Original Article

Lived Experience of Women With Gestational Trophoblastic Neoplasia Treated with Chemotherapy in Selected Hospitals, Addis Ababa, Ethiopia, 2024: Qualitative Study

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Abstract

Introduction: Gestational Trophoblastic Neoplasia (GTN) is a cancer related to pregnancy that increases the risk of maternal mortality if not detected and treated early. GTN is generally curable with chemotherapy; however, patients may experience different adverse effects of chemotherapy, including physical and nonphysical adverse effects**.**

Objectives: This study aims to explore the experiences of women with Gestational trophoblastic neoplasia during and after treatments with chemotherapy in selected hospitals in Addis Ababa, Ethiopia, 2024.

Methods: We conducted a phenomenological explorative study from February to March 2024, at Saint Paul Hospital Millennium Medical College (SPHMMC) and Tikur Anbessa Specialized Hospital (TASH) among purposively selected women who survived GTN chemotherapy treatment. Data were collected using face-to-face in-depth interviews and were imported to ATLAS. ti 9 software and coded after transcription and translation into English. Data were analyzed using both inductive and deductive thematic interpretation. The results are presented through thick description supported by salient direct quotes from participants' statements to describe the main themes.

Result: Five major themes emerged from a total of 12 participants with a median age of 34 years who received chemotherapy for GTN. Women with GTN described profound life changes during and after treatment, including physical exhaustion and disrupted family roles. “I couldn’t care for my children; I felt like a burden.” Emotional reactions were marked by fear and confusion, largely due to a lack of awareness about GTN. “I thought I was dying... I had never heard of this disease.” While some participants felt emotionally supported by nurses, others reported limited support at home. “Nurses helped me emotionally, but I had no one to talk to at home.” Coping strategies varied, including spirituality, distraction, and peer support. To improve care, women emphasized the need for better health education, access to counselling, and consistent availability of medications throughout the treatment process.

Conclusion: Women with GTN faced complex challenges across physical, emotional, cognitive, and reproductive domains. Limited awareness about the disease heightened emotional distress, and concerns about fertility and recurrence persisted after treatment. While support was received, gaps in medication access, information, and psychosocial care were evident. Enhancing holistic, patient-centered support is essential to improve outcomes and quality of life for women with GTN. . [*Ethiop. J. Health Dev.* 2025; 39(3)]

Keywords: Experience, Gestational trophoblastic neoplasia, chemotherapy, women, Ethiopia.

Introduction

Gestational Trophoblastic Disease (GTD) refers to a group of uncommon malignancies that are caused by the aberrant growth of trophoblastic cells within a woman's uterus. It can be benign or malignant. Gestational trophoblastic neoplasia (GTN) is the term used to describe a subset of malignant lesions with varying propensities for metastasis and local invasion (1,2). GTN is a cancer related to pregnancy that contributes to maternal morbidity and increases the risk of mortality if not detected and treated early(3).

The Sustainable Development Goal (SDG) targets to eliminate preventable maternal death and bring the worldwide maternal mortality rate down to 70 per 100,000 live births by 2030. The World Health Organization (WHO) also recommended addressing all causes of maternal mortality and maternal morbidities by strengthening health systems that respond to the needs and priorities of women and girls to end preventable maternal deaths. So it is important to address the concerns and priorities of women with GTN during the treatment process with chemotherapy to achieve these goals(4,5).

GTN is generally curable with chemotherapy; however, both GTN and chemotherapy can have significant impacts on the lives of women. For instance, women diagnosed with GTN face a different emotional impact, such as fear of being gravely ill, losing their own lives, and the hopes and delights of pregnancy given away. Additionally, chemotherapy drugs have different physical and non-physical adverse effects(6–8). Some of the common physical side effects include headache 43%, fatigue 90%, hair loss 76%, nausea 77%, and vomiting 75%. Furthermore, Psychological or emotional reactions to treatment include altered body

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image, low self-esteem, issues with fertility and sexuality, sadness, anxiety, or depression(9–12).

Chemotherapy has a significant financial burden on cancer patients and their families or caregivers. Such as a high percentage of out-of-pocket expenditure, loss of income, and productivity. Additionally, it has significant social impacts such as social withdrawal, isolation, and inability to work and participate in social activities (13,14). Also, GTN women often undergo chemotherapy treatment while caring for their children at home, often requiring travel for medical care and overnight stays in hospitals (15).

Therefore, women who experienced adverse effects of chemotherapy need supportive care and coping techniques as the most effective ways to enhance quality of life, and clinical outcomes, minimize medical costs, and ensure that individuals with cancer get the greatest benefit from their anticancer treatment(16–18).

However, there is limited research in sub-Saharan Africa exploring the unique lived experiences of these women, including the effect on their quality of life, coping techniques, and social support systems. For instance, in Ethiopia, there are different studies done on the magnitude of GTN, but the experiences of women with GTN treated with chemotherapy, about the life changes they faced during and after the treatment process, are not explored. This study employed a qualitative phenomenological design to explore the lived experiences of women diagnosed with GTN. Phenomenology, as a qualitative research approach, focuses on understanding how individuals make sense of their experiences from their own perspectives. It is well-suited for uncovering the subjective meanings individuals ascribe to their experiences, particularly in the context of health and illness. Given the limited knowledge of how women in Ethiopia experience and cope with GTN, especially during and after chemotherapy treatment, phenomenology offers a suitable framework to provide deep insight into the emotional, psychological, and social dimensions of their journey from diagnosis and treatment to coping and recovery. Therefore, this study aims to explore the life changes women faced, their perspectives, and priorities. As well as supportive care conditions, and coping techniques, women used for problems they experienced.

Method

Study Setting: The study was carried out at two purposefully selected public hospitals that had chemotherapy centers which at Tikur Anbesa Specialized Hospital (TASH) and Saint Paul's Millennium Medical College (SPHMMC).

Study Design: We used exploratory qualitative research employing a phenomenological approach.

Participants' selection criteria: Surviving women who have received chemotherapy for GTN and were on surveillance were selected**.**

Sampling: Twelve participants were purposefully recruited from all surviving patients who received chemotherapy for GTN and on surveillance for human chorionic gonadotropin (HCG) from the hospital's registry database. To maintain heterogeneity in the qualitative variations, several key factors were taken into account, including the classification of GTN (distinguishing between high-risk and low-risk groups), participants' age range (from early 20s to mid-40s), marital status (including single, married, and divorced individuals), educational attainment levels, number of children, and the number of chemotherapy cycles received.

