Research Paper

Effectiveness of Gestalt Therapy alone and in Combination with Cognitive-behavioral Therapy on Hope and Pain Intensity in Women with Breast Cancer

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ABSTRACT

Background: The breast is a sensitive organ for women. In addition to pain, breast cancer can cause many psychological problems for the patient. The aim of this study was to compare the effectiveness of gestalt therapy (GT) alone and combined with cognitive-behavioral therapy (CBT) [GT-CBT] on the hope and pain intensity of women with breast cancer.

Methods: This quasi-experimental study had a pre-test and post-test design with a control group. Out of 96 available patients with breast cancer who were referred to Imam Khomeini Hospital Cancer Clinic in Tehran, Iran, 60 cases were selected based on the inclusion criteria and randomly assigned to the control (n=20), GT (n=20), and GT-CBT (n=20) groups. Patients in the intervention groups received weekly online sessions (90 minutes) of GT or GT-CBT during eight weeks of training using the Zoom app. The data were collected through the miller hope scale (MHS) and hayes & peterson visual analog scale (VAS) and analyzed using descriptive (Mean±SD) and inferential (analysis of covariance) statistics by SPSS software version 20. The significance level was set at 0.05.

Results: The results indicated that both GT and GT-CBT significantly increased hope and decreased pain intensity scores (eta=0.73, $F_{(51, 2)}$=70.06, P<0.001). GT-CBT showed significantly higher effectiveness than GT (P<0.05).

Conclusion: According to the results, it is suggested to use integrated methods, such as GT-CBT to enhance hope and manage the pain intensity of patients with breast cancer.

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Highlights

● Patients with breast cancer experience several physical and psychological problems, such as pain, depression, anxiety, and sexual problems. These symptoms cause serious disruption in patients' quality of life, which may persist for years and can reduce the efficacy of medical treatment.

In this study, the effectiveness of GT alone and in combination with CBT (GT-CBT) on the pain intensity and hope of these patients was investigated.

● The findings indicated that both GT-CBT and GT enhanced hope and reduced pain intensity in patients with breast cancer.

● GT-CBT was significantly more effective than CBT on pain and hope of patients.

Plain Language Summary

Breast cancer as the most common cancer among women causes significant mental and physical problems in these patients. In this study, the effect of gestalt Therapy (GT) alone and combined with Cognitive-Behavioral Therapy (GT-CBT) on pain intensity and hope of these patients was investigated and it was found that both therapies were effective. However, GT-CBT was more effective than GT.

1. Introduction

Breast cancer is a type of cancer, in which abnormal cells grow uncontrollably in one or both breasts. These cells can invade the surrounding tissues and cause the formation of a mass, often called a tumor (Koh & Kim, 2019). Among different types of cancer, breast cancer is the most common cancer among women and the second leading cause of death in women aged 35-55 years old (Fares et al., 2019). Abachizadeh et al. in 2018 reported that the incidence of breast cancer for the female population was 24.6% and varied from 15% in urban areas to 34.6% in metropolitan areas of Iran. In addition, with increasing urbanization, the incidence of breast cancer also increased ($r=0.71$ and $P<0.001$) (Abachizadeh et al., 2018). The stage of a cancer describes how much cancer is advanced in the body. In stage I of breast cancer, the tumor grows to 2 cm in size, and the lymph node is not involved. Stage II breast cancer means that the cancer is in the breast or in the adjacent lymph nodes or both. This is the early stage of breast cancer. Stage III means that cancer has spread from the breast to the lymph nodes near the breast or the skin of the breast or the chest wall. Stage IV is known as metastatic breast cancer (Iqbal et al., 2015).

This disease and its treatment endanger the identity and female personality of patients (Trachtenberg, Esplen, & Piran, 2019) because society values feminine physical attractiveness. Even in women who do not need a mastectomy, this feeling of fear and the possibility of performing this operation is always present (Irandoost, Nasiri & Izadpanahi, 2020).

Breasts are part of a woman's identity and any problem in this part of the body, in addition to the problems caused by the disease itself, can create a wide range of psychological aspects in terms of sexual function, body image, and sense of identity (Martin et al., 2020). This indicates the importance and complexity of the psychological issues associated with the disease (Wang et al., 2020).

