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Correlation Between Quality of Life and Family Support with Stroke Incidence

Ixora [1(CA)], Dewi Wulandari[2], Tunik[3]
1,2,3 Departement of Nursing, Poltekkes Kemenkkes Malang
Corresponding author's email (CA): ixora@poltekkes-malang.ac.id

ABSTRACT

Stroke not only affects the sufferer but also affects family life. This situation is further complicated when only one family member is caring for the stroke patient. The purpose of this study was to determine the correlation between quality of life and family support and stroke incidence. The study design was correlational with a cross-sectional approach. The sample was taken using a saturated sampling technique. The research instruments were observation to measure the incidence of stroke and questionnaires to measure the quality of life and family support, data analysis using the contingency coefficient test technique. The results of the study showed that most of the respondents, namely 28 (73.7%) had a quality of life in the good category, half of the respondents, namely 19 (50%) had family support in the sufficient category and the other half, namely 19 (50%) had family support in the good category, most of the respondents, namely 27 (71.1%) were non-hemorrhagic stroke. There is correlation between quality of life with incidence of stroke in the Bandung, because statistical test results showing a significance value of 0.000 < 0.05. The data shows that the majority of respondents (73.7%) have a good quality of life. There is correlation between family support with stroke incidence in the Bandung, because statistical test results showing a significance value of 0.001 < 0.05.

Keywords: Quality of life; family support; stroke incidence

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INTRODUCTION

Stroke is the third leading cause of death worldwide, after coronary heart disease and cancer, in both developed and developing countries. One in 10 deaths is caused by stroke [1]–[3]. Globally, 15 million people suffer a stroke each year, one-third die and the rest are left with permanent disability [3]. A stroke is a condition that occurs when the blood supply to a part of the brain is suddenly interrupted, causing some brain cells to die due to impaired blood flow due to a blockage or rupture of a blood vessel in the brain. This interruption of blood flow stops the supply of oxygen and nutrients to the brain, preventing that part of the brain from functioning properly [4]. Stroke symptoms depend on the part of the brain affected. Symptoms include weakness or paralysis of the limbs, asymmetrical lips, slurred speech or inability to speak (aphasia), headache, decreased consciousness, and sensory

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disturbances (e.g., numbness in one limb). A stroke affecting the cerebellum can cause dizziness (vertigo) [5].

Stroke is actually a familiar disease to most people. This is due to the relatively high incidence (number of new cases) of stroke in the community. According to the World Health Organization (WHO), 15 million people worldwide experience a stroke each year. Approximately five million suffer permanent paralysis. In Southeast Asia, 4.4 million people experience a stroke [6]. In 2020, it is estimated that 7.6 million people will die due to stroke [7]. Based on data collected by the Indonesian Stroke Foundation (Yastroki), the number of deaths caused by stroke is second among those aged 60 and over and fifth among those aged 15-59 [8].

Strokes are divided into hemorrhagic strokes, which occur when a blood vessel ruptures in the brain, and non-hemorrhagic strokes, which occur when a blood vessel in the brain becomes blocked. The prevalence of stroke in East Java in 2021 was 12.4%. This prevalence is still above the national average. Based on data on non-communicable disease cases in the Disease Prevention and Control Division of the Tulungagung Regency Health Office, in 2016, 175 people died from stroke. In 2017, the number of deaths from stroke increased to 192 [9].

A stroke not only affects the sufferer but also affects family life. One family member suddenly becomes helpless, loses their role in the family, and becomes a burden. Readaptation is crucial in maintaining family life in the face of new circumstances. Families need to be encouraged and motivated to face the situation head-on. When one family member experiences a stroke, the entire family sometimes suffers. This situation is further complicated if only one family member is caring for the stroke patient [10].

Families with a patient with a chronic illness or disability will adapt to manage and balance the needs of the patient and the family. Having a member with a chronic illness will impact the family's function and structure. The family can be a resource during recovery or adaptation from an illness, regardless of the cause. The natural reciprocal nature of family relationships can contribute to a family's well-being [11].