Data Collection: In-depth face-to-face interviews were conducted by the principal investigator (BSc in Midwifery, MSc in Maternity and Reproductive Health Nursing) with qualitative research experience, and a trained research assistant (MSc in Oncology Nursing) with prior experience in qualitative interviewing. A semi-structured interview guide was employed to facilitate the discussions. To facilitate participant recruitment and gather relevant registry data, staff working in the unit were contacted. Participants were approached during their HCG surveillance appointments following their follow-up visits. After explaining the study objectives and obtaining their consent, voluntary participants were interviewed in a quiet room arranged in coordination with the unit supervisor. The interviews were conducted in Amharic and Afaan Oromo, the local languages. With the participants' permission, interviews were audiotaped, and field notes were also taken to capture additional details.

Data Analysis: The audio-recorded interview data were initially transcribed verbatim in Amharic and Afaan Oromo. Subsequently, the transcribed texts were translated into English by the principal investigator (PI) with assistance from a professional translator. And to further ensure translation accuracy, transcripts were reviewed by an independent bilingual expert who cross-checked the English translations against the original language. Discrepancies were resolved collaboratively, and a sample was back-translated to verify consistency and preserve the intended meaning. The accuracy of the translation was verified by cross-checking the translated transcripts against the original audio recordings to ensure proper transcription and translation. The cleaned and verified data were then imported into ATLAS.TI 9 software to facilitate the coding process, during which the data were coded line by line.

For data analysis, a thematic analysis approach was employed. Both inductive codes (derived from the interview guide) and deductive codes (based on existing frameworks or concepts) were utilized. To maintain consistency in coding, a codebook was developed. Coding was primarily performed by the investigator and an assistant coder, with validation and oversight provided by the study supervisors. Any discrepancies in coding among the coders were resolved through discussion.

Following coding, similar codes were grouped into subthemes based on their characteristics, and related

subthemes were further organized into main themes. The study findings were presented using direct quotations from participants to illustrate each main theme. Additionally, the sociodemographic characteristics of the participants were summarized in a table.

Result

Socio-demographic and clinical characteristics of Participants

A total of 12 participants with a median age of 34 who have received chemotherapy for GTN participated in the study. The majority of the participants were married, and all were able to read and write. (**Table 1).**

Table 1: Sociodemographic characteristics of women who have received chemotherapy for GTN

Identifier	Age in Years	Educational levels	Occupation	Marital status	No of children's
GTNsp1	21	Primary	Student	Single	0
GTNsp2	34	Primary	House wife	Married	2
GTNsp3	33	Secondary	House wife	Married	2
GTNsp4	42	Preparatory	Private	Single	0
GTNsp5	28	Degree	Engineer	Married	2
GTNsp6	32	Primary	House wife	Married	3
GTNsp7	45	Primary	House wife	Widow	5
GTNsp8	34	Secondary	House wife	Married	3
GTNsp9	30	Degree	Private	Married	2
GTNsp10	42	Primary	House wife	Single	1
GTNsp11	40	Primary	Daycare	Married	4
GTNsp12	40	Primary	House wife	married	4

The clinical profiles of the 12 participants varied in terms of GTN classification and treatment history. Eight participants were diagnosed with high-risk GTN, three with low-risk GTN, and one with ultra high-risk GTN. World Health Organization prognostic scores ranged from 2 to 14. The majority had completed their chemotherapy regimens, ranging from 5 to 12 cycles, while two participants were still receiving treatment at the time of the interviews. Most low-risk patients received single-agent chemotherapy, whereas high-risk cases were treated with multi-agent regimens. Two participants underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH + BSO) as part of their treatment. These variations in clinical experience inform the differences in physical, emotional, and psychosocial responses described by participants in later themes. **(Table 2)**

Table 2: Clinical features of women who have received chemotherapy for GTN

Diagnosis	Date of diagnosis	Stage of GTN (WHO score)	Cycle of chemotherapy taken.	Previous surgery for GTN (if any)
HR GTN	19/7/2014	10	9 cycles of (EMACO)	No
HR GTN	20/12/2013	9	10 cycles of (EMACO)	No
LR GTN	15/5/2014	4	9 Single agent	No
LR GTN	3/4/15	3	5 (Single agent)	No
HR GTN	18/12/2013	8	8 cycles of (EMACO)	No
LR GTN	1/9/2015	2	10(Single agent)	No
HR GTN	12/2015	14	8 cycles of (EMACO)	No
LR GTN	4/5/2015	4	10(Single agent)	No
LR GTN	13/3/2015	5	8(Single agent)	No
HR GTN	10/12/2012	14	12 cycles of (EMACO)	TAH+BS
HR GTN	1/10/15	7	5 cycles of (EMACO)	No
UHR GTN	21/9/2015	14	5 cycles of (EMACO)	TAH+BS

GTN: Gestational trophoblastic neoplasia, GTNsp: GTN survived participants, LR GTN: Low risk GTN, HR GTN: High risk GTN, UHGTN: Ultra high risk GTN, EMACO: (Etoposide, methotrexate, actinomycin-D/cyclophosphamide, and vincristine), TAH+BS: Total abdominal hysterectomy and bilateral salpingectomy

Emerged Themes

Five major themes emerged from the data analysis, both inductively and deductively. Deductively emerged themes were: life changes women with GTN experienced during and after treatments with chemotherapy; supportive care conditions; and coping techniques women used for problems they experienced. Whereas inductively emerged themes were women's lack of awareness and emotional reaction to GTN and women's perspectives on what needs priority and improvement related to the treatment process **(Table 3).**

