

General

Biological, Psychological, And Social Factors Of Flourishing In Chronic Diseases: A Systematic Review Of Research

Amherstia Pasca Rina¹, Endang R. Surjaningrum¹, Triana Kesuma Dewi¹

¹ Doctor Psychology, Airlangga University

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Objectives

Chronic disease is a condition that is susceptible to deterioration both physically, psychologically and socially, so protective measures are needed to control this vulnerability, namely by flourishing. This research is aimed at identifying biological, psychological and social factors that influence the proliferation of chronic health.

Methods and analysis

This research was carried out in five stages by identifying questions according to PCC and searching for qualitative, quantitative and mixed method studies published from 2010 to 2024 that measured the flourishing of various chronic health conditions. The search strategy used the word flourishing and several appropriate terms on Scenedirect, IEEE Xplore, Emerald, Taylor & Francis, and Oxford Academics as well as Google Scholar as gray literature. 1,550 studies were found from 6 databases and the final selection results found 19 studies to be analyzed. Two reviewers performed data extraction based on the protocol and underwent quality assessment. Results reporting is categorized based on biological, psychological, social and demographic factors that can influence flourishing.

Results

There are biological, psychological and social factors that can influence the proliferation of chronic health, each of which influences the health condition of a person with a chronic health condition.

INTRODUCTION

Chronic disease is a disease that is suffered over a prolonged period and is complex and tends to be difficult to cure. Raghupathi and Raghupathi says chronic diseases including cancer, diabetes, hypertension, stroke, arthritis, and autoimmune disease tend to affect the mental condition and well-being of patients, besides that most patients are of productive age over 18 years. Based on the article by Kusuma et al., Indonesia could be on the verge of an epidemic with the number of chronic diseases tending to continue to increase with stroke reaching 56%, diabetes reaching 23%, hypertension reaching 32%, while the exact number of cases such as autoimmune diseases is still unknown. In 2017, the Indonesian Data and Information Center recorded that the number of reported lupus sufferers increased by 2,166 people with the death rate increasing by 550 patients. The main factors that cause diagnoses of chronic diseases are unhealthy lifestyles such as smoking behavior, use of drugs, poor nutrition, and even non-acceptance due to unhealthy food consumption, lack of physical activity, and excessive alcohol use cited by National Cen-

ter for Chronic Disease Prevention and Health Promotion. Kresno said chronic diseases can be also caused by genetic and environmental factors such as autoimmune diseases.

Chronic disease conditions have an impact on patient vulnerabilities such as pain in the body and vitality, also mental health is not better, stated Ahmadi et al. Articles by Cook and Zill, also Prasetyo and Kustanti state that their physical vulnerabilities experienced include decreased physical activity, reduced appetite, difficulty sleeping, frequent illness, fatigue quickly, decreased work involvement, which can cause complications. The psychological vulnerability that occurs is a decrease in well-being, risk of experiencing anxiety, depression, and even negative emotions such as irritability state Cullen et al., Hedman et al., Paschke et al. Hwu, et. al said that patients also tend to experience social vulnerability, such as experiencing changes with family and friends, changes in the type of work including working hours and the level of responsibility they tend to take on. This is in accordance with Engel concept which states that individual health is not only influenced by biomedical conditions, but also depends on psychological and social conditions so that it becomes significant if the patient experiences physical, mental, and social vulnerability.

One of the vulnerabilities experienced by patients is a mental condition which is interpreted as an important part, especially in flourishing which includes several protective components in it. Decreased mental health will be vulnerable to causing relapse due to stable psychological conditions such as stress stated Sumantri. Ideally, good mental health conditions can make recurrence of chronic conditions more controllable such as Keyes’s concept. This is supported research by Edgar and Pattison that individuals who are suffering from chronic pain can make their experience of illness a reflection of how the individual faces this vulnerability so that individuals have more objective goals for future health, behave meaningfully and have achieving health, and being able to accept and continue to live with the disease. Flourishing is a sustainable and broad model of well-being that includes achieving life balance through combining good feelings and maximum self-functioning stated by Bridget Grenville-Cleave et al., and Lyubomirsky & Layous.