The family is a crucial unit in public health care because each individual spends a significant portion of their life within the family environment. The family unit has the potential to shape the habits and attitudes of its members, such as food choices, eating patterns, and how to deal with conflict and stress. Family members who live in the same household as a stroke survivor have a higher stroke rate than those who do not. Furthermore, as a form of caregiving commitment, working hours are reduced, especially for working women. Family support is a contributing factor that can influence a person's behavior and lifestyle, thus impacting their health status and quality of life [12].

The quality of life of a family member who has a stroke will be affected, which can affect their lifestyle, psychological and spiritual aspects and of course will also affect the dimensions of quality of life in the form of psychological well-being, burden, relationship with healthcare,

administration and finances, coping, physical well-being, self-esteem, leisure time, social support, private life [13].World Health Organization Quality of Life (WHOQoL) Groupdefines quality of life as an individual's perception of their position in life in the context of the cultural and value systems in which they live and in relation to their goals, expectations, standards and concerns [14]. Quality of life is physical, mental and social health that is free from disease [15].

Supported by research conducted by Winarsih in Indonesia on the quality of life of families of cancer patients, it also proved that more than half of respondents had a poor quality of life (55.7%). Nine out of ten dimensions of quality of life had poor quality with a percentage of more than 50%: Social Support (83.0%), Physical Well-Being (81.8%), Private Life (79.5%), Burden (78.4%), Administration and Finances (71.6%), Leisure Time (67.0%), Self-Esteem (65.9%), Psychological (54.5%), and Coping (51.1%) [16]. Research also conducted by Hacialioglu in Turkey showed that 57% of the quality of life of families of cancer patients was poor, as indicated by five domains: physical, psychological, social, and environmental [17]. The same study on the quality of life of families of cancer patients was also conducted by Kitrungrote and Cohen in Karnataka. 70% of the sample showed depressed status, 60% of the sample lost time for work, 72% of the sample socialization or relationships with others were disturbed, and 80% of the sample showed a disturbed financial situation.[18]Quality of life is a terminology that indicates a person's physical, social and emotional health and their ability to carry out daily tasks [19].

Based on the background description above, the author wants to know more about how "the relationship between quality of life and family support to the incidence of stroke in the working area of the Bandung Community Health Center, Tulungagung Regency". The purpose of this study is to determine the relationship between quality of life and family support to the incidence of stroke in the working area of the Bandung Community Health Center, Tulungagung Regency.

METHODS

This research is a type of quantitative research, namely systematic scientific research on parts and phenomena and their relationships [20]. The research design used in this research is a correlational study with a cross-sectional approach [21].The independent variables in this study were quality of life and family support. The dependent variable was the incidence of stroke in the Bandung Community Health Center (Puskesmas) working area of Tulungagung Regency. The population in this study is families of stroke patients in the Bandung Community Health Center area, with data from January 2025 to March 2025 totaling 38 stroke patients. The sample was drawn using a saturated sampling technique. This technique was chosen due to the relatively small population (38 individuals). By using the entire sample as the population, the researchers intended to obtain more accurate and representative data from all stroke patients in the area over a specified time period. Implementation: Researchers collected data from the medical records of stroke patients at the Bandung Community

Health Center for a three-month period, then made each individual on the list a study respondent without any reductions.This method was chosen due to the small population size of 28 [21].

Data collection methods are the methods used to collect data and test data collection instruments. The primary data in this study were observations and questionnaires. Description of Research Instruments Observation Instrument: Used to identify the dependent variable, namely Stroke Incidence. Through observation, researchers classified the type of stroke experienced by respondents into two categories: Hemorrhagic Stroke: Bleeding in the brain due to a ruptured blood vessel. Non-Hemorrhagic Stroke: Blockage in a blood vessel in the brain. Questionnaire Instrument: Used to measure two independent variables: Quality of Life: Measures respondents' perceptions of their life situation. Family Support: Assesses four specific forms of support: informational, instrumental, appreciation, and emotional support. The Quality of Life and Family Support questionnaire has been tested for validity and reliability on 20 respondents in the Bandung Community Health Center area and the results are valid and reliable. Data analysis used test techniques contingency coefficient with the following conclusions drawn: If p value <□ □(0.05) meansthere is a relationship Quality of life and support for stroke cases in the Bandung Community Health Center Working Area, Tulungagung Regency. If the p value >□ □(0.05) means nothere is a relationshipquality of life and support for stroke incidents in the Bandung Community Health Center Working Area, Tulungagung Regency [22].