Table 3: Summary of emerged main themes, sub-themes with corresponding codes

No	Themes	Subthemes	Codes	
1	Lack of awareness and Emotional reaction to GTN	lack of awareness about GTN	✓ Not knowing about it before ✓ Not heard about it	✓ Seeing herself
		Emotional reaction to GTN	✓ When I heard it, I was frustrated ✓ I was shocked.	✓ I was very saddened ✓ Angry with oneself at that time
2	Life changes of women with GTN experienced	Physical changes during and after	✓ Gastrointestinal system change ✓ Integumentary changes ✓ Musculoskeletal changes	✓ Neurological changes ✓ Respiratory system changes ✓ urogenital system changes
		Cognitive changes during and after	✓ Difficulty with paying attention ✓ Forgetting behavior's ✓ Fatigues ✓ Problems with memory recollection	✓ Loss of consciousness ✓ Difficulty with remembering ✓ Difficulty with finding words
		Emotional changes during and after	✓ Mood changes ✓ Emotion outburst	✓ Emotional dysregulation ✓ Emotional withdrawals
		Reproductive health issues during and after	✓ Changes related menstrual cycle ✓ Sexual activity concerns	✓ Relationship status
		Social and family impacts during and after	✓ Creating emotional changes within the family, neighbors, and relatives ✓ Social withdrawals ✓ Social gossip	
		Financial impacts during and after	✓ Missing treatments and appointments due to financial issues ✓ Challenges with the fees expensiveness'	✓ Asking for financial support ✓ Depleting assets used for sustaining life ✓ Effects on future plans
3	Supportive care conditions	Level of Supportive care	✓ Comforting supportive care ✓ Lack of supportive care	
		Types of supportive care	✓ Instrumental support ✓ Emotional support	✓ Informational support ✓ Appraisal support
		Sources of supportive care	✓ Health care providers ✓ Family, neighbors, and relatives	✓ Supportive others
4	Coping techniques women used	Types of coping techniques	✓ Emotion- focused coping techniques ✓ Behavioral Coping techniques	✓ Problems- based coping techniques
5	What needs priority and improvement related to the treatment process	What needs priority	✓ Information on medication side effects ✓ Medication and blood investigation availability	✓ ways of approaching women's ✓ Establishing a social support group for women's
		What needs improvement	✓ To those related to health care providers ✓ To those related to hospitals	✓ To those related to runners

Theme one: women's lack of awareness and emotional reaction to GTN

Two sub-themes have been identified under these main themes. These were women's lack of awareness about GTN and their emotional reactions when they heard that they had GTN.

Sub-theme 1: lack of awareness about GTN

Most women have stated that they didn't know about GTN, they didn't hear about it before, and they didn't understand it well before they experienced, but they just saw and understood GTN for themselves after they experienced these diseases. Some of the women stated that they might hear about cancer on television or elsewhere, but they didn't have any awareness about GTN. These were how most participants described their experiences.

"Ahhh… I didn't know about it. I saw it on myself, and when it was first happened, I was confused because I didn't know anything." (GTNsp 5)

"I didn't have any awareness about it; I didn't hear about it; I was just seeing it myself. During that period, I got headaches, I was vomiting everything I ate." (GTNsp1)

Sub-theme 2: Emotional reactions of women when they heard that they had GTN

This subtheme explored that how women reacted emotionally when they heard that they had GTN and when they were told that they, had to start chemotherapy. So, based on the findings of the study, most of the women were shocked, saddened, frustrated, and angry with themselves. As well as being difficult to believe what they told them by saying how it could be like that, and being concerned by thinking about what would happen to her after they heard about their condition. These were narrated by women as follows:

"I was shocked at that time, wondering how this could have happened to me. Then, I accepted it as God's will, entrusting all things to Him." (GTNsp3)

"You know I felt an impossible feeling; why?" "By saying that, how could I be like this?" At that time, I was very angry with myself, and I was frustrated." (GTNsp1)

Theme Two: life changes of women with GTN experienced during and after treatments with chemotherapy

Within this theme, five subthemes have been identified these were, physical changes, emotional changes, cognitive changes, financial impacts, and social and family impacts that women with GTN experienced during and after treatments with chemotherapy.

Sub-theme 1: Physical changes women's with GTN experienced during and after treatments with chemotherapy

Physical changes during chemotherapy

Among these subthemes, women's GTN experiences a variety of physical changes related to chemotherapy. The majority of participants experienced the most common physiological side effects from chemotherapy, especially these side effects, which were more common in those mothers who had high-risk GTN than low-risk GTN. Some of the side effects reported while they were undergoing chemotherapy were *gastrointestinal tract problems* such as loss of appetite, abdominal cramps, diarrhea, gastric ache, food indigestion, food intolerance, nausea, vomiting, dryness, and pain in the throat. Women also described experiencing *integumentary problems* like alopecia, changes in nail color and removal, soreness around the back, and changes in skin pigmentation.

Furthermore, women also experienced *musculoskeletal system problems* such as cramping in the waist, difficulty with hand movements, leg cramping, pain around the kidneys and tenderness, generalized body swelling, generalized body weaknesses, and edematous hands and legs. Additionally, they experienced *neurological problems* such as: eye problems like excessive blinking, burning sensation, excessive tears to the eyes, and blurry vision; others' problems such as dizziness, loss of taste, difficulty with sunlight exposure, ringing in the ears; insomnia, one-sided difficulty; lack of thirst; feeling of coolness; and burning sensation to the legs.

In addition, *respiratory system problems* such as blockage of voices and mucus dripping from the nose, and *reproductive system problems* such as burning sensation in the uterus, uterine tenderness, and discharges from the uterus. A few of the women also narrated *hematologic problems* such as anemia and leucopenia. The others regard to weight conditions, most of the women lost weight, and a few of them gained weight while they were undergoing chemotherapy. Some of the women shared their experiences as follows;

"Oh….my god! The first one is that it finishes your hair completely; the other is that it eats your body; it makes you thin and wasteful because you don't eat food, and if you ate it, it was not tolerable with you; if it was not tolerable, it doesn't work."(GTNsp1)

"*There were many physical changes. I had taken blood from fifty-four people. I was also having blood taken, but it was bleeding through my uterus. My body became progressively weaker, more emaciated, wasted away, and my leg became edematous."(GTNsp10)*

Physical changes after chemotherapy

Some of the women's, especially those who were high-risk GTN have mentioned their physiological experiences after they completed their chemotherapy's, as follows: difficulty of sight and blurry vision; mouth and tongue dryness; numbness of the leg and problems with nerves; removal of the uterus; uterine tenderness; gastric ache; weakness of the body; and grove on the hand. The others, some of the women, gained weight, and the others lost weight after completing their chemotherapy treatments. But the majority of women shared their experiences, as they did not face that many physical changes after completing chemotherapy. Some women have described their experiences as follows:

"After I completed the treatment, the other physical changes are that now I am experiencing pain, cramps, and numbness in my leg. For this, I am going to the next class. I think this is also due to the effects of medications."(GTNsp10)

"Ahhh…after completing the medication, I was not able to stand up frequently. Since I am Muslim, I was not able to stand and bow during prayer. I have a general burning sensation that starts from my head to my legs."(GTNsp2)

Emotional changes in women with GTN experienced during and after treatments with chemotherapy

Emotional changes while they were undergoing chemotherapy

Within this subtheme's women have experienced different types of emotional changes while they were

undergoing chemotherapy. Some of the women have shared that they were experiencing *mood changes* such as anger with themselves, worrying, anxiety, depression, a lack of happiness, shock, sadness, stress, and suicidal thoughts. Furthermore, some of the women also *experienced emotional withdrawal,* such as feelings of loneliness, fear of sleeping, giving up while taking chemotherapy, and difficulty engaging in recreational activities.