According to Bridget Grenville-Cleave et al., flourishing is a series of circle expansion that starts from oneself to the scope of closest relationships such as family, community, groups, to what we can share in wider circles such as institutions and societies for planetary life. better. The assumption is that it starts from the individual’s main abilities, namely open mind, clear thinking, and open heart, which directs the individual to behave wisely (wise action), where this wise action can influence a larger circle (community level to institutions, government, to the planet). Besides that, an environment that is already thriving and has good wise action will be able to influence the behavior and level of growth of the individual himself. More offer, as Vanderweele 2017 stated that flourishing is the relative achievement of a state where all aspects of an individual’s life are in good condition including the environment in which the person lives.

According to this, it can be concluded that flourishing is a sustainable state that combines positive feelings and good self-functioning as an individual’s relative achievement where all components of life both socially, psychologically, physically, and materially are in good condition. Based on this, there is an expansion of the circle of flourishing which has a two-way effect, so further investigation is needed on the factors that play a role in increasing the flourishing of chronic diseases, especially biologically, psychologically, and socially. Thus, this research aims to explore the factors of flourishing that have been conducted by previous experts.

RESEARCH METHODS

This research has 5 stages by Arksey and O’Malley with the aim of helping to find a scope that is in accordance with the protocol in <https://osf.io/gsudc/> which is as follows:

1. IDENTIFY THE RESEARCH QUESTION

The research questions in this study were conducted using the PCC framework, namely Population, Context, and Con-

Table 1. Inclusion And Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Chronic disease patients, autoimmune patients, aged over 18 years (productive age)	Studies with populations outside health such as education and organizations and only contain participants under 18 years of age.
Studies will be considered if they investigate flourishing, well-being, and happiness	Studies investigating quality of life, life satisfaction, and general health well-being
The study covers factors that contribute to the dynamics of patient flourishing within the framework of positive psychology theory in the biological, psychological, and social spheres	Studies that use other theoretical frameworks outside of positive psychology.
Published or translated in English	There is no English translation
Published from January 2010	Published before January 2010

cept. The population will be focused on individuals with diagnosed chronic diseases of all ages but will prioritize autoimmune diseases if discovered. The concept will discuss flourishing with similar words, namely well-being and happiness or which have the same meaning as individual well-being which includes the situation around them, not just subjective conditions VanderWeele et al. The research context includes chronic disease health and will primarily prioritize discussions of autoimmune if found in English language journals or those translated into English, so based on this framework the research questions are:

- a. What are the biological, psychological, and social factors that influence the proliferation of chronic diseases?
- b. What are the impacts of proliferation on chronic disease health?

2. IDENTIFY RELEVANT STUDIES

The study search strategy was conducted using the keywords (flourishing OR well#being OR Happiness) AND chronic AND health on March 28, 2024, taken from 6 databases including gray literature, including ScienceDirect, Emerald, IEEE Xplore, Taylor & Francis, Oxford Academics, and Google Scholar.

3. SELECTION OF STUDIES ARTICLES

Study selection was conducted by 3 reviewers considering the inclusion and exclusion criteria specified in table 1. Studies with discussions that are more inclined towards health in general will be excluded because the discussion will focus on the concept of positive psychology, especially regarding flourishing and its equivalents such as well-being. and happiness.

4. DATA EXTRACTION

Information from the studies collected includes details regarding the population context (such as age and type of chronic disease), the research design used, and research findings that would be classified as biological, psychological, and social factors influencing the boom described in Table 2.

5. DATA SYNTHESIS

The data that has been analyzed will then be combined to answer research questions, where the synthesis results will be reported in the form of descriptions, tables, or flow diagrams. Results and discussion will be discussed in the next section.

RESULT

Based on the results of search and data selection, a total of 1,550 articles were found from 6 databases with 40 duplicate articles. Direct selection was carried out using exclusion criteria which left 1,100 articles, then title selection based on inclusion criteria resulted in 79 suitable studies and at this stage, perceptions were equalized on 98 conflicts with 3 other reviewers, then selection of article eligibility was carried out by reading abstracts that did not discuss health, medically, were not protocol articles, and did not discuss subjective well-being in a major way, so 17 final articles were found. The summary is recorded with the PRISMA flow diagram 2023 in diagram 1.

