

THE MOST COMMON REASONS FOR MEDICAL REFERRALS TO THE REHABILITATION OF THE MOTION ORGAN WITHIN THE PREVENTION OF DISABILITY PENSION OF SOCIAL INSURANCE INSTITUTION

NAJCZĘSTSZE PRZYCZYNY SKIEROWAŃ NA REHABILITACJĘ NARZĄDU RUCHU W RAMACH PREWENCJI RENTOWEJ ZAKŁADU UBEZPIECZEŃ SPOŁECZNYCH

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SUMMARY

Introduction: In the second half of the twentieth century, there was a significant increase in the incidence of civilisation diseases due to the increasing pace of life, the greater degree of industrialization and the ubiquitous stress. This phenomena were accompanied by the problem of unemployment and population ageing. The annual growth in the number of people who are on long-term sick leave and people who permanently lose their ability to work was the reason for introducing a system of medical rehabilitation within the framework of the disability pension prevention (*which mission is to help people to return to active work*) by the Social Insurance Institution. Thanks to the medical rehabilitation system within the disability pension prevention, insured people gain not only the health improvement and functioning of the body but also they are given a chance to recover or improve ability to work which they lost as a result of the disease.

Aim of the study: Finding the most common reasons for medical referrals to rehabilitation of the organ motion within the prevention of disability pension of the Social Insurance Institution comparing gender, age, occupation, co-existing illnesses and a disease entity which is the basis for referral to rehabilitation.

Methodology: The information about the completed medical rehabilitation of 1529 patients who were rehabilitated within the disability pension prevention of the Social Insurance Institution was analysed in "Medicus" Non-public Health Care Institution in Kielce.

Results: In the period 2005–2011 there was a group of 1529 patients who were rehabilitated within the framework of the prevention of disability pension of Social Insurance Institution, including 549 women (37%), and 980 men (63%). In all age groups both among women and men the basic disease entity was the disorder of roots of the spinal and nerve plexuses (G54). Overloading the spinal structures occurred often within men whose main forms of activity were connected with physical effort and women whose occupations were mainly clerical or intellectual.

Conclusions: In all age groups, regardless of gender, the largest group consisted of people with disorders of roots of the nerves and nerve plexuses (G54). There was no relationship between the work performed and the presence of specific diseases.

Key words: most common disease entities, rehabilitation, prevention of disability pension, the Social Insurance Institution.

STRESZCZENIE

Wstęp: W drugiej połowie XX wieku zaobserwowano istotny wzrost zachorowań na choroby cywilizacyjne spowodowane rosnącym tempem życia, coraz większym stopniem uprzemysłowienia i wszechobecnym stresem. Tym zjawiskom towarzyszy problem bezrobocia i starzenia się społeczeństwa. Wzrastająca corocznie liczba osób długotrwale przebywających na zwolnieniach lekarskich oraz całkowicie tracących zdolność do pracy była przyczyną wprowadzenia przez Zakład Ubezpieczeń Społecznych systemu rehabilitacji w prewencji rentowej. Dzięki programowi rehabilitacji leczniczej w ramach prewencji rentowej osoby ubezpieczone zyskują nie tylko poprawę stanu zdrowia i funkcjonowania organizmu, lecz także otrzymują szansę odzyskania lub poprawę utraconej w wyniku procesu chorobowego zdolności do pracy.

Cel pracy: Znaleźć najczęstsze przyczyny skierowań na rehabilitację narządu ruchu w ramach prewencji rentowej Zakładu Ubezpieczeń Społecznych, porównując: płeć, wiek, wykonywany zawód, choroby współistniejące oraz jednostkę chorobową będącą podstawą skierowania do leczenia rehabilitacyjnego.

Metodyka: Przeanalizowano informacje o przebytej rehabilitacji 1529 osób usprawnianych w ramach prewencji rentowej Zakładu Ubezpieczeń Społecznych w Niepublicznym Zakładzie Opieki Zdrowotnej „Medicus” w Kielcach.