Additionally, some of the women shared that they were experiencing *emotional outbursts* like blaming others, crying, hearing voices, hating people, and exhibiting shouting behavior. Expressions of *emotional dysregulation* such as being inpatient with everything, whining behaviors, yawning, questioning themselves, and questioning why these things happen to them. These were the narrations from some participants:

"During that period, I had anxiety, I was stressed very much, especially when I was in this hospital, it pushed me towards thoughts of self-suicide, it made me yawn, it made me yell at that time ."(GTNsp 10)

"At that time, I was stressed, everything was disturbing to me. Even when I heard the voices on television, it bothered me. I just stayed in bed and I didn't leave the house often."(GTNsp12)

Emotional changes after chemotherapy

The majority of women shared their experiences, as they did not face that many emotional changes after completing chemotherapy. They also shared their experiences as follows: after completing chemotherapy, they were happy people; it created so much happiness within their family, and it was surprising for them and their family. But on the other hand, the majority of them were afraid that the disease might reappear again. These were some of the experiences shared by participants:

Ahhh… you know You will come for checkups, I was stressed until it reached that one year. By saying that, maybe it will come back again. Thankfully, it did not return, and I found relief. Despite these worries, everything turned out fine."(GTNsp3)

The other participant narrated that she was experiencing different emotional changes after completing chemotherapy. Some of these emotional changes were: regretting, self-blaming, and stressing herself by recalling the stress family members endured, loneliness, feeling ashamed and shocked when sitting with her family, and the feeling that people might ridicule her. These experiences were narrated by the participant as follows:

"I question myself by saying that, who caused all that money to disappear? Who led to the destruction of my family's finances? It was me, by my actions. I feel ashamed and face challenges when trying to laugh and play with them. There was a day when I locked myself inside and tried a suicidal attempt."(GTNsp1)

Sub-theme 3: Cognitive changes women's with GTN experienced during and after treatments with chemotherapy

Cognitive changes while they were undergoing chemotherapy

Under these subthemes, women's faces have undergone different cognitive changes while they were undergoing chemotherapy treatments. Some of the cognitive changes that were described by the women were: loss of consciousness, difficulty with remembering, reading, and writing on white paper, difficulty with paying attention to things, forgetting behaviors, and fatigue while they were undergoing chemotherapy. These experiences were shared by some participants, as follows:

"At that time, I was forgetting things; someone would tell me something, and I wouldn't remember. It was difficult for me to pay attention when someone talked to me. I had blurry vision during that time, and my eyes were blinking a lot." (GTNsp12)

"I could see for distance but not near objects, I couldn't read easily, I didn't pay attention to things, and I was forgetting everything."(GTNsp2)

Cognitive changes after chemotherapy

Some of the women also reported some cognitive changes after they completed chemotherapy. Those were: difficulty with finding words, paying attention to things, forgetting behaviors, fatigue, and problems with memory recollection, like difficulty with remembering where they put things. Some individuals expressed their experiences as follows:

"Even now, I find it difficult to pay attention. When I try to read something, I can't see the crumbles one, and it was like this for me. They were even considering ordering eyeglasses for me because I can't read unless the text is close to me and in well-lit places."(GTNp10)

Sub-theme 4: Reproductive health issues women with GTN experienced during and after treatments with chemotherapy.

Women described a wide range of reproductive health challenges that affected them both during and after chemotherapy treatment. These challenges were related to menstrual irregularities, sexual health, relationship dynamics, and emotional concerns about fertility and future intimacy.

Menstrual changes:

Participants reported significant disruptions to their menstrual cycles during chemotherapy, including prolonged heavy bleeding, irregular menses, and amenorrhea. These changes were often distressing, particularly when amenorrhea was misinterpreted as a potential pregnancy. For some, menstrual irregularities continued even after treatment, with issues such as dysmenorrhea, ongoing amenorrhea (especially among women over 35), and prolonged bleeding persisting post-therapy

"While I was undergoing chemotherapy, I experienced excessive bleeding during my

menstrual periods. It was flowing excessive." (GTNsp6)

"Regarding my menstrual cycle, there haven't been any occurrences. It has been almost two years since I took that medication, and I haven't experienced any menstruation since then. Additionally, now I have no longer any desire for sexual intercourse."(GTNsp7)

Sexual and intimate relationship challenges:
Many women described experiencing painful sexual intercourse (dyspareunia), reduced libido, or complete abstinence from sexual activity. These issues often led to emotional strain and changes in intimate relationships. While some relationships were negatively affected, including feelings of neglect or even divorce, others were marked by understanding and empathy from partners.

"Of course, sometimes we tried to do sexual intercourse, but there was pain during that time, and it was very painful, making it a little difficult. He understood me in terms of what was happening."(GTNsp9)

"My relations with my friend were lowered from what it used to be, and it was lower than he loved me before, since I was a sick person with an illness. No one expected me to survive." He hated me and thought I would not live, and I had no hope." (GTNsp1)

Post- treatment concern and emotional impact:
After completing chemotherapy, some women continued to face significant emotional and psychological challenges related to reproductive health. These included fears of disease recurrence, anxiety about future romantic relationships, reluctance to remarry or become pregnant, and concerns about infertility and not having children.

