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Comparıng Unıversıty Student's Knowledge, Attıtudes and Behavours about Fırst Aıd and Basıc Lıfe Support

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ABSTRACT

Conscious first aid saves lives. In this context, it is important to investigate the first aid application knowledge and skills of the students who will work as health personnel after graduation. The aim of this study is to compare the knowledge, attitudes and behaviors of university students studying in different departments in the field of health on basic life support and first aid. 300 students studying at the university were included in the study. Basic Life Support Information Form and First Aid Information Form prepared by the researcher were applied to the students. For the questions in the form, 1 point was given to each correct answer and 0 points to each incorrect answer, and an evaluation was made over 20 points. Data were evaluated using Chi-square test, T test, Kruskal Wallis analysis. Among the students studying at the Nursing Department(ND) included in the study, 15.6% had "low" level of knowledge, 79.7% had "moderate" level of knowledge and 4.7% had "high" level of knowledge. On the other hand, among the students studying at Home Care Program(HCP) and Medical Documentation and Secretarial Program(MDSP), 38% had "low" level of knowledge, whereas 60.2% had "moderate" level of knowledge and 1.9% had "high" level of knowledge ($p<0.05$). These results indicated that the students studying at the ND and the HCP+MDSP had different knowledge levels for basic life support and first aid. İt was observed that the students in the ND had higher knowledge levels than the students in the HCP+MDSP. It has been found that the students of ND have higher levels of First Aid and Basic Life Support knowledge than the students of HCP+MDSP.

Key Words: First aid , Basic life support, Knowledge level.

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Ünıversıte Öğrencılerının İlk Yardım Ve Temel Yaşam Desteği Hakkında Bılgı, Tutum Ve Davranışlarının Karşılaştırılması

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ÖZET

Bilinçli yapılan ilk yardım hayat kurtarır. Bu bağlamda mezuniyet sonrası sağlık personeli olarak görev alacak öğrencilerin ilkyardım uygulama bilgi ve becerilerinin araştırılması önemlidir. Bu çalışmanın amacı sağlık alanında farklı bölümlerde eğitim alan üniversite öğrencilerinin temel yaşam desteği ve ilk yardım konusunda bilgi, tutum ve davranışlarının karşılaştırılmasıdır.Araştırmaya üniversitede öğrenim gören 300 öğrenci dahil edilmiştir. Öğrencilere araştırmacı tarafından hazırlanan Temel Yaşam Desteği Bilgi Formu ve İlk Yardım Bilgi Formu uygulanmıştır. Formdaki sorular için her doğru cevaba 1 puan, her yanlış cevaba 0 puan verilmiş ve 20 puan üzerinden değerlendirme yapılmıştır. Veriler Ki-kare testi, T testi, Kruskal Wallis analizi kullanılarak değerlendirilmiştir. Araştırmaya dahil edilen Hemşirelik Programında (HB) öğrenim gören öğrencilerin %15,6'sı "düşük" düzeyde, %79,7'si "orta" düzeyde ve %4,7'si "yüksek" düzeyde bilgi sahibidir. Diğer yandan, Evde Hasta Bakımı Programı (EHB) ve Tıbbi Dökümantasyon ve Sekreterlik Programın (TDSP)'da öğrenim gören öğrencilerin %38'i "düşük" düzeyde bilgi sahibiyken, %60,2'si "orta" düzeyde, %1,9'u ise "yüksek" düzeyde bilgi sahibidir ($p<0,05$). Bu sonuçlar, HB ve EHB+TDSP'de okuyan öğrencilerin temel yaşam desteği ve ilk yardım konusunda farklı bilgi düzeylerine sahip olduklarını göstermiştir. HB'deki öğrencilerin, EHB+TDSP 'deki öğrencilere göre daha yüksek bilgi düzeylerine sahip oldukları görülmüştür.HB öğrencilerinin EHB+TDSP öğrencilerine göre İlk Yardım ve Temel Yaşam Desteği bilgilerinin daha yüksek düzeyde olduğu tespit edilmiştir.