Wyniki: W latach 2005–2011 w ramach prewencji rentowej Zakładu Ubezpieczeń Społecznych w rehabilitacji uczestniczyło 1529 osób, w tym 549 kobiet, tj. 37%, oraz 980 mężczyzn, tj. 63%. We wszystkich grupach wiekowych, zarówno wśród kobiet, jak i mężczyzn, podstawową jednostką chorobową były zaburzenia korzeni nerwów rdzeniowych i splotów nerwowych (G54). Przeciążenia struktur kręgosłupa występowały równie często wśród mężczyzn, u których przeważały formy aktywności zawodowej wymagające dużego wysiłku fizycznego, jak i u kobiet, u których przeważały zawody określane mianem „biurowych” czy też „umysłowych”.

Wnioski: We wszystkich grupach wiekowych bez względu na płeć największą grupę stanowiły osoby z zaburzeniami korzeni nerwów rdzeniowych i splotów nerwowych (G54). Nie stwierdzono powiązania między wykonywaną pracą a występowaniem konkretnych jednostek chorobowych.

Słowa kluczowe: najczęstsze jednostki chorobowe, rehabilitacje, prewencja rentowa, Zakład Ubezpieczeń Społecznych.

INTRODUCTION

The number of people who are on sick leave or lose their ability to work are growing by the year. It generates high costs, including costs of hospitalization, specialist and ambulatory advice, diagnostic investigation as well as costs of rehabilitation and medicine. This situation makes the Social Insurance Institution take actions to accelerate convalescence of the people, this/thereby/in the process enabling them to return to work faster as well as preventing the complete exclusion from active working life [1, 2].

In order to prevent the above mentioned phenomena, the system of rehabilitation in disability pension prevention was created, which have been working since 1996 and have been including chronic diseases of the organs of movement, chronic diseases of the cardiovascular system and the respiratory system. The task of such broad action is to improve the people's health condition in such a way so that they can take a paid job. This fact has enormous significance for the Social Insurance Institution on account of possibility of lowering costs of benefits paid because of disability to work/ in respect of the incapacity for work. It also has significance for a patient who does not lose independence, which influences his/her socio-economical, occupational and family situation [1, 3].

According to the analyses of the Social Insurance Institution, the structure of initial medical certificates, determining incapacity for work in 2007 according to the group of diseases, the main causes of incapacity for work are: chronic diseases of the cardiovascular system (23.3%), neoplasm (20.1%), psychic disturbances and behaviour disorders (14.3%), diseases of the osteoarticular and muscular systems and connective tissue disease (11.5%), diseases of the nervous system (8.0%) [4].

THE AIM OF WORK

The aim of the following dissertation is to analyse referrals to rehabilitation in terms of: gender, age, oc-

cupation, concurrent diseases, disease entity which are the basis for referring a person to rehabilitation treatment in the “Medicus” Non-public Health Care Institution in Kielce within the framework of the of the Social Insurance Institution, which allows to determine the most frequent/common cause of incapacity for work in the separate age groups and indicate the direction for taking action in prophylactic actions in order to reduce the incidence of these diseases in the future.

METHODOLOGY

1529 cases of patients who are referred to rehabilitation within the disability pension prevention of the Social Insurance Institution to the “Medicus” Non-public Health Care Institution between the years 2005 and 2011 have been analysed.

RESULTS

1529 people, including 549 women (37%) and 980 men (63%) participated in the rehabilitation process within the framework of pension prevention of the Social Insurance Institution in the “Medicus” Non-public Health Care Institution between the years 2005 and 2011.

Women between the age of 36 and 50 (45%) were the largest female group, women aged 51–65 (37%) were the second female group and women aged 20–35 (18%) were the last female group. The most frequent reasons for referring women aged 20–35 to rehabilitation are: disorders of spinal nerve roots and nerve plexuses (G54) – 35%, other diseases of intervertebral disc (M51) – 15%; consequences of injuries of lower limbs (T93) – 11%. The most frequent concurrent diseases are: other diseases of intervertebral disc (M51) – 35%, scoliosis (M41) – 14%, spondylosis (M47) – 12%. The most frequent basic diagnoses of diseases and disorders in the group of women aged

36–50 were: disorders of spinal nerve roots and nerve plexuses (G54) – 30%, other diseases of intervertebral disc (M51) – 13% and spondylosis (M47) – 10%. The most frequent entities of concurrent diseases in the same age group are: other diseases of intervertebral disc (M 51) – 22%, spondylosis (M47) – 19%, es-

sential (primary) hypertension (I10) – 10%. The most frequent causes of referring female patients to rehabilitation in the oldest age group, women aged 51–65, are: disorders of nerve roots and spinal cords (G54) – 24%, spondylosis (M47) – 16%, consequences of injuries of an upper limb (T92) – 8%. The most fre-