"I am scared to get close to men. I have doubts about engaging with men and tend to avoid them. This fear has led me to hate men, as I am terrified that the illness may return. I am also scared about getting married, fearing the disease might reappear again." (GTNsp1)

Additionally, now I have no longer any desire for sexual intercourse."(GTNsp7)

Sub-theme 5: Social and family influences on women with GTN experienced during and after treatments with chemotherapy

Social and family influences while they were undergoing chemotherapy.
Within this subtheme, women shared the social and family impacts of chemotherapy while they were undergoing chemotherapy. Some of the impacts that were shared by the women were: becoming burdens for neighbors, relatives, and families; *creating emotional changes such* as fear, sadness, stress, anxiety, shock, loss of hope, and worries within neighbors, family, relatives, and colleagues. Furthermore, women were narrating challenges they faced, such as having children they were caring for, children's education was terminated of their education and *social withdrawals*, such as separation from their children's from prolonged chemotherapy regime, difficulty with enjoying and interacting with friends and different *social gossip*, such as various speculations about their condition. Some of these social and family impacts of chemotherapy were narrated by the women in this way;

"Even my eldest son, he was the one who came here with me, by leaving school, and wandering with me here in hospitals and at home. Even one day, when the doctors told us, my results showed a little increment, he became sad and shocked."(GTNsp11)

"I have two children, and this issue arose when we were considering having a third child. They used to ask, "Mom, where are you going?" when I went to hospitals for treatment because it sometimes involved overnight stays. (GTNsp5)

Social and family impacts after chemotherapy
Additionally, women shared that they experienced different social and family impacts after they completed chemotherapy. Those impacts that were narrated by participants were social withdrawal, such as difficulty in interacting with family, and withdrawal from her colleagues. These experiences were shared by some participants, as follows:

"Even after completing my chemotherapy treatment and getting cured. I feel ashamed and face challenges when trying to laugh and play with them. Due to this, I would sit alone and I did not interact with anyone."(GTNsp1)

Sub-theme 6: Financial impacts on women with GTN experienced during and after treatments with chemotherapy

Financial impacts while they were undergoing chemotherapy
Women's experiences with GTN revealed that they were experiencing a lot of financial challenges while they were undergoing chemotherapy. Some of those challenges that were described by participants were: *challenges with fees' expansiveness*, such as fees for medication, food, blood investigation, bed, and transportation fees. Additionally, women shared that they sold any things they had or sold their possessions for expenses, and they were also borrowing and asking for financial support from family, relatives, neighbors, and at church and mosques for expenses. Some women shared that they missed appointments and treatments due to financial issues. Some of those experiences that were shared by participants were in this manner:

"Financial problems were very challenging. Sometimes there isn't enough money on hand to purchase medications. During chemotherapy, we faced challenges with laboratory investigations since they were done every 15 days and were costly. When we faced challenges of getting money, my husband and I would ask for money around the mosque area, or even around the churches. "(GTNsp2)

"During that time, we needed money mainly for medications. For example, lab investigations were not available at healthcare facilities; they were done outside. You know about the costs outside; it was so expensive." (GTNsp6)

Financial impacts after chemotherapy

Furthermore, women with GTN were narrated as experiencing a lot of financial impacts after chemotherapy. Some of these impacts were: depleting assets used for sustaining life and falling into poverty; stopping work; and affecting plans due to depleting assets and money in bank accounts. As well, as they were described, they faced many challenges with blood investigation fees, transportation fees, and a lack of suitable clothes and shoes during the surveillance period. Some of these impacts were explored by the women in this way:

"After that, it left many challenges; we spent a lot of money on the treatment processes. So, the things you had thought of doing and the things you had planned were left."(GTNsp9)

"After I completed related to these things, I completed the money that was in my accounts. Now, there are no any things left for sustaining life, and I have no jobs now."(GTNsp11)

Theme three: Supportive care conditions women experienced during treatment processes

Under this theme, three subthemes have been developed. These were the types of supportive care women experienced and the sources of that supportive care women with GTN experienced.

Subtheme One: level of supportive care;

Most women narrated that they were experiencing comforting, supportive care from nurses. On the other hand, some of them also shared that they lacked supportive care, such as no support from other hospital personnel, regardless of who was treating them, and they didn't get any support from supportive others, social groups, or hospitals regarding finances. These experiences were explored by participants in these ways:

"For example, there were many nurses, whom I will never forget them in my life, I can't repay them for what they did for me.What I say is, may my god repay them. They were praying for me and washing my body."(GTNsp10)

"Supportive care was, in general, good. For example, when I started my treatment, the nurses were supportive and kind to me. As well, we had plans to thank the nurses in the unit with my husband."(GTNsp5)

Subtheme two: Types of supportive care women experienced

Within these subthemes, women with GTN stated that they received various forms of supportive care during the treatment process. These were related to four common kinds of social support. So supportive care that was described by the participant was: *Emotional support*, such as praying for them, showing compassion, love, and empathy for them, *Instrumental supports*, like dietary support, Financial support, and dedicating time and efforts to help them with everything they could. And caring for her children's, *Informational supports* such as advising to be patient and emphasizing that patience is beneficial for everything, information from those who have a similar condition, and Detailed medication information. As well as *appraisal support*, for instance, advising and reminding to learn from past experiences and move forward, encouraging by stating that those who undergo tests will eventually see positive outcomes. These experiences were shared by some women in this manner;

"During that time, they supported me by saying, Be brave, be strong, you would survive, your case was curable, and they were showing to me their love and empathy."(GTNsp10)

"When my neighbors, family, and even relatives outside of my immediate family heard about my illness, they provided support in various ways. They provided financial support for medications, drugs, food, and drinks. From hospital milk and food."(GTNsp2)

Subtheme three: Sources of supportive care

Under this subtheme, participants explored that they have received different supportive care from different sources. Those sources that were shared by women during the treatment process were: supportive care from family, relatives, neighbors, nurses and doctors, colleagues, hospitals, husbands' friends, and messengers. These sources were narrated by the women in this manner:

"Supportive care from my spouse was nice, and also from my family. It was good, they showed mercy."(GTNsp6)

"Here in the hospitals, they gave us food. If medication were available, we could take it with health insurance, but most of the time it was not available. The nurses gave us moral support, and the doctors, were also told us this."(GTNsp11)

5.2.4. Theme four: Coping techniques women used for problems they experienced

Three subthemes have emerged from the findings under this theme by relating to the contextual model of Lazarus stress and coping theory. These were emotion - focused coping techniques, behavior-based coping techniques, and problem- based coping techniques.