The characteristics of the final 17 articles note that research is booming in individuals with chronic illnesses. The booming trend increases from 2019 to 2024 in all continents, where most research is conducted in Europe. The chronic diseases recorded range from cancer, leukemia, HIV, and others, while the autoimmune diseases recorded are type 1 diabetes and multiple sclerosis. A summary of the characteristics found can be seen in table 3.

DISCUSSION

In accordance with the biopsychosocial concept by Engel that a person's health condition is not only influenced biologically, but there are also individual psychological and social factors and in accordance with the objectives of this research, the synthesis of results will be classified based on biological, psychological and social factors that influence flourishing. on chronic disease health. Based on the 17 final articles, it was found that each biological, psychological and social factor had its own contribution to flourishing. This supports the theory of Bridget Grenville-Cleave et al., that flourishing is not only in the individual sphere but also in the surrounding environment such as communities or groups and the wider scope, namely society.

Based on the findings of a scoping review, there is a flourishing model in health services by Faul et al., which includes 5 aspects, namely biological and psychological aspects consisting of daily self-functioning, health status, de-

pression and self-efficacy; individual aspects include exercise, drug use, and smoking behavior; aspects of health services such as access to health services, health insurance, health management, and treatment or recovery; environmental aspects include personal hygiene and house cleanliness; as well as social aspects consisting of socio-economic status, education, nutritious food, access to health assistance, and having the will to live. In accordance with these findings, flourishing has a good role in the health sector by paying attention to the biopsychosocial framework.

1. BIOLOGICAL FACTORS THAT INFLUENCE FLOURISHING

Ideally, development is formed holistically through the smallest to largest internal and external factors. Internal factors in this case can be divided into biological and psychological. Based on articles found in the scoping review, individual biological factors that influence development include recovery outside of paramedic assistance or privately such as exercising, yoga, applying mindfulness Chan, et al., then self-reported health status such as assessing pain, soreness, and the severity of the condition experienced Tapager et al., Torres et al., Bourdeau et al., carrying out daily activities to implement self-functioning Weziak-Bialowolska et al. Individuals monitor their health and maintain a healthy body by focusing on activities that support fitness stated Tapager et al.

Personal recovery has a close and positive relationship to the development of individuals with chronic illnesses where in comparison clinical recovery predicts increases in growth that last 6 months, while independent recovery is highly relevant to increases in growth said Chan, et al. Self-functioning by carrying out daily activities also has a strong and significant influence on success, for example doing volunteer activities almost every week can increase success state Weziak-Bialowolska et al. Some of the proposed results are in the form of demographic data or data collected through demographic questionnaires to compare growth rates based on demographic status reporting.

This is in line with the concept of Lyubomirsky and Layous that individuals who have positive activities that are carried out on an ongoing basis can improve individual well-being and achieve flourishing. The activities in question can be in the form of sports, hobbies that are carried out intensely, or other positive activities that are sustainable. Moderate exercise that is done regularly can be done by individuals with chronic diseases as a strategy to achieve flourishing. This is a way for individuals to foster healthy behavior with the aim of minimizing disease activity so that it does not become severe as it stated in the concept of Dürch.

2. PSYCHOLOGICAL FACTORS THAT INFLUENCE FLOURISHING

Based on Bridget Grenville-Cleave et al., theory regarding the expansion of flourishing, flourishing is a series of expanding circles starting from oneself, then to a wider scope of surroundings so that psychological factors are one of the

