values at 3-month intervals after three consecutive normal HCG values (**Abu-Rustum, et al., 2019 & Albright et. al., 2020**).

The present study revealed that no statistically significant differences was found between income level among the two groups in terms of their socio-demographic characteristics this result indicating that two characters under the study were homogenous. Also, the findings disagreed with **Coyle et al., 2018 & Albright et al., (2020)** Who reported that women of lower socioeconomic status had a ten-fold higher risk of developing HM than their wealthier counterparts. This reflects that socioeconomic may be considered a risk factor for occurrence of HM.

The current study revealed that there were a highly significant differences among women in the intervention group regarding their satisfaction about HM (SEG) as information included was clear, comprehensive, language was easy, also, (SEG) helped improve women knowledge, adhere to follow up, and also they recommend this (SEG)for similar cases. All this is reflected that the clarity & simplicity of the guidelines also, that provided more support to the study group as well as it had no adverse effects and corrected misconception regarding disease as they were satisfied with increasing knowledge and awareness, so played a role in the control and management of affected woman with HM & saved their life. Such similarity was found in the study done by

Victoria et al., (2018) who study about ". Experience With the Use of an Online Community on Facebook for Brazilian Patients with Gestational Trophoblastic Disease". and reported that healthcare professionals should consider the formation of new partnerships of collaboration and advocacy with these groups, correct misinformation and provide a valuable resource for medical education. This is agreed with **Ghassemzadeh et al., (2022)** who carried out a study titled "Hydatidiform Mole" stated that continuing education activity play a role in the management of patients affectively, also, **Langhe et al., (2018)** in their study about " Atypical presentation of molar pregnancy "reported that early recognition of the condition saves lives and decreases morbidity.

In addition, that there was a highly significant difference satisfaction regarding provided health services from hospital. This may be related to when need information or instructions take it from specialist and health center because they can direct patients to go in the right way that save health and prevent any complications or deteriorate in their health. In agreement with **Ghassemzadeh et al., (2022)**, who reported that consultation from gynecological oncologist is usually essential in these cases to guide therapy.

Finally, the present study finding confirmed that supportive educational guideline about HM had a positive effect on increasing women's knowledge, compliance with treatment after evacuation in favor of the intervention group compared to the control group, in addition improved their level of satisfaction regarding SEG provided. As supportive educational guidelines had no adverse effects and corrected misconception that related to the disease process as a helpful intervention and clarified the provided health services from hospital to be utilized. So, the present study aim was achieved.

Conclusion

From the current study findings, it could be concluded that supportive educational guidelines about hydatidiform mole had a positive effect on women's knowledge, satisfaction compliance with treatment &

follow up. Also, intervention group more intention to use proper contraception after intervention

Recommendation

- Applying supportive educational guidelines about HM as a one of routine hospital care before and after evacuation.
- Increase knowledge of women about positive effect of applying educational guidelines about HM on utilizing family planning, birth spacing, important of regular follow up and comply with treatment.
- Explore women experience with HM.
- Stress on women education by nurses about their maternal health to ensure a safe, meaningful road of pregnancy.
- Further study: replicate this study on another place and large sample size for generalization.

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Conflict of interest

The researchers declare that there is no conflict of interest.

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