While the hope is necessary to move towards health, disappointment is very common in these patients. Hope can be considered a component of a meaningful life (Palacios-Espinosa,et al., 2015). According to Seligman theory (2002), hopefulness is a positive coping style that people use to interpret their situations and failures. Hopeful people believe that they can change their failures and succeed in the next turn or achieve positive results. Hopeless people with low hope feel failure and ruminate on negative emotions (Seligman, 2002). Hope in patients with breast cancer is critically low (Moghtader, 2017) and a low hope level is associated with anxiety, stress, and depression (Arnau et al., 2007), as well as fatigue and pain (Białek & Sadowski, 2021; Shareh & Robati, 2021).

Patients with breast cancer experience more psychological distress than the general population (Wilding et al., 2019). Psychological distress reduces hope through stress about the future, low self-esteem, and feelings of inadequacy (Koo et al., 2020), but hope increases a person's efforts to fight the disease and continue therapy (Gu et al., 2018). This disease causes ambiguity, despair, and pain. Women who are in the process of treatment always have economic, social, and family concerns (Jiramongkol & Lam, 2020). In addition, pain, fatigue, and lack of energy are the most common problems of patients with breast cancer (Jhamb et al., 2019). The reported pain intensity in affected women is very different and the effectiveness of painkillers in more than half of the patients is not satisfactory (Wiffen et al., 2017). Therefore, the main emphasis of research in recent decades has been on the role of emotional and cognitive factors in the occurrence and development of pain perception in patients with breast cancer (Deng, 2019). For example, gate pain control theory considers pain as a complex combination of sensory, emotional, and cognitive factors (Frediani & Bussone, 2019).

Therefore, the main emphasis of research in recent decades has been on the role of emotional and cognitive factors in the incidence and progression of the disease in these patients. In recent decades, many therapies have been designed to manage the psychological conditions of patients with breast cancer, including therapies based on mindfulness, commitment and acceptance, schema therapy, gestalt therapy, and cognitive-behavioral therapy (CBT) (Law et al., 2019). Research shows that CBT reduces the psychological and emotional effects of pain in patients with chronic pain and reduces pain and anxiety levels in patients with cancer (Rutledge et al., 2018). Meanwhile, CBT has shown a positive effect on disappointment in patients with breast cancer (Burns et al., 2020).

Another approach that has received less attention despite its success in treating psychological problems in the field of chronic diseases is Gestalt Therapy (GT). Unlike CBT, GT aims to move from environmental support to personal support. Focusing on increasing awareness, living in the here and now, and increasing the responsibility of people in life, GT tries to reduce the problems caused by anxiety (Raffagnino, 2019).

GT is effective in reducing pain and increasing the psychological health of patients with breast cancer (Lobb et al., 2020). However, it is less used in the treatment and improving the quality of life of patients with breast cancer. No study was found on the effect of GT on pain intensity in cancer patients or their level of hope.

Some researchers have suggested that each of these approaches has its own strengths and weaknesses and should be used in combination (Adam Rita, 2010). On the other hand, some studies have shown that CBT is not highly effective on biological factors, such as pain. Similarly, in recent years, in the treatment of chronic physical diseases, a combination of CBT with approaches, such as mindfulness and acceptance-based therapies has been used (Law et al., 2019).

However, the theoretical foundations of these two approaches are different. The GT approach has been used in a relatively limited way compared to CBT. Combining GT and CBT can provide broader and more diverse techniques to improve the mental health of patients (Adam Rita, 2010). As shown in previous studies, the use of integrated approaches can create more efficacy to increase the effectiveness of interventions (Wallerstein, Yen, & Syme, 2011). Combining emerging techniques and treatments and comparing them with known and effective therapies in this field can have fruitful results for patients with breast cancer. Accordingly, the aim of this study was to compare the effectiveness of GT-CBT and GT on the hope and pain intensity in patients with breast cancer.