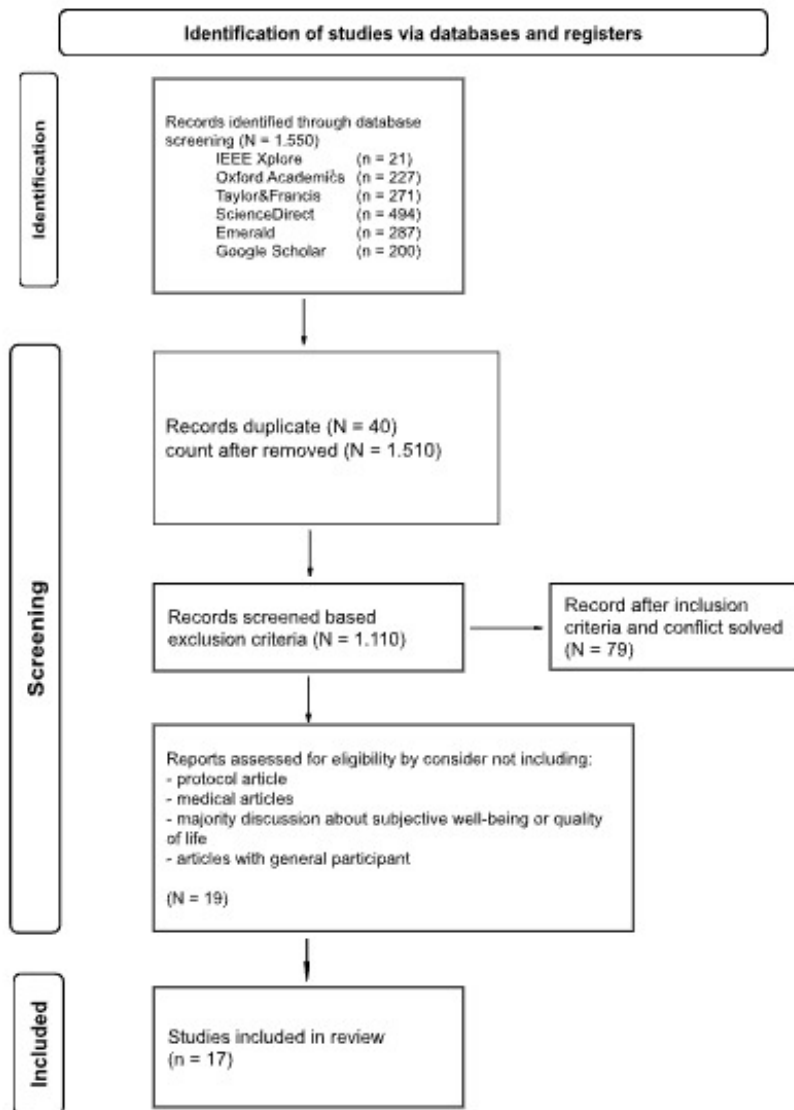


Diagram 1. PRISMA diagram flow

crucial factors in flourishing for individuals with chronic illnesses. The results found in several articles of psychological factors that influence individual flourishing are divided into two, namely protective and risk factors. Protective factors include psychological capital which consists of resilience, self-esteem, optimism and hope stated by Dyrzite, et al; Novak and Lev-Ari showed that resilience could influence someone's flourishing; Afiatin et al. also said if autonomy or independence contribute to flourishing; Bourdeau et al. articles state that emotion regulation could also be the factors; Weziak-Bialowolska et al. said that energetic personality have a characteristic to be flourish; in Ramírez-Maestre et al. article, optimism and having a purpose in life could possible to be factor of flourishing; and also self-efficacy such as the research of Tapager et al.

Factors that can be a risk for the proliferation of individuals with chronic diseases include stress, depression, and loneliness such it stated on Novak and Lev-Ari; Traeger et al; Weziak-Bialowolska et al articles; and emotional neglect as it stated by Cherewick et al. Based on several articles, in-

dividuals who have resilience have a strong relationship to flourishing with a contribution value of 0.699 like in articles by Novak and Lev-Ari. Meanwhile, autonomy, self-esteem and optimism, which are part of psychological capital, also have an influence on flourishing in some articles by Ramírez-Maestre et al; Cherewick et al; Dyrzite et al. Self-efficacy also has a strong influence on an individual's emotional impact and outlook, which can lead to an individual having a good level of flourishing state Tapager et al. Apart from that, Weziak-Bialowolska et al has also state if an energetic personality type has quite a strong value in flourishing; and people who can regulate their emotions will be able to assess and re-evaluate their situations objectively and this will lead to good prosperity such what Bourdeau et al. found in their article.