Subtheme one: Types of coping techniques

Within this subtheme, women used different types of coping techniques aiming to reduce distress and minimize psychological discomfort from chemotherapy. Some of these coping techniques that were narrated by the women were *emotion-based coping techniques such as:* being faithful, being hopeful, crying for some relief, and distracting oneself with other things. Furthermore, women were also told other techniques, such as diverting to positive thinking, humbling, entrusting, expressing gratitude, and praying

to God for forgiveness and healing. Additionally, they were also narrated as having hope when witnessing improvements in themselves and others who had been cured. These emotion-based coping techniques were mentioned by the participant in this manner:

"During that period, I was crying a lot, because when I cried, I felt relieved to some extent. But I always hoped for the day when these challenges would be over."(GTNsp5)

"I don't like to think and remember about what happened to me; if I thought it, I would try to divert to other things immediately, especially to those of positive thought."(GTNsp10)

Additionally, women used *behavioral coping mechanisms* such as going out and getting some fresh air, exercising, having patience and less thinking, or keeping away from worrying, stressing, and breaking issues. The others were going to religious places, like holy water, and doing religious activities such as listening to different spiritual things like sermons, hymns, and movies of monasteries. As well, women were described as using work, watching movies, and health programs on television, as diverting mechanisms; these behavioral coping techniques were shared by the women as follows:

"*For example, when I am alone, I used to watch spiritual things like hymns, sermons, and movies of monasteries. When I did this, the things that made me anxious, yawning, and stressed would leave me."(GTNsp10)*

"Besides, since I am orthodox, I used to go to church and pray to my Lord to forgive me and heal me. Also, I used to go to holy water, and sometimes I did physical exercises at home." (GTNsp5)

Furthermore, participants shared various *problem-based coping techniques* that they were using to ease problems they encountered. Some of those techniques were: amendments within their foods; Googling to understand what food was recommended or not; buying vitamins and other appetizers; accepting reality; and taking responsibility for what happens. Additionally, they shared that they were asking for information from healthcare providers and getting information from those who have similar conditions. These problem-based coping techniques were mentioned by participants as follows:

" As I told you before, I can't eat food, then I was trying to do what I crave me, but that also, not that much, then I was trying to buy vitamins and other appetizers."(GTNsp10)

"I was asking for information from those who have a similar condition to mine. In addition, I was googling about the disease and about chemotherapy."(GTNsp5)

Theme five: women's perspectives on what needs priority and improvement related to the treatment process?

Two subthemes have been identified under this theme. These were women's perspectives on what needs priority and improvements related to the treatment process

Subtheme one: women's perspectives on what needs priority related to the treatments process

Under this subtheme, women's perspectives on what should be prioritized during the treatment process were discussed. Those perspectives that were shared by women were: challenges with medication unavailability in compounds; lack of information on medication side effects; and mobilizing social support groups that support women, which were shared as what needed priority during the treatment process. Some of these perspectives were shared by women, like so:

"I have said this before: for me, the most challenging and what needs priority is about medication availability."(GTNsp5)

"Towards the end of my message, the crucial point was that governments or affluent individuals should support these women. I have witnessed many women who cannot afford it, including me."(GTNsp1)

Subtheme two: women's perspectives on what needs improvement?

Within this subtheme, women also mentioned what things need to be improved to make the treatment process more advanced. Thus, some of these perspectives that were mostly described by women were: *those related to hospitals*, what needs to be improved were: challenges of medication and lab investigation unavailability in hospitals; *related to health care providers*, what needs to be improved were delays in getting treatments. Inadequacy and lack of information on her condition and on medication side effects. *Those related to Porter were*: Some messengers were unkind and unpleasant, and they didn't hear you. These perspectives were shared by some of the women, like this:

"Regarding health professionals, I never faced health care providers who told me, this medication has these side effects before I took chemo. So if this was improved" (GTNsp4).

"When I started from the hospital, it was what I told you before, regarding that situation with affordability. So, at least if the medication was available in the hospital pharmacy, buying it inside rather than outside would be less expensive."(GTNsp9)

Discussion

This qualitative study tried to explore the lived experiences of women with GTN during and after treatments with chemotherapy. Women shared their experiences while they were undergoing chemotherapy and after they completed chemotherapy during their surveillance time. In this study, most of the women narrated that they didn't have awareness about GTN.

Most consider the disease new as they have not heard about it before and have not known anyone with this condition before. Further, women faced different emotional reactions when they heard about the GTN for the first time, such as not believing what they told them, and sadness.

Findings from this study revealed different life changes related to chemotherapy, including physical, cognitive, and emotional. Reproductive, social, family, and financial adverse effects occurred while they were undergoing chemotherapy treatments and after they completed chemotherapy. The most common physical side effects experienced by the women were such as loss of appetite, nausea, alopecia, and changes in nail color. These might be due to the fact that physical side effects of chemotherapy are generally universal and can occur in any patient since it targets rapidly proliferating cells, cell DNA, and the immune system. Similar findings were also reported in studies conducted in England, Indonesia, and Taiwan (19–21).

Findings from this present study revealed that some participants experienced cognitive changes during and after the treatment process, these were loss of consciousness, difficulty with remembering, finding words, and paying attention, consistent with studies done in New York and Kansas. These may be due to chemo agents may affect the DNA of cells in the brain, neurotransmitters, and the blood-brain barrier. These may cause cognitive impairments by altering brain function(22,23).

The study reveals that individuals on chemotherapy experience emotional changes during and after treatment. These were *mood changes* such as anger with themselves, anxiety, depression, and. the other were *emotional withdrawals* such as such as feelings of loneliness, *emotional outbursts* like crying, and hating of voices. *Emotional dysregulation* such as impatience with everything, whining behaviors, and yawning. After chemotherapy, some women experienced emotional changes such as fear of disease recurrence, regret, self-blame, suicidal thoughts, and thinking of sacrifices made for them. These findings support a study done in England, New York, and Ethiopia among patients undergoing chemotherapy treatment, which revealed negative emotions and thoughts, such as fear, panic, concern about recurrence, anxiety, and depression. These may be related to physical side effects of chemotherapy, such as alopecia and hormone imbalances, which can create changes in emotions and hamper women's ability to carry out routine tasks. (21,24,25).