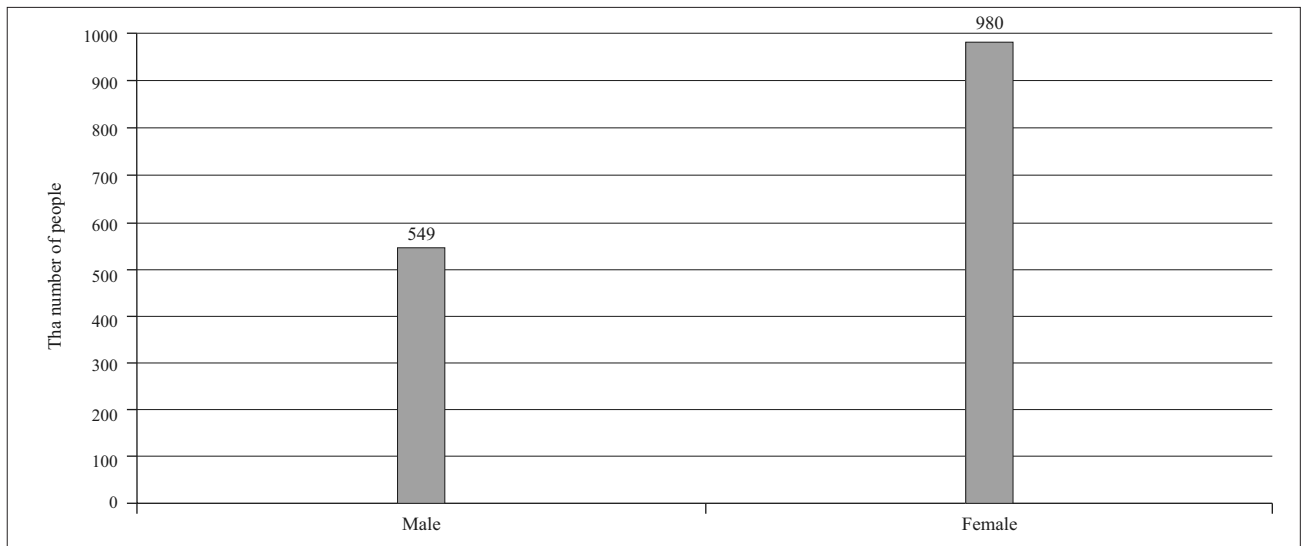


Fig. 1. The bar graph of the number of women and men participating in the rehabilitation process

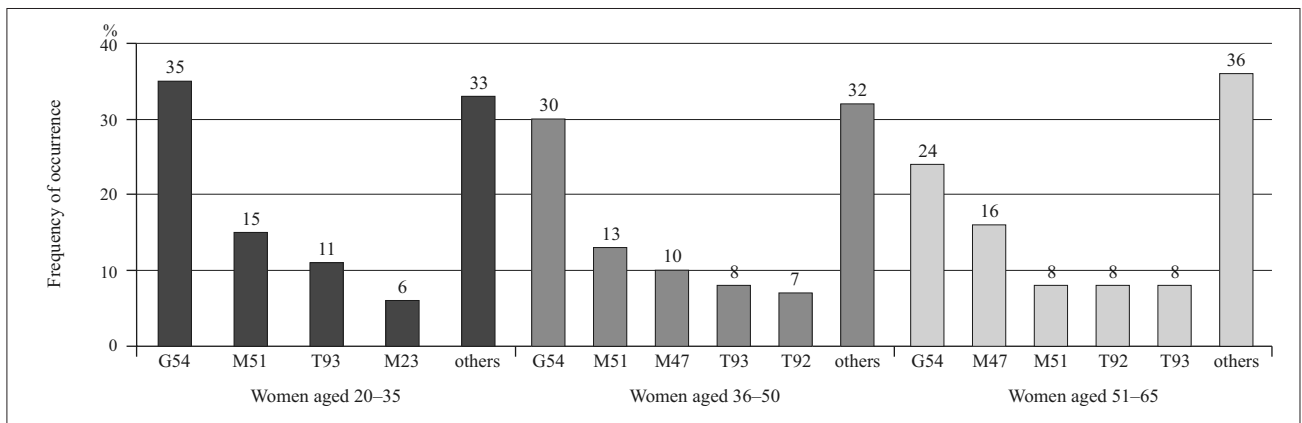


Fig. 2. The bar graph of disease entities which are the basis for referring women to the rehabilitation process