According to the results above, psychological factors are quite crucial for individuals with chronic illnesses because these factors can be a risk factor for increasing chronic disease activity so that it becomes more severe. Individuals with chronic diseases need to manage psychological factors

Table 2. Summary Of Articles Found

No	Author, Year	Context	Research Design	Summary
1	Weitkamp, et. al 2021	Chronic disease patients (diabetes, arthritis, HIV, fibrosis, SLE, Parkinson, stroke, etc.)	Qualitative	Dyadic coping is related to physical health, well-being, and relationship satisfaction in individuals with chronic illnesses. Resolving and facing challenges together as a couple is an important key to being able to adapt to your chronic illness.
2	Fancourt & Finn 2019	adult with health issue (mental illness, cancer, lung disease, diabetes, CVD)	Qualitative	Individuals who participate in the arts are positively correlated with good mental and physical health conditions. Arts-based interventions can also promote health.
3	Chan, et. al 2018	Chinese schizophrenia adult patients	Quantitative	Clinical recovery predicts improvements in well-being that last 6 months. Meanwhile personal recovery (independently) is truly relevant to improving welfare.
4	Bialowolska, et. al 2024	Europe elderly with health issue (depression, heart attack, hypertension, high blood cholesterol, chronic lung disease, and diabetes)	Quantitative	Conducting voluntary activities every week can improve well-being. Volunteer activities have a two-way relationship with well-being.
5	Maestre, et. al 2019	Spanish adult with chronic musculoskeletal pain disease	Quantitative	Optimism has a positive correlation with the flexibility of the patient's management and leads to a purpose in life so that the patient can adapt to their chronic illness. This has an indirect impact on the patient's well-being.
6	Faul, et. al 2019	Louisville elderly people suffering from multiple chronic diseases	Qualitative	The health boom model includes biological and psychological factors, individual factors, health service factors, social factors, and environmental factors. This model can be used as a measurement tool for health, especially aging.
7	Traeger, et. al 2022	Europe elderly with health issue (arthritis, cancer, chronic bronchitis, diabetes, high blood sugar, heart failure, chronic lung disease)	Quantitative	Participants involved in the resilience-based intervention SMART-3RP (Stress Management and Relaxation Training—Relaxation Response Resiliency Program) experienced an increase in resilience and flourishing.
8	Tapager, et. al 2022	Denmark patients with diabetes	Quantitative	High self-efficacy is associated with well-being during the pandemic.
9	Torres, et. al 2024	Japan elderly with health issue (hypertension, cardiovascular disease, diabetes mellitus, gastrointestinal disease, cancer, or immune system disease)	Quantitative	There are 4 social relationships in Japan, namely, family, partner, neighbor, and diverse, where these social relationships have significant differences seen from the demographic status of the participants. The social relationships that participants have an impact on their mental health and well-being.
10	Guimaraes, et. al 2024	Portuguese women with breast cancer	Quantitative	Individuals who have difficulty regulating emotions and have difficulty identifying their emotions clearly have a low well-being condition. This explains that emotional regulation influences well-being.
11	Zhu, et. al 2020	Chinese immigrant teenagers who have health problems	Quantitative	Understanding of malleability is associated with well-being in adolescents. Cognitive appraisal is positively connected to well-being.
12	Santoro, et. al 2014	California women with fibromyalgia, of reproductive age	Quantitative	Patients who have more self-control have a better quality of well-being. Patients who use distancing coping strategies have better well-being and self-functioning.
13	Cheyne, et. al 2021	United Kingdom type 1 diabetes patients	Quantitative	Social support is emotionally associated with well-being. Male patients seek emotional support more than females.

No	Author, Year	Context	Research Design	Summary
14	Bourdeau, et. al 2023	Canada female children with leukemia	Quantitative	Emotional processes and social support contribute to well-being, where in turn good well-being influences the health condition of leukemia.
15	Cherewick, et. al 2023	Tanzania orphaned teenagers with physical and mental problems	Quantitative	Protective factors such as strong community relationships, good self-esteem and autonomy have a key role in the mental health conditions of orphaned adolescents who tend to have good well-being.
16	Novak, et. al., 2023	Israeli multiple sclerosis patients who have depression and anxiety	Quantitative	MS patients have relatively high levels of stress and low resilience. Resilience significantly influences increasing well-being, while stress is negatively related to well-being, meaning it further reduces well-being.
17	Dyrzite, et. al., 2021	Lithuanian adult with health issue (autoimmune disorders, nervous system disorders, cancer, diabetes)	Quantitative	That the proliferation of autoimmune sufferers is ranked 8th out of 12 reported diseases (the last 2 are terminal illnesses, disability illnesses, and the last is drug users). Psychological capital (self-efficacy, optimism, hope, resilience) is a mediator between the disease symptoms reported by respondents and well-being.