Anahtar Kelimeler: İlk yardım, Temel yaşam desteği, Bilgi düzeyi

MAKALE BİLGİSİ

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Introduction

Knowledge and practices of first aid are vital in human life. Because providing deliberate first aid saves lives. The course of future treatment is determined by first aid. One of our major issues is wrong or insufficient first-aid intervention in our country (Somyürek &Tabak, 2008). While proper and timely first aid application can save lives, a small but critical intervention that is not performed in accordance with the procedure has an impact on people's lives and causes irreversible health problems (Bozkurt, 1999). In Turkey, an average 430.000 traffic accidents occur each year, with 110.000 people injured and 4.000 people killed. A deliberate first intervention can prevent 15-18% of traffic deaths, and a quick and informed intervention can prevent 20-25%. 0% of deaths in accidents occur in the first 5 minutes and 50% in the first 30 minutes (Ağralı, 2002). Therefore, the first intervention to the people should be done by those nearby, because the health team cannot arrive immediately at the scene of the

incident. According to a study conducted with 1,200 people in England, 80% of cardiac arrests occur at home and 20% on the street, so it was stated that spouses and relatives should receive cardio-pulmonary resuscitation (CPR) training (Carney, 1999). The most overlooked medical service is a lack of knowledge in the field of emergency health services and pre-hospital care, as well as first aid (Perkins et al, 1999:19-23). However, there is no need to wait for medical personnel to administer first aid; anyone who is familiar with the procedure can do so. Therefore, anyone should be able to learn and apply (Ege, 1999).

The most important cornerstones of first aid are CPR and basic life support (BLS). In Turkey and around the world, the mortality rate from cardiovascular diseases is high. Every year, 930,000 people die as a result of cardiovascular disease in the United States (Centres for Disease Control and Preventetion, 2017). Cardio Pulmonary Arrest (CPA) refers to the sudden cessation of breathing and/or circulation for any reason. It will cause irreversible brain damage if it lasts longer than 5 minutes. CPR must be used to intervene in CPA. The term "resuscitation" refers to reviving. CPR is all of the emergency interventions applied to maintain adequate circulation and respiration when CPA occur. The aim is to provide the organs with the blood and oxygen they require until the heart can resume normal function (Babacan, 2002).

And, BLS is the first step in CPR practices and includes interventions such as assessing consciousness, making sure the airway is open, artificial respiration, and heart compression (Demir et al, 2001; Selimen et al, 2004). When BLS is applied correctly, it reduces mortality and morbidity (Martin et al, 1983). Factors influencing survival rate in out-of-hospital cardiac arrest events include the time it takes for healthcare personnel to arrive at the scene of the incident and the BLS applications that people who witness the incident immediately begin to apply (Hollanberg et al, 2005). It has been determined that BLS administered by those who witnessed the event had an effect on the survival rate in cases where health personnel arrived at the scene of the event after more than 4 minutes (Vilke et al, 2005). According to a study carried out in Los Angeles, the survival rate of people who received BLS at the time of the case was 28%, while it dropped to 1% for those who did not. The intervention rate of people who saw out-of-hospital cardiac arrest cases in the same study was 28% (Eckstein et al, 2005). And, in Europe, percentages ranging from 12.50% to 13.50% were found (Becker et al, 1991355-61). The AHA (American Heart Association) updates information and standardized practices for BLS and CPR every five years. The guide, which was updated and published in 2015, underwent some changes. In light of these changes, we developed a questionnaire and designed this study to assess and compare the knowledge levels of ND students, HCP, and MDSP students on first aid and BLS.

Methodology

The Research's Location, Time and Sample Selection

The study was conducted as a cross-sectional study between October 1, 2016 and October 1, 2017, with the participation of students from the Nursing Department of the School of Health in the center of Kastamonu province, as well as students from the Home Care Program and the Medical Documentation and Secretariat Program from the Tosya Vocational School Health Services department in Kastamonu Tosya. The research population included third and fourth grade students at Kastamonu University Health School Nursing Department (ND) and second grade students at Kastamonu University Tosya Vocational School Home Care Program and Medical Documentation and Secretarial Program (MDSP). Students were enrolled who were willing to participate in the study, could answer questions, did not have

any communication problems or mental retardation, could read and write, and had taken the first aid course as part of their university's curriculum. The study included 300 students who took the first aid course, Nursing Department students (n=192), Home Care Program (HCP) students (n=59), and Medical Documentation and Secretarial Program (MDSP) students (n=49).

The study began after the Kastamonu University Science, Engineering, and Health Sciences Scientific Research and Publication Ethics Committee approved it (09.12.2016/ Issue: 16,498.365-604.01.02-E.42410). However, every stage of the research was carried out in accordance with the Helsinki Declaration of Human Rights guidelines.