The study revealed reproductive health issues experienced by women during and after the treatment process. Including prolonged heavy bleeding, irregular menstrual cycles, amenorrhea, painful sexual activity, decreased desire, abstinence, and changing relationships, these were experiences shared by some of the women. On the other hand, most women shared their experiences, as there was understanding and respect for their diminished sexual desire from their spouse. These results were congruent with a study done in Turkey and Australia, which revealed feelings of dissatisfaction, pain, and dryness during intercourse, and the majority of women felt well supported by their partners during the illness, and some thought the relationship had changed(26,27).

The study revealed the diverse social and family impacts of chemotherapy on women's experiences during and after treatment. These were different emotional changes within families, neighbors, and relatives. The others were social withdrawal, social gossip, and child scattering due to divorce. These findings are in line with studies done in England, Germany, and Ghana, which revealed social isolation, fears, and worries within families (21,28,29).

The study highlights the financial challenges women face during and after chemotherapy, including high costs of medication, lab tests, and expenses for blood investigations and transportation during the surveillance period. These results were harmonious with studies done in Ethiopia, which shows a lack of resources, financial restraints, and functional impairment in their roles and responsibilities at work and home that has a negative impact on their lives(24,28).

The study revealed that women received various types of supportive care from different sources during treatment, which was generally good but not sufficient. Regards to healthcare providers, most women reported receiving comforting, supportive care from nurses. These findings contrast with a qualitative study done in Ethiopia, which revealed that most patients were not satisfied with their healthcare experience. They described health care providers as unsupportive and uncaring. The difference might be related to differences in study settings, or it might be survived patients may not focus on negative experiences they got from health care providers (24).

Women received various forms of social support, including emotional, instrumental, informational, and appraisal support, from various sources such as families, relatives, neighbors, colleagues, hospitals, husbands' friends, and messengers. This finding supports a qualitative study done in England and Ethiopia, which revealed family, hospital, and specialist services. (21,24)

The study found that women utilized various coping techniques to manage their distress and psychological discomfort from chemotherapy, utilizing the Lazarus stress and coping theory. Some of these coping techniques that were *emotional-based coping techniques* that are not aimed at solving problems directly but at changing a person’s thoughts, such as being faithful, being hopeful, and crying for some relief. These results are consistent with other studies done in Turkey and Nigeria, which revealed, understanding the value of health and greater appreciation for life and hope, faith, and courage sustained treatment(30,31).

Additionally, women used *behavioral coping mechanisms* that focus on changing behavior rather than thought or emotion, such as getting some fresh air,

exercising, and going to religious places. These findings are related to a previous study done in China and Kansas, which revealed exercise, enough rest, and spiritual growth were coping techniques used by patients(23,32).

Also, problem-based coping techniques that aim to analyze and explore the causes of stressful events, seek relevant information and social support, eliminate or solve problems, set goals, and change personal expectations. Some of those techniques were: amendments within their foods; Googling to understand what food was recommended or not; buying vitamins and other appetizers. This finding is supportive of a qualitative study done in Turkey, which revealed, discussion with their spouses, using resources such as the internet, or postponing or ignoring the problems(26)

Further findings in this present study revealed that information on medication side effects, medication, and blood investigation unavailability in the compound were what needed to be prioritized. The study identified areas for improvement in healthcare, including delays in treatments, inadequacy of information, and challenges in hospitals, including the unavailability of medication and lab investigations. These findings support a qualitative study done in England, which revealed particular service needs, including family-centered care, pretreatment preparation, and rehabilitation. (21).

Strengths and Limitations: To the best of our knowledge, this study is one of the few that provides in-depth experiences of women with GTN treated with chemotherapy. We attempted to explore experiences both while they were undergoing and after completing chemotherapy to compare each other's. The study employed retrospective interviews to induce individuals to remember previous experience. The women's recalls of their experiences may have been impacted by the time that had gone since their treatment and subsequent occurrences, since there were women who had been on therapies for lengthy and short periods of time.

Conclusion

Women diagnosed with GTN and treated with chemotherapy experienced significant physical, emotional, cognitive, reproductive, and social challenges, both during and after treatment. A major issue was the lack of prior awareness about GTN, which intensified emotional distress at diagnosis. Reproductive health concerns and fear of disease recurrence persisted post-treatment. Despite receiving support from family and healthcare providers, gaps in communication, medication access, and psychosocial care were noted. Women emphasized the need for improved health education, timely information on treatment side effects, and stronger financial and emotional support systems. These findings highlight the importance of holistic, patient-centered care throughout the GTN treatment journey.

Declarations

Ethics approval and consent to participate.

The study was approved by an ethics committee of the Department of Midwifery at Addis Ababa University School of Nursing and Midwifery **[Protocol No: SNM/MID/038/16].**

Consent for publication: obtained from all study participants and authors

Availability of data and materials

All data relevant to the study are included in the manuscript or uploaded as supplementary information. For access to the data and to get additional information, kindly get in touch with the corresponding author and the first author.

Competing interests

No conflict of interest

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Author contribution: AT, SB, and BF participated in the design, analysis of the study, searched the databases, and wrote the first and second drafts of the research. SB and KA participated in the study design, implementation of the study, and contributed to the draft manuscript. All four authors took part in reviewing the whole process of the research (manuscript) and approved the final version.

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References

1. American Cancer Society. About Gestational Trophoblastic Disease: What Is Gestational Trophoblastic Disease ? Am Cancer Soc. 2017;1–10.
2. Goldstein DP, Berkowitz RS, Bernstein MR. Management of molar pregnancy. J Reprod Med. 1981;26(4):208–12.
3. Altieri A, Franceschi S, Ferlay J, Smith J, La Vecchia C. Epidemiology and aetiology of gestational trophoblastic diseases. Lancet Oncol. 2003 Nov;4(11):670–8.
4. Johnston RB. Arsenic and the 2030 Agenda for Sustainable Development. Arsen Res Glob Sustain - Proc 6th Int Congr Arsen Environ AS 2016. 2016;12–4.
5. World Health Organization; Department of Reproductive Health and Research. Targets and Strategies for Ending Preventable Maternal Mortality: Consensus Statement. 2014;4.
6. Braga A, Mora P, de Melo AC, Nogueira-Rodrigues A, Amim-Junior J, Rezende-Filho J, et al. Challenges in the diagnosis and treatment of gestational trophoblastic neoplasia worldwide. Vol. 10, World journal of clinical oncology. United States; 2019. p.