2. Materials and Methods

Design, setting, and sample

It was a quasi-experimental study with a pre-test post-test design and a control group. The research population was all patients with breast cancer who were referred to Imam Khomeini Hospital, Tehran, Iran from January to November 2021. Out of 96 patients, 60 eligible patients were recruited through convenience sampling. The selected participants were randomly assigned to the GT (n=20), GT-CBT (n=20), and control (n=20) groups using block randomization. A randomization block size six was performed through enveloped letters by a person who was aware of the study objectives.

Inclusion criteria were the diagnosis of breast cancer by a specialist, at least six months have passed since the diagnosis, second or third stages of breast cancer, being 18 - 65 years old, at least a high school education, and the ability to use mobile applications. Exclusion criteria were having another chronic disease and being absent for more than one session. Patients receiving concomitant chemotherapy and radiotherapy or requiring hospitalization were excluded from the study.

Study toolos

Demographic questionnaire: It collects information, such as age, marital status, education, history of psychiatric illness, duration of illness, and the stage of illness.

Miller hope scale (MHS) is a self-report questionnaire to measure hope. The questionnaire was developed in 1988 by Miller and Powers. This questionnaire measures 48 aspects of hope and helplessness. It is scored on a 5-point Likert scale (from strongly agree=5 to strongly disagree=1). Twelve questions of this questionnaire, i.e. questions 11, 13, 16, 18, 25, 27, 28, 31, 33, 34, 38 and 39, are scored inversely. Acquired scores can range from 48 to 240, with higher scores indicating higher hope. Miller reported Cronbach's alpha of 0.90 for the scale (Miller, 1988). The reliability of the Persian version of the questionnaire has been confirmed by using Cronbach's alpha and split-half technique, which were equal to 0.92 and 0.95, respectively (Pasha &Amini, 2008). In the present study, Cronbach's alpha was equal to 0.86.

Hayes and Patterson (1921) pain intensity visual analog scale (VAS) relies on the patient's self-report and includes a 10 cm graduated line, on which the numbers are graded from zero (no pain at all) to 10 (most severe pain possible). The reliability of VAS has been confirmed by the test-re-test and its concurrent validity with Roland-Morris Disability Questionnaire in chronic low back pain patients (Boonstra et al., 2008). In Iran, its reliability has been obtained by retesting in background pain (0.80) and in severe pain (0.86) (Bazyari, Pouladi &Habibi, 2017).

Procedure

The subjects in the GT and GT-CBT groups participated in eight sessions of 90-120 minutes weekly and received homework according to the content of each session. The sessions were held online in the Zoom app by the first author. She was a PhD student in counseling, has participated in GT and CBT workshops, and had the required authority to conduct these sessions. The pre-test was conducted in person and individually with ethical considerations, after explaining the objectives of the study at Imam Khomeini Hospital. The post-test was performed online using WhatsApp. The control group did not receive any intervention during the study and in order to observe the ethical points, this group participated in two sessions of relaxation training online after the study. The used interventions were as follows:

GT content: The content of these sessions was taken from the PhD dissertation of Hosseinpor (2014), which had been specially compiled for breast cancer patients (Table 1).

GT-CBT sessions: The sessions for this group were designed based on available references (Brownell, 2010; Latner, 2014; Moorey & Greer, 2011; Spagnuolo Lobb, 2013; Williams & Chellingsworth, 2010). The content of these sessions is described in Table 2.

Data analysis

Data were described by mean and standard deviation. The Kolmogorov–Smirnov and Levens' tests were used to check the normality and variance equality assumptions, respectively. The results of the Kolmogorov-Smirnov test showed that the distribution of data in variables of pain and hope was normal and the variance of variables was equal (higher than 0.05). The Analysis of Variance (ANOVA) was used to compare pre-test scores and the age of the groups. Education, occupation, and marital status were compared using the Chi-square test. The Analysis of Covariance (ANCOVA) was used to find the effectiveness of interventions, and the groups were compared by of Bonferroni post hoc test. SPSS v. 20 software was used for data analysis. The significance level was set at 0.05.