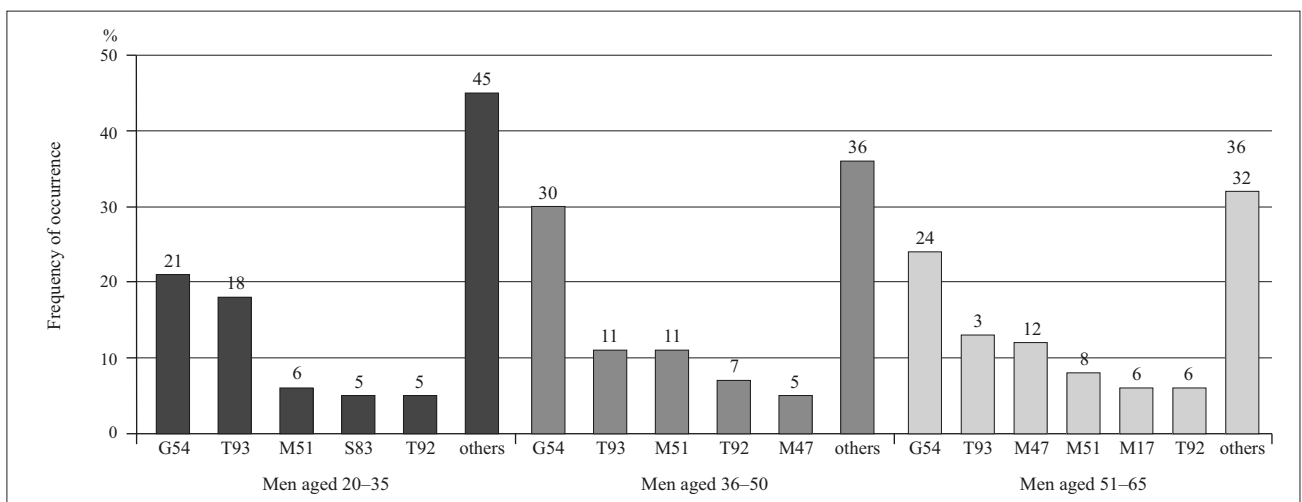


Fig. 3. The bar graph of disease entities which are the basis for referring men to the rehabilitation process

quent diagnoses of concurrent diseases in this group of women are: spondylosis (M47) – 21%, other diseases of intervertebral disc (M51) – 18%, essential (primary) hypertension (I10) – 14% (figure 2). The most frequent jobs done by women according the classification of the Social Insurance Institution are: other intellectual occupations (24%), other manual jobs (16%), a shop assistant, a cashier, a sales specialist, a sales person (15%), an economist (10%), a doctor, a feldsher, a nurse (7%).

Male patients undergoing rehabilitation within the framework of the pension prevention were: men aged 36–50 and 51–65 who constitute 40% and 40% of the total respectively, those aged 20–35 – 20%. The most frequent causes of referrals to rehabilitation in the youngest age group consists of men between the age of 20–35 were: disorders of spinal nerve roots and nerve plexuses/ nerve roots and spinal cords (G54) – 21%, consequences of injuries of lower limbs (T93) – 17%, other diseases of intervertebral disc (M51) – 6%. The concurrent diseases in this group were: other diseases of intervertebral disc (M51) – 30%, spondylosis (M47) – 16%, essential (primary) hypertension (I10) – 13%. The diseases and disorders which were diagnosed most frequently among the men aged 36–50 were: disorders of spinal nerve roots and nerve plexuses (G54) – 30%, fractures of the thigh bone (T93) – 11%, other diseases of intervertebral disc (M51) – 11%. But the most frequent diagnoses of concurrent diseases are: diseases of intervertebral disc (M51) – 25%, spondylosis (M47) – 18%, essential (primary) hypertension (I10) – 17%. The most frequent diseases in the oldest male group were: disorders of spinal nerve roots and nerve plexuses (G54) – 24%, consequences of injuries of lower limbs (T93) – 13%, spondylosis (M47) – 12%. The concurrent diseases