Table 3. Summary Of Characteristics of Articles Found

Characteristic		Total	Percentage
Year published	< 2019	5	29.4%
	2020 – 2022	6	35.3%
	> 2022	6	35.3%
Country	Asia	4	23.5%
	America	3	17.6%
	Europe	9	52.9%
	Africa	1	5.9%
Research method	Quantitative	14	82.4%
	Qualitative	3	17.6%

such as emotional management and stress coping effectively. This can be done with psychological protective factors such as forgiveness and gratitude, focusing on the present, and seeing the future as possible to achieve as described in Edgar’s research on flourishing in the context of health.

3. SOCIAL FACTORS THAT INFLUENCE FLOURISHING

Social factors are factors that are obtained from external aspects of an individual and influence their condition. Flourishing is also obtained through the surrounding environment, starting from the closest scope such as family, community, group, to society as it states in the concept of Bridget Grenville-Cleave et al. Furthermore, flourishing is not just how individuals can achieve mental well-being, but also how individual dynamics contribute something to the surrounding environment. Social support such as family support and support from fellow patients and paramedics are forms of social factors that influence individual flourishing in Torres et al. and Bourdeau et al articles. On a broader scale, having closeness with fellow patients will foster a sense of shared destiny and a desire to undergo bet-

ter treatment state Ghaidar et al. Social support from medical practitioners moderated by low patient resilience can also improve the well-being of autoimmune individuals by better managing and managing stress in Frenzel article.

Chan et. al found that individuals who provide and engage in positive social functioning can promote good flourishing conditions. Individuals who have trusted family members can see emotional support, apart from that, socioeconomic status also predicts the level of flourishing in the context of chronic disease in the article from Fuller-Thomson et al. Based on the articles found, it can be concluded that the social factors that influence the growth in the autoimmune context are social support ranging from the immediate environment, namely the family, to those in the larger community, such as paramedics and fellow patients.

Social factors also play an important role in managing chronic disease activity and for individuals to achieve flourishing as mentioned in Bridget Grenville-Cleave et al. concept that flourishing is holistic. Individuals who have social relationships and are involved in them will tend to flourish more easily, this is due to the support received both emotionally and instrumentally. These relationships can also make individuals with chronic illnesses not feel lonely or feel excluded because of their illness. This is in line with the concept of Cyranowski, et. al that individuals who have sufficient and quality support availability can make individuals more prosperous.

4. FLOURISHING IN CHRONIC DISEASE

According to the frameworks of Huppert, et. al. flourishing could be defined as a larger circle of well-being that melibatkan holistic factors in a personal system, the environmental, and the social system. In addition, Vanderweele proposes that individuals could flourish if they could present a healthy and sustain both physical and mental condition. This in line with the context of flourishing of chronic disease patients which involves three processes in the past

such as forgiveness, gratitude, and acceptance; present such as mindfulness, and optimization of self-functioning such as maintaining health status; and future outlook such as optimism and hope, based on the Edgar flourishing in the healthcare concept. That tree process of flourishing includes the variables found in the scoping, which can be a reference for individuals with chronic diseases to flourish through these variables.

In short, individuals with chronic illnesses can also achieve flourishing through relative achievement based on themselves. This is making peace with the diagnosis and experience of the illness, living and maintaining a healthy life, and viewing the future positively and being able to achieve set goals. It also considers psychological, biological, and social factors because individuals with the chronic disease often experience vulnerability in these 3 factors that holistically affect the lives of individuals.

CONCLUSION

There have been many studies on flourishing in the context of chronic illness, but with different terms but using the same theoretical concepts as the terms well-being and happiness. Limitation experienced, requires developing a search strategy by considering more specific keywords in Indonesian language, so that in databases or gray literature the population is in Indonesia. Researchers realize that there is still a lack of specific data regarding the development of individuals with chronic health problems.

Suggestions for future research first, could consider detailed statistical analysis such as the inclusion of a meta-analysis, making it possible to provide quantitative insight

into the strength of the relationship between the identified factors and flourishing. Secondly, consideration of cultures that may influence flourishing across different populations may enhance the global applicability of the findings. Thirdly, more specific practical implementation recommendations on how healthcare providers implement the flourishing factors in their practice could increase the direct impact on flourishing.

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