RESULT

1. Respondent Characteristics

Table 1 Respondent Characteristics

Characteristics	Frequency	Percentage (%)
Gender		
Man	28	73.7
Woman	10	26.3
Age		
24-40 years	16	42.1
41-60 years	20	52.6
> 60 years	2	5.3
Education		
Junior High School/Equivalent	2	5.3
High School/Equivalent	21	55.3
College	15	39.5
Work		
Housewife/Not Working	7	18.4
Self-employed	15	39.5
Private	12	31.6
civil servant	4	10.5

(Source: Data processed in 2025)

Based on the table above, it was found that from a total of 38 respondents, the majority of

respondents, namely 28 respondents (73.7%) were male, the majority of respondents, namely 20 respondents (52.6%) were aged 41-60 years, the majority of respondents, namely 21 respondents (55.3%) had a high school education and almost half of respondents, namely 15 respondents (39.5%) worked as self-employed.

2. Frequency distribution of variable

Table 2. Frequency distribution of variable in the Bandung Community Health Center Work Area, Tulungagung Regency

Characteristics	Frequency	Percentage (%)
Quality of Life		
Currently	6	15.8
Good	28	73.7
Very good	4	10.5
Family Support		
Enough	19	50.0
Good	19	50.0
Stroke Incident		
Hemorrhagic	11	28.9
Non-Hemorrhagic	27	71.1

(Source: Data processed in 2025)

Based on table 2 above, it was found that of the total of 38 respondents, the majority of respondents, namely 28 respondents (73.7%) had a quality of life in the good category. Half of the respondents, namely 19 respondents (50%) had family support in the sufficient category and the other half, namely 19 respondents (50%) had family support in the good category. The total of 38 respondents, the majority of respondents, namely 27 respondents (71.1%) had non-hemorrhagic stroke.

3. The correlation between quality of life and stroke incidence in the Bandung Community Health Center Work Area, Tulungagung Regency

Table 3 Cross tabulation correlation between quality of life and stroke incidence in the Bandung Community Health Center Work Area, Tulungagung Regency

Quality of Life	Stroke				Total	
	Hemorrhagic		Non-Hemorrhagic			
	F	%	F	%	F	%
Currently	6	15.8	0	0	6	15.8
Good	5	13.2	23	60.5	28	73.7
Very good	0	0	4	10.5	4	10.5
Amount	11	28.9	27	71.1	38	100
Contingency Coefficient			P value = 0.000		α = 0.05	

The results of the study in table 3 above show that as many as 23 (60.5%) respondents had a good quality of life and experienced non-hemorrhagic stroke, as many as 6 (15.8%) respondents had a moderate quality of life and experienced hemorrhagic stroke and as

many as 4 (10.5%) respondents had a very good quality of life and experienced non-hemorrhagic stroke.

The results of quantitative data analysis with the coefficient contingency statistical test assisted by the SPSS computer program can be interpreted as the results of the coefficient contingency statistical test producing a P Value = 0.000 smaller than the value of α = 0.05 (0.000 < 0.05) so that H0 is rejected and H1 is accepted, which means there is a relationship between quality of life and the incidence of stroke in the Bandung Community Health Center Working Area, Tulungagung Regency.

4. The correlation between family support and stroke incidents in the Bandung Community Health Center Work Area, Tulungagung Regency

Table 4 Cross tabulation correlation between family support and stroke incidents in the Bandung Community Health Center Work Area, Tulungagung Regency

Family Support	Stroke				Total	
	Hemorrhagic		Non-Hemorrhagic			
	F	%	F	%	F	%
Enough	10	26.3	9	23.7	19	50
Good	1	2.3	18	47.4	19	50
Amount	11	28.9	27	71.1	38	100
Contingency Coefficient			P value = 0.001		α = 0.05	

The research results in Table 4 above show that 10 (23.3%) respondents had adequate family support and experienced a hemorrhagic stroke. Meanwhile, 18 (47.4%) respondents had good family support and experienced a non-hemorrhagic stroke.