were: essential (primary) hypertension (I10) – 20%, spondylosis (M47) – 18%, other diseases of intervertebral disc (M51) – 15% (figure 3). The most frequent jobs done by men according to the classification of the Social Insurance Institution were: a bricklayer, a concreter, a locksmith, a carpenter, a crane operator, an excavator operator, a painter (26%), other manual jobs (19%), othe intellectual occupations (15%), a driver (10%), an electrician, an electro-mechanician (7%).

The test of significance for a proportion for the findings

We study the characteristic which is the disorder of spinal nerve roots and nerve plexuses/ nerve roots and spinal cords (G54) as a cause of referring men and women from Świętokrzyskie Province to rehabilitation. The parameter Θ we interpret as a pointer to a structure in a population. We review the hypothesis $H: \Theta = \Theta_0$ vs. the alternative hypothesis $K: \Theta > \Theta_0$ at the significance level $\alpha = 0,05$ for the sample size $n > 100$ consists of the patients of the selected age group referred to rehabilitation in Świętokrzyskie Province between the years 2005 and 2011.

First we will conduct a study of a group of 980 men aged 20–65, among whom there were 252 cases of the referrals to rehabilitation caused by the disorders G54. We review the hypothesis H that a pointer to a structure of referrals of male patients with disorders of spinal nerve roots and nerve plexuses (G54) to the rehabilitation process equals 0.2, compared with the alternative hypothesis $K: \Theta > 0.2$. Based on the findings from the sample and after calculating the value of statistic/statistic we know we should reject the hypothesis H in favour of the alternative hypothesis K . This means that at the significance level $\alpha = 0,05$, a disorder of spinal nerve roots and nerve plex-

Table 1. The list of the most frequent causes of getting referrals to rehabilitation by male patients with other disease entities which are the basis for referring to the rehabilitation process

The sample from the years 2005–2011 in Świętokrzyskie Province	Male age group			Total
	25–35	36–50	51–65	25–65
The basic reason for referring to rehabilitation				
G54 Disorders of spinal nerve roots and nerve plexuses	43 people	114 people	95 people	252 people
Other reasons	158 people	272 people	298 people	728 people
Total	201 people	386 people	393 people	980 people

Table 2. The list of the most frequent causes of getting referrals to rehabilitation by female patients with other disease entities which are the basis for referring to the rehabilitation process

The sample from the years 2005–2011 in Świętokrzyskie Province	Female age group			Total
	25–35	36–50	51–65	25–65
The basic reason for referring to rehabilitation				
G54 Disorders of spinal nerve roots and nerve plexuses	65 people	73 people	49 people	157 people
Other reasons	35 people	171 people	156 people	392 people
Total	100 people	244 people	205 people	549 people

uses (G54) plays an important role among the basic reasons for referring men aged 20–65 to the rehabilitation process and the level of which in the male population of Świętokrzyskie Province exceeds 20%.

Analogically, we will conduct a study of a group of 549 women aged 20–65, among whom there were 157 cases of the referrals to rehabilitation caused by the disorders G54. We review the hypothesis H that a pointer to a structure of referrals of female patients with disorders of spinal nerve roots and nerve plexuses (G54) to the rehabilitation process equals 0.2, compared with the alternative hypothesis K : $\Theta > 0.2$. Based on the findings from the sample and after calculating the value of statistic we know we should reject the hypothesis H in favour of the alternative hypothesis K . This means that at the significance level $\alpha = 0,05$, a disorder of spinal nerve roots and nerve plexuses (G54) plays an important role among the basic reasons for referring women aged 20–65 to the rehabilitation process and the level of which in the female population of Świętokrzyskie Province exceeds 20%.

Test of significance for two proportions

We consider two proportions Θ_1 and Θ_2 which correspond to the probabilities of referring males and females from Świętokrzyskie Province with disorders G54 to the rehabilitation process based on the sample from 2005–2011. We review the hypothesis H that the percentage of referrals to rehabilitation caused by G54 is the same for both populations (males and females), against the alternative hypothesis that it is not the same at the significance level $\alpha = 0,01$. Based on the test carried out, it follows that there are not reasons given for rejecting the hypothesis H . This means that at the significance level, the structure of referrals to rehabilitation caused by disorders of spinal nerve roots and nerve plexuses (G54) in the female and male populations of Świętokrzyskie Province is the same.