28–37.
7. França ACG, Uberti EMH, Muller KP, Cardoso RB, Giguer F, El Beitune P, et al. Emotional and Clinical Aspects Observed in Women with Gestational Trophoblastic Disease: A Multidisciplinary Action. Rev Bras Ginecol e Obstet Rev da Fed Bras das Soc Ginecol e Obstet. 2022 Apr;44(4):343–51.
8. Chen S, Li T, Meng L, Liu K. Advances in immunotherapy and molecular targeted therapy of gestational trophoblastic tumor: current practice and future perspectives. Am J Cancer Res. 2022;12(6):2422–32.
9. Chua AS, DeSantis SM, Teo I, Fingeret MC. Body image investment in breast cancer patients undergoing reconstruction: Taking a closer look at the Appearance Schemas Inventory-Revised. Body Image [Internet]. 2015;13:33–7. Available from: https://www.sciencedirect.com/science/article/pii/S1740144514001764
10. Aslam MS, Naveed S, Ahmed A, Abbas Z, Gull I, Athar MA. Side Effects of Chemotherapy in Cancer Patients and Evaluation of Patients Opinion about Starvation Based Differential Chemotherapy. J Cancer Ther. 2014;05(08):817–22.
11. Ruggeri M, Pagan E, Bagnardi V, Bianco N, Gallerani E, Buser K, et al. Fertility concerns, preservation strategies and quality of life in young women with breast cancer: Baseline results from an ongoing prospective cohort study in selected European Centers. Breast. 2019 Oct;47:85–92.
12. Weeks JC, Catalano PJ, Cronin A, Finkelman MD, Mack JW, Keating NL, et al. Patients' Expectations about Effects of Chemotherapy for Advanced Cancer. N Engl J Med. 2012;367(17):1616–25.
13. Alzehr A, Hulme C, Spencer A, Morgan-Trimmer S. The economic impact of cancer diagnosis to individuals and their families: a systematic review. Support Care Cancer [Internet]. 2022;30(8):6385–404. Available from: https://doi.org/10.1007/s00520-022-06913-x
14. Liang Y, Hao G, Wu M, Hou L. Social isolation in adults with cancer: An evolutionary concept analysis. Front Psychol. 2022;13:973640.
15. Arès I, Lebel S, Bielajew C. The impact of motherhood on perceived stress, illness intrusiveness and fear of cancer recurrence in young breast cancer survivors over time. Psychol Heal [Internet]. 2014;29(6):651–70. Available from: http://dx.doi.org/10.1080/08870446.2014.881998
16. Scott F, Taylor A. Supportive Care : The " Keystone " of Modern Oncology Practice. 2023;1–13.
17. Scialdone L. Overview of supportive care in patients receiving chemotherapy: antiemetics, pain management, anemia, and neutropenia. J Pharm Pract. 2012 Apr;25(2):209–21.
18. Souza CAD. Coping Strategies Used by Cancer Patients to Deal with Physical and Coping Strategies Used by Cancer Patients to Deal with Physical and Psychological Problems of Chemotherapy. 2016;(February).
19. Hsu H chun, Tsai S yu, Wu S liang, Jeang S roug, Ho M yao. Longitudinal perceptions of the side effects of chemotherapy in patients with gynecological cancer. 2017;3457–64.
20. Indra R, Saputra B. PERCEPTION OF CANCER PATIENTS ON CHEMOTHERAPY SIDE EFFECTS. J Ris Kesehat. 2021 May 28;10:71–6.
21. Singh K, Warnock C, Ireson J, Strickland S, Short D, Seckl MJ, et al. Experiences of women with gestational trophoblastic neoplasia treated with high-dose chemotherapy and stem cell transplantation: A qualitative study. Oncol Nurs Forum. 2017;44(3):375–83.
22. Van Dam FS, Schagen SB, Muller MJ, Boogerd W, vd Wall E, Droogleever Fortuyn ME, et al. Impairment of cognitive function in women receiving adjuvant treatment for high-risk breast cancer: high-dose versus standard-dose chemotherapy. J Natl Cancer Inst. 1998 Feb;90(3):210–8.
23. Myers JS. Chemotherapy-related cognitive impairment: the breast cancer experience. Oncol Nurs Forum. 2012 Jan;39(1):E31-40.
24. Nuru Muhamed A, Kerie S, Biresaw H, Zewdie A, Habtie A, Kassa A. Lived Experiences of Adult Cancer Patients Undergoing Chemotherapy Treatment at University of Gondar Specialized Hospital, North West Ethiopia, 2021. J Patient Exp. 2023;10:1–7.
25. Jewell EL, Aghajanian C, Montovano M, Lewin SN, Baser RE, Carter J. Association of ß-hCG Surveillance with Emotional, Reproductive, and Sexual Health in Women Treated for Gestational Trophoblastic Neoplasia. J Women's Heal. 2018;27(3):387–93.
26. Akkuzu G, Ayhan A. Sexual Functions of Turkish Women with Gynecologic Cancer during the Chemotherapy Process. Asian Pacific J Cancer Prev. 2013;14(6):3561–4.
27. Stafford L, Hons BA, Psych MA, Clin M, Mcnally OM, Gibson P, et al. Long-Term Psychological Morbidity , Sexual Functioning , and Relationship Outcomes in Women With Gestational Trophoblastic Disease. 2011;21(7):1256–63.
28. Agyeman- SKJ. Experiences of women with breast cancer undergoing chemotherapy : A study at Ho Teaching Hospital , Ghana. 2021;(July):3161–9.
29. Inhestern L, Johannsen LM, Bergelt C. Families Affected by Parental Cancer : Quality of Life , Impact on Children and Psychosocial Care Needs. 2021;12(November):1–8.
30. Cebeci F, Yangın HB, Tekeli A. Life experiences of women with breast cancer in

south western Turkey: a qualitative study. Eur J Oncol Nurs Off J Eur Oncol Nurs Soc. 2012 Sep;16(4):406–12.

31. Anarado AN, Ezeome ER, Ofi OB, Nwaneri AC, Ogbolu Y. Experiences and desired nursing assistance of women on out-patient breast cancer chemotherapy in Southeastern Nigeria. Psychooncology. 2017 Mar;26(3):385–91.
32. Guo Y qiang. A Qualitative Study on Coping Strategies of Chinese Women With Metastatic Breast Cancer Undergoing Chemotherapy. 2022;13(March).