3. Results

The sample consisted of 60 women with breast cancer who were referred to the cancer ward of Imam Khomeini Hospital in the second quarter of 2021. Out of 60 subjects, 57 remained at the end of the study. One person in the control group was excluded due to unavailability in the post-test stage and two subjects did not complete GT-CBT sessions. Finally, 20, 18, and 19 subjects remained in the GT, GT-CBT, and control groups, respectively. The mean age of the control, GT-CBT, GT, and control groups was 50.27±9.26, 48.20±9.00, and 47.47±8.04 years, respectively, which their difference was not significantly different at the level of 0.05. The collected data showed that 29.3% of the research subjects had an academic degree and 70.7% of them had a high school education. The demographic characteristics of each group are compared in Table 3.

Table 3 shows that the intervention and control groups were homogeneous in terms of education, age, marital status, and occupation (Table 3). Table 4 presents the mean score of pain intensity and hope in the experimental and control groups in the pre-test and post-test.

Table 1. Content of the GT sessions (Hosseinpor, 2014)

Sessions	Contents
1	Implementation of pre-test and introduction of GT philosophy, achieving awareness and brief introduction of goals and techniques of future sessions
2	Awareness and acceptance of responsibility for the thoughts and feelings of each member by themselves. Unity between thoughts and feelings and recognition of projections
3	On the definition of body parts: it is advisable to be aware of the here and now based on the experience of the present
4	Positive and negative emotions based on the use of the hot seat technique and rotation technique
5	Complete unfinished sentences, working on contrasting poles, and talking between poles
6	Awareness of the denied parts of the participants' personality, awareness of all internal dimensions, using empty chair techniques and inverted role
7	Working on unfinished situations using the empty seat, role-playing technique, and the fantasy expression technique
8	Summarizing the techniques and techniques used during the previous sessions, follow-up of emotions, knowledge, experiences, and performing post-test

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As shown in Table 4, the scores of pain intensity of both intervention groups decreased from pre-test to post-test. The mean score of hope in both intervention groups increased from pre-test to post-test. The results of ANOVA showed no significant difference between the pre-test scores of pain (P=0.89) and hope (P=0.41) in the intervention and control groups. The difference between groups was significant in the post-test. Table 5 shows the results of ANCOVA.

There were significant differences in the mean scores of hope and pain from pre-test to post-test between the interventions and control groups (eta=0.79, $F_{(51, 2)}$=99.85, P<0.001) and (eta=0.72, $F_{(51, 2)}$=73.60, P<0.001), respectively (Table 5). The mean difference between the three groups was compared using the Bonferroni post hoc test (Table 6).

The difference between the two experimental groups and the control group was significant at the level of 0.001. There was also a significant difference between the GT-CBT and GT groups (P<0.001).

4. Discussion

The aim of this study was to compare the effectiveness of GT and GT-CBT on the hope and pain intensity of women with breast cancer and the results showed the effectiveness of GT. The pain intensity in the GT group decreased significantly. Lobb et al. (2020) investigated the effect of GT on pain perception and reported the efficacy of GT in the reduction of pain. Torabian, Mohammadi, & Rahimi (2020) indicated the efficacy of GT in the reduction of pain in patients with irritable bowel syndrome (Torabian, et al., 2021).

Table 2. Content of GT combined with CBT (GT-CBT) sessions

Sessions	Contents
1	Introduction, goals, expectations, future sessions, breast cancer and psychotherapy effectiveness, GT and CBT effectiveness for cancer patients
2	The unfinished works listed (unfinished works technique), the automatic thoughts identified through worksheets (first step of cognitive restructuring)
3	Challenge with automatic thoughts identified through worksheets (second step of cognitive restructuring), the technique of inversed verb game used while sharing personal experience in the group: "I take responsibility of feeling..."
4	Challenging automatic thoughts replaced through worksheets (third step of cognitive restructuring), the inverted role game was introduced and taught
5	Three steps of cognitive restructuring were reviewed, and group discussion about the steps and experiences in the last sessions
6	The projecting game was taught by members and the relaxation technique was introduced and trained
7	Desensitization of stress was taught and the hot chair technique was used for voluntaries
8	The sessions and techniques were reviewed, providing feedback, answering questions, and performing post-test

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Table 3. Comparison of demographic characteristics of the intervention and control groups