The results of quantitative data analysis with the coefficient contingency statistical test assisted by the SPSS computer program can be interpreted as the results of the coefficient contingency statistical test producing a P Value = 0.000 smaller than the value of α = 0.05 (0.000 < 0.05) so that H0 is rejected and H1 is accepted, which means there is a relationship between family support and the incidence of stroke in the Bandung Community Health Center Working Area, Tulungagung Regency.

DISCUSSION

Quality of life of stroke patients in the Bandung Community Health Center Work Area, Tulungagung Regency

The research results in Table 2 show that of the total of 38 respondents, the majority of respondents, namely 28 respondents (73.7%), have a quality of life in the good category.

Quality of life is physical, mental, and social well-being, free from disease. Quality of life is a general term used to describe health status, although it also has specific meanings that allow for ranking of the population according to both objective and subjective aspects of health status [15].

Health-related Quality of Life (HQL) encompasses functional limitations of both a physical and mental nature, and positive expressions of physical, mental, and spiritual well-being. Health-related Quality of Life (HQL) can be used as an integrative measure that combines mortality and morbidity, and is an index of various elements that include mortality, morbidity, functional limitations, and well-being [15].

Based on these data, researchers can conclude that stroke patients in the Bandung Community Health Center (Puskesmas) in Tulungagung Regency have a good quality of life for their families. This quality of life indicates that stroke patients receive good attention in terms of treatment and healthcare services, which will support their recovery process. These findings indicate that although caring for stroke patients is a complex and challenging task, many families are still able to maintain relatively stable physical, psychological, social, and environmental conditions. Several factors are suspected to contribute to this achievement.

Family interactions play an important role in maintaining quality of life. In Indonesia's collectivist culture, family members often provide emotional, financial, and caregiving support, which helps reduce the burden on primary caregivers and lowers stress levels. A good quality of life is also influenced by the family's knowledge and skills in caring for stroke patients. Families who understand the patient's condition, complications, ROM exercises, pressure sore prevention, and vital sign monitoring usually have greater confidence and better psychological well-being. Adaptive coping strategies, such as talking with family members, praying, and getting enough rest, also help maintain emotional well-being. In addition, access to healthcare services such as community health centers, physiotherapy, and rehabilitation services can reduce the family's burden and improve recovery outcomes. However, some families still experience a moderate quality of life due to financial limitations, lack of social support, and high patient dependency. Overall, family quality of life is influenced not only by the patient's condition but also by social support, coping abilities, and access to healthcare.

Support for families of stroke sufferers in the Bandung Community Health Center Work Area, Tulungagung Regency

The research results in table 4.6 above show that of the total of 38 respondents, half of the respondents, namely 19 respondents (50%), have family support in the sufficient category and the other half, namely 19 respondents (50%), have family support in the good category.

Family social support is a process that occurs throughout life.lifeThe nature and type of family social support vary across different stages of the life cycle. However, at all stages of the life cycle, family social support enables families to function with a variety of skills and abilities. Consequently, this improves family health and adaptation [23].

Family social support is the comfort, attention, help and appreciation given by other people or

groups to individuals, the existence of social support means the acceptance of parents or a group of people towards individuals which creates a perception in themselves that they are loved. Family support is a form of interpersonal relationship that occurs throughout life in all stages of the life cycle in the form of attitudes, comfort, attention, help and appreciation as well as acceptance of family members so that it creates a perception in themselves that they are loved and cared for [24].

Half of the respondents had good family support, indicating that many families were able to meet the emotional, informational, and instrumental needs of stroke patients. This is consistent with Indonesian cultural values that emphasize family closeness and mutual support. Families with good support usually have open communication, clear caregiving roles, and willingness to provide physical and emotional assistance, which can increase patient comfort and reduce family stress. However, 50% of respondents only had sufficient family support, showing that not all families are able to provide optimal care. Factors such as work demands, financial limitations, lack of knowledge about stroke, and limited time with patients may reduce the level of support provided. According to Friedman's theory, family support is influenced by family functioning, stress levels, and available resources. Families with better abilities and resources are more likely to provide stronger support, while limited resources and high psychological burden may reduce support. Overall, these findings show that family support still needs to be improved through education, counseling, and guidance from healthcare workers such as nurses, midwives, and community health center staff.

Stroke incidents in the Bandung Community Health Center Working Area, Tulungagung Regency.