DISCUSSION

The presented results of own studies are reflected in the academic publication whose authors, Dziak and Korkosz announce that 14% of males and 21% of females in Poland suffer from chronic pains of the spine and still the growing tendency is observed [5].

The same observations are described by Barwicka who says “in the population of people undergone rehabilitation caused by diseases and consequences of injuries of the movement organs within the framework of the pension prevention of the Social Insurance Institution, the largest group is the one of patients with chronic diseases marked with symbols M51, M47 and

G54 in the International Classification of Diseases and Related Health Problems – decimal revision” [6].

The analysis of results of the research conducted by Majka, Kwolek, and Nowak shows that “patients with spinal pain (syndrome) – spondylalgia are the largest group among the examined patients, including 45% of patients with lumbago, 14% of patients with pain of cervical spine and low back, 9% of patients with pain of cervical spine, and the rest of the patients (32%) with chronic diseases of limbs (injuries, arthritis) [1].

In Karczewicz and Sikora’s academic publication, the ranking of diseases entities which cause disability to work was different on account of gender. The longest periods of absence from work in the male group were caused by: disorders of spinal nerve roots and nerve plexuses/ nerve roots and spinal cords (G54) – 8.7%, acute infection of an upper respiratory tract (J06) – 3.6%, other diseases of intervertebral disc (M51) – 2.8%, spondylosis (M47) – 2.7%. The longest period of sickness absence on account of own disease in the female population was caused by: maternity care mostly because of the conditions concerning prenatal care (O26) – 24%, disorders of spinal nerve roots and nerve plexuses (G54) – 5.0%, bleeding during early pregnancy (O20) – 4.1%, acute infection of an upper respiratory tract (J06) – 3.3% [7].

In a group of patients examined by Bojczuk, Przysady and Strzepak, 43% of patients were incapable of work because of sacrodynia, including 17% of patients who got a disability pension because of permanent or temporary disability to work, 9% of patients who got a sickness allowance – temporary disability to work, 14% of patients were on sick leave, but 3% of patients were supported by family [8].

The analysis of the own study sample pointed out the occurrence of the same disease entities regardless of the actual profession with a predominance of manual work among males and intellectual work among females, which is also confirmed by Bojczuk, Przysada and Strzepak in their research. They stated that low back pain concerned both female and male patients in a similar way. On the other hand, the correlation between frequency of occurrence of pain and a character of actual work [8].

Depa and Druzbicki received similar results, although in their research male patients who worked physically suffered from pain more frequently [9].

Lisiński, Majewska and Samborski inform that there is lack of clear findings which show what character of work particularly predisposes to low-back pain. The authors underline that both forms of professional activity requiring exercise and those defined as “sedentary” or “intellectual” lead to overloading of the spinal column [10].

In the own research, it was stated that the occurrence of essential (primary) hypertension (I10) is more frequent with age as a concurrent disease which is not connected with problems of movement organs, however, it obviously had an influence on a patient's physical efficiency. In their own academic publication, Topolska, Sapała, Topolski and Marczewski describe similar situations referring to the German researchers' findings and show that one of the consequences of the ageing of society is multimorbidity rate, and medicine, divided into narrow specializations, is not relatively well prepared to counteract this phenomenon. Meanwhile, more than 60% of people aged over 65 suffer from at least three chronic diseases, among which arterial hypertension (65.4%), lipid disorders (42.9%) and low back pain (41.2%) were the most frequent. It's worth underlying that hypertension occurred more often as a one from many diseases than an isolated incident.

CONCLUSIONS

1. In all age groups, regardless of gender disorders of spinal nerve roots and nerve plexuses/ nerve roots and spinal cords (G54) were the most frequent reason for referring patients to rehabilitation in the framework of pension prevention of the Social Insurance Institution.
2. The clear correlation between an actual job and the occurrence of specific disease entities was not noticed.
3. Primary hypertension (I10) was the most frequent concurrent disease occurred with age, especially among males which was not connected with diseases and health problems of the movement organs.

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