Variables		No. (%)			P
		GT-CBT	GT	Control	
Education level	High school	12(66.7)	16(78.0)	14(73.7)	0.71
	Academic	6(33.3)	4(22.0)	5(26.3)	
Age (y)	>40	3(16.7)	3(16.7)	3(15.8)	0.80
	40-60	11(61.1)	6(12.0)	13(38.4)	
	<61	4(22.2)	4(22.2)	3(15.8)	
Occupation	Housekeeper	14(77.8)	10(55.6)	13(68.4)	0.78
	Worker	3(16.7)	15(69.7)	5(26.3)	
	Digital dealer	1(5.4)	3(15.2)	1(5.3)	
Marital status	Single	2(11.)	3(16.6)	0	0.41
	Married	16(88.9)	17(83.4)	19(100)	

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GT: Gestalt Therapy; CBT: Gestalt Therapy combined; GT-CBT: Gestalt Therapy combined with Cognitive-Behavioral Therapy

Pain is an emotion (Wiffen et al., 2017) and through GT sessions, in addition to creating an emotional discharge, the person playing the role can finish his unfinished works, which takes a lot of energy from her. This allows the person to get rid of deadlocks and emotional pressures, i.e., increased pain intensity (Bazyari, et al, 2017), which are often seen as headaches and a feeling of constant contraction in muscles (Burns et al., 2020). The empty chair technique led the participants to accept … by emphasizing the pronouns here and now (Latner, 2014). Acceptance is recognized as a positive pain cop ± ing strategy to control pain (Frediani & Bussone, 2019). Inverted play and projection were done during the sessions focusing on the problems and disabilities related to the disease and during these games, the participants were directed towards responsibility and awareness of their role in their lives (Lobb et al., 2020), which can increase pain management ability.

The results showed the effectiveness of GT on hope. Abadi et al. (2018) also reported the efficacy of GT on the hope of older women. The effectiveness of GT on the hope of serious illnesses or terminality ill patients has been also reported (Berri, 2020). Regarding the effectiveness of GT on hope, Gestalt is an existential approach that emphasizes the responsibility of individuals

Table 4. Descriptive indicators in pre-test and post-test

Variables	Groups	Mean±SD		P*
		Pre-test	Post-test	
Pain intensity	GT-CBT	5.55±1.91	2.61±1.03	0.89
	Control	5.15±1.89	5.26±2.10	
	GT	5.30±1.86	3.60±1.56	
Hope	Control	109.05±13.26	109.68±13.12	0.41
	GT	118.30±18.07	126.60±18.81	
	GT-CBT	114.16±19.28	128.83±16.29	

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GT: Gestalt Therapy; CBT: Gestalt Therapy combined; GT-CBT: Gestalt Therapy combined with Cognitive-Behavioral Therapy. *ANOVA

Table 5. The results of the analysis of covariance

Sources	SS	df	MS	F	P	Eta
Pain	94.21	1	94.21	135.86	0.001	0.72
Group	102.08	2	51.04	73.60	0.001	0.74
Error	35.36	51	0.69			
Hope	13841.05	1	13841.06	1466.15	0.001	0.96
Group	185.31	2	942.65	99.85	0.001	0.79
Error	500.34	53	9.44			

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towards themselves and their role in current experiences. In GT, past and future conflicts are discussed in the form of the present (Latner, 2014). Accepting responsibility for present emotions without resorting to past events or worrying about the future helped the subjects to increase feelings of hope. Most patients avoid being in the moment; they either think about the past, in which they were healthy or they think about the future that they are frustrated and afraid, which reduces their hope (Białek & Sadowski, 2021). According to Schneider, two types of thinking are necessary to create hope: thinking of a passage or path and thinking of an agent (Akos & Kurz, 2016). A person may have a lot of mental energy and passion for personal goals, but may not have enough ability to find ways to achieve goals or can easily find specific ways to achieve their goals, but do not have the thinking power to achieve them (Snyder et al., 2006). However, DustKafi et al. showed that GT was not significantly effective on the psychological well-being of women with lung cancer compared to positive counseling (Dustkafi et al, 2019). To explain the difference, they studied lung cancer patients, the sample size was smaller, and end-stage patients were not excluded from the study.