The research results in Table 4 show that of the total of 38 respondents, the majority of respondents, namely 27 respondents (71.1%), had non-hemorrhagic stroke.

Stroke is a functional brain disorder characterized by nerve paralysis caused by impaired blood flow to one part of the brain. The degree of nerve damage or paralysis depends on which part of the brain is affected. This disease can lead to complete recovery, disability, or death [25]. Stroke is a term used to describe neurological changes caused by a disruption in the blood supply to part of the brain [26].

A stroke is a condition that occurs when the blood supply to a part of the brain is suddenly interrupted, causing some brain cells to die due to impaired blood flow due to a blockage or rupture of a blood vessel in the brain. This interruption of blood flow stops the supply of oxygen and nutrients to the brain, preventing that part of the brain from functioning properly [4]. Based on the cause, strokes are divided into two types, namely ischemic strokes and hemorrhagic strokes [27]. A non-hemorrhagic stroke, or ischemic stroke, occurs due to a blockage in a blood vessel in the brain. A hemorrhagic stroke occurs due to a ruptured blood vessel in the brain.

These findings are consistent with national and global data showing that non-hemorrhagic or ischemic stroke is the most common type of stroke, accounting for around 70–85% of cases. This type of stroke occurs when blood vessels in the brain become blocked, reducing oxygen supply to brain tissue. The high number of non-hemorrhagic stroke cases may be influenced by common risk factors such as hypertension, diabetes mellitus, dyslipidemia, smoking, and sedentary lifestyle. These factors contribute to atherosclerosis and narrowing of blood vessels, increasing the risk of ischemic stroke. Non-hemorrhagic stroke is also more common because it usually develops gradually, allowing patients a greater chance of survival and treatment. As a result, families are more likely to face long-term caregiving challenges, including weakness, speech disorders, and reduced ability to perform daily activities. Although this condition can increase the physical and emotional burden on families, the prognosis for non-hemorrhagic stroke is generally better than for hemorrhagic stroke. With regular rehabilitation and physiotherapy, patients have a greater chance of recovery. Therefore, family education on preventing complications, early mobilization, and home care is important to support recovery and reduce the risk of recurrent stroke.

The correlation between quality of life with stroke incidence in the Bandung Community Health Center Working Area, Tulungagung Regency

The results of the study in table 5 show that as many as 23 (60.5%) respondents had a good quality of life and experienced non-hemorrhagic stroke, as many as 6 (15.8%) respondents had a moderate quality of life and experienced hemorrhagic stroke and as many as 4 (10.5%) respondents had a very good quality of life and experienced non-hemorrhagic stroke.

The results of quantitative data analysis using the contingency coefficient statistical test with the help of the SPSS computer program can be interpreted as the results of the contingency coefficient statistical test producing a P Value = 0.000 which is smaller than the valueα= 0.05 (0.000 < 0.05) so that H0 is rejected and H1 is accepted, which means there is a relationship between quality of life and the incidence of stroke in the Bandung Health Center Working Area, Tulungagung Regency. A high quality of life acts as a supportive factor in the recovery and management of stroke survivors. Conversely, a decreased quality of life and lack of support can worsen psychosocial conditions, contributing to the risk of complications or recurrent stroke.

This research aligns with Wulandari and Herlina's 2021 study, which found that a literature review of several research articles found that lifestyle is a factor associated with recurrent stroke, with physical activity and smoking being the most dominant factors. A better lifestyle reduces the likelihood of recurrent stroke, while a worse lifestyle can trigger recurrent stroke [28].

The family is a crucial unit in public health care because each individual spends a significant portion of their life within the family environment. The family unit has the potential to shape the

habits and attitudes of its members, such as food choices, eating patterns, and how to deal with conflict and stress. Family members who live in the same household as a stroke survivor have a higher stroke rate than those who do not. Furthermore, as a form of caregiving commitment, working hours are reduced, especially for working women. Family support is a contributing factor that can influence a person's behavior and lifestyle, thus impacting their health status and quality of life [12].

Environment, namely the individual's residence, including the conditions and availability of housing to carry out all life activities, including facilities and infrastructure that can support life. Environmental dimensions consist of financial resources, freedom, physical safety and security, health care and social care, home environment, opportunities to gain various new information and skills, participation and opportunities for recreation, physical environment, and transportation. Financial resources describe the individual's financial situation. Freedom, physical safety and security describe the individual's level of security that can affect his/her freedom. Health care and social care describe the availability of health services and social protection that can be obtained by the individual [29].