The results of the study also showed that GT-CBT was more effective than GT on the hope and pain intensity of the subjects. It means that the combination of GT and CBT increased the effectiveness of the sessions on pain reduction and enhancement of hope in patients who participated in the study. This finding is in line with that of Mokri Vala et al. (2022), indicating that GT-CBT is more effective than CBT on the self-efficacy of patients with breast cancer (Mokri Vala et al., 2022).

Regarding the effectiveness of GT-CBT, in the CBT approach, cognitive restructuring as a central technique works through identifying and changing biased thoughts (Williams & Chellingsworth, 2010). Incognizant of daily frustration and helplessness thought sources lead to high stress and lower hope (Madani et al., 2018). Given that the fundamental goal of GT is awareness (Brownell, 2010), the combined program sessions helped participants understand exactly what their thoughts are and where they come from. Hopelessness and disappointment are common feelings in patients with cancer (Madani et al., 2018). Most of the frustrating feelings include worrying about the future and growing incapacity, and these feelings were identified and challenged through CBT

Table 6. Post hoc test results for pairwise comparison of the groups

Variables	Group I	Group J	Mean Difference	P
Pain	GT-CBT	Control	2.93	0.001
	GT	Control	2.82	0.001
	GT	GT-CBT	1.11	0.04
Hope	GT-CBT	Control	14.34	0.001
	GT	Control	8.23	0.001
	GT	GT-CBT	6.11	0.002

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GT: Gestalt Therapy; CBT: Gestalt Therapy combined; GT-CBT: Gestalt Therapy combined with Cognitive-Behavioral Therapy.

techniques (Williams & Chellingsworth, 2010). The patients were surprised about the weakness of gathered facts to confirm frustrating feelings. Efficient feelings were replaced simultaneously using Gestalt techniques. Techniques, such as projection and inverted play helped them find better alternatives to their frustrating feelings and provide better evidence to challenge them.

The findings showed that GT-CBT was more effective than GT on pain intensity. The efficacy of CBT and GT was also reported in the improvement of headaches (Sepehrian Azar, Asadnia, & Mosarrezaii Aghdam, 2013). Besides GT techniques, the cognitive-behavioral model helped to reduce pain by correcting misinterpretations, guiding negative self-talk, and correcting irrational thought patterns and dysfunctional cognitions, for launching effective and adaptive coping responses and controlling negative emotions. On the other hand, relaxation, in addition to relaxing the muscles, can cause the secretion of soothing hormones in the body and reduce pain (Burns et al., 2020). According to Tønnesvang et al. (2010), the complementary view of the GT and CBT provides a wider scope of awareness toward individual and contextual aspects of therapeutic change processes, different levels of memory involved in these processes, and the relationship between basic needs, sensation, and cognition during the treatment. Furthermore, a dialogue between the two approaches paves the way for addressing the connection between fundamental awareness in GT and the tendency of CBT toward incorporating mindfulness as a therapeutic tool. Therefore, the GT-CBT is more effective (Tønnesvang et al, 2013).

5. Conclusion

This study compared the effectiveness of GT and GT-CBT on hope and pain intensity of women with breast cancer. The results indicated that both GT and GT-CBT significantly increased hope and decreased pain intensity scores. However, GT-CBT was significantly more effective than GT. As a limitation, no hope or disappointment scale, specially designed for cancer patients, was found. Therefore, the measured hope in these patients may be somewhat different from the actual situation. Also, the COVID-19 pandemic led to sessions being held virtually, which could reduce the real impact of the approaches used. It is suggested that these therapies be trained using virtual approaches and compared with face-to-face training so that online methods can be used if it is effective in reducing treatment costs. It is also suggested to use integrated methods, such as GT-CBT to enhance hope and manage the pain intensity of patients with breast cancer.

Ethical Considerations

Compliance with ethical guidelines

The Scientific Committee of Allame Tabatabayie University approved the study. The necessary permissions were obtained and submitted to Imam Khomeini Hospital, Tehran. Written informed consent was obtained from all study subjects.

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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