The home environment describes the conditions in which an individual life. Opportunities to acquire new information and skills describe whether or not an individual has the opportunity to acquire new things that are useful to them. Participation and opportunities for recreation describe the extent to which an individual has the opportunity and can join in creating and enjoying their free time. The physical environment describes the conditions surrounding the individual's residence, such as the condition of water, air, climate, and pollution. Transportation describes the means of transportation accessible to an individual [29].

The study found a significant relationship between family quality of life and the type of stroke experienced by patients. Most respondents with a good quality of life were families of non-hemorrhagic stroke patients, with 23 respondents (60.5%). In addition, 4 respondents (10.5%) had a very good quality of life, and all were families of non-hemorrhagic stroke patients. Meanwhile, respondents with a moderate quality of life were mostly families of hemorrhagic stroke patients, with 6 respondents (15.8%). These findings suggest that families of hemorrhagic stroke patients tend to have a lower quality of life because hemorrhagic stroke is usually more severe, causes greater disability, requires intensive care, and often involves longer hospitalization and rehabilitation. This increases the family’s physical, emotional, and financial burden. In contrast, non-hemorrhagic stroke patients generally have a better prognosis and faster stabilization, allowing families to adapt more easily, manage stress better, and maintain a higher quality of life.

The correlation between family support with stroke incidence in the Bandung Community Health Center Working Area, Tulungagung Regency

The results show that 10 (23.3%) respondents had adequate family support and experienced a hemorrhagic stroke. Meanwhile, 18 (47.4%) respondents had good family support and experienced a non-hemorrhagic stroke.

The results of quantitative data analysis using the contingency coefficient statistical test with the help of the SPSS computer program can be interpreted as the results of the contingency coefficient statistical test producing a P Value = 0.000 which is smaller than the valueα= 0.05 (0.000 < 0.05) so that H0 is rejected and H1 is accepted, which means there is a relationship between family support and the incidence of stroke in the Bandung Community Health Center Work Area, Tulungagung Regency.

This research is in line with previous research conducted by Wulandari in 2022 that based on the chi-square statistical test obtained a value of $\rho = 0.040$ which is smaller than $\alpha = 0.05$ indicating a significant relationship between family support and the incidence of stroke in the elderly. The existence of effective family support is expected to greatly assist the elderly in carrying out optimal stroke care so as to reduce the risk of recurrent stroke [30].

A stroke not only affects the sufferer but also affects family life. One family member suddenly becomes helpless, loses their role in the family, and becomes a burden. Readaptation is crucial in maintaining family life in the face of new circumstances. Families need to be encouraged and motivated to face the situation head-on. When one family member experiences a stroke, the entire family sometimes suffers. This situation is further complicated if only one family member is caring for the stroke patient [10]. Family social support is the comfort, attention, help and appreciation given by other people or groups to an individual. The existence of social support means that there is acceptance from parents or a group of people towards an individual which creates a perception in him that he is loved [24].

According to the researchers, family support has an important role in caring for stroke patients, especially in preventing worsening conditions and supporting recovery. Families of hemorrhagic stroke patients often face greater challenges because patients usually have more severe impairments and need more intensive care. If family support is only adequate, families may experience fatigue, stress, and difficulty providing optimal home care. In contrast, most families of non-hemorrhagic stroke patients have good family support. This means they are better able to provide attention, assistance, and emotional support to meet the patient's needs. Strong family support helps with physical exercise, diet management, medication monitoring, and coping with changes in the patient's condition. Overall, this study highlights the importance of the family as the main support system in stroke care. Continuous health education for families is needed to improve the quality of care and reduce the risk of worsening patient conditions.

CONCLUSION

There is a significant relationship between family support and stroke incidence, where family support plays an important role in helping patients adapt, improving treatment adherence, and reducing the risk of worsening conditions and recurrence. Additionally, quality of life is strongly associated with stroke incidence, as stroke affects physical, psychological, and functional aspects of patients. Patients with a better quality of life tend to have higher motivation to recover, which positively influences clinical outcomes.

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