Data collection tool

Student Introductory Information Form

The student introductory information form developed by the researcher in accordance with the literature consists of totally 34 questions; 14 questions including the students' socio-demographic details (age, gender, department of education, class attended, high school from which s/he graduated, dwelling unit where she/he lived the longest, first aid-basic life support training before, how many years ago s/she received this training, where s/he received this training, type of training, whether s/he feels competent about first aid and basic life support, whether s/he wants to receive training on this subject, whether s/he follows up-do-date information on basic life support, is s/he follows up-to-date information, how s/he is done, etc.); 10 questions to determine the level of first aid knowledge; and 10 questions to measure the basic life support knowledge level.

Basic Life Support Knowledge Level Evaluation Form

It consists of 10 questions prepared using an American Heart Association guideline updated in 2015 as a source. The questions were formatted as multiple choices, with each correct answer worth one point.

First-Aid Knowledge Level Evaluation Form

It consists of 10 questions that cover basic first aid knowledge. The questions were formatted as multiple choices, with each correct answer worth one point. Each correct answer given for a total of 20 questions on the basic life support knowledge form and first aid knowledge form was accepted as 1 point and evaluated out of 20 points. The lowest score is 0 and the highest score is 20. 0-8 points were evaluated as low level of knowledge, 9-14 points as normal level of knowledge, and 15-20 points as high level of knowledge.

Statistical Evaluation of Data

Statistical analysis of the data of the students included in the study was performed in a computer environment using the SPSS for Windows 22.00 package program. Descriptive statistical method was applied to the research data and percentage calculations were made. The t-test and one-way analysis of variance were used to test whether there is a difference between the variables and the level of significance, and the LSD (smallest significant difference) Post Hoc Test was used to determine the interaction between the variables. Kruskal Wallis and Mann Whitney U tests, which are non-parametric methods, were used to compare the continuous data that did not fit the normal distribution according to the groups. The Cronbach Alpha coefficient was used to assess the scales' reliability. The level of significance was set at $p<0.05$.

Findings

Table 1 compares the students who took part in the study based on their sociodemographic characteristics. 7,8% of students enrolled at ND are 18-20 years old, 66,1% are 21-22 years old and 26.1% of them are 23-30 years old; 50% of students enrolled at HCP+MDSP are 18 - 20 years, 36.1% 21-22 years old, and 13.9% of them are 23-30 years old and the chi-square value for the differences between them was significant at $p<0.05$ significance level. These findings demonstrate that there is a difference by the age groups of the students enrolled in the study at ND. It is found that the ages of the students are younger in ND compared to HCP+MDSP (Table 1). 82.8% of the ND students included in the study are female, 17.2% are male, and 66.7% of the HCP+MDSP students are female, 33.3 percent are male, and the chi-square value for the differences between them was significant at $p<0.05$ significance level (Table 1).

These findings indicate that there is a difference between the students enrolled at ND and HCP+MDSP included in the study by their gender. Women are found to be more often in ND than in HCP+MDSP. 5.2 % of the ND students included in the study received first aid training in high school, 4.7% received first aid training at university and driving course, 2.1% received first aid training in a first aid course, 0.5% received first aid training at high school and driving school, 4.7% received first aid training at university and driving courses, 1% received first aid training at high school and university. 21.3 % of HCP+MDSP students received first aid training in high school, 68.5 % received first aid training at university, 5.6 % received first aid training in driving school, and 0.9 % received first aid training from other places, 1.9% received first aid training at university and driving courses, 0.9% received first aid training in high school, university, and driving school, and 0.9% received first aid training in high school, university, and the chi-square value related to the differences between them was found to be significant at $p<0.05$ significance level (Table 1). These findings demonstrate that there is a difference between students enrolled in the ND and HCP+MDSP included in the study based on where they received their first aid training. Nevertheless, it is evident that those who received first aid training at the university in ND superior to HCP+MDSP. 54.7% of ND students included in the study follow up-to-date information, 45.3% do not follow up-to-date information, 38.9% of HCP+MDSP students follow up-to-date information, and 61.1% do not follow up-to-date information, and the chi-square value for the differences between them was found significant at the $p<0.05$ significance level. These results demonstrate that there is a difference by the status of following up-to-date information between students who study at ND and HCP+MDSP included in the study. At the same time, it is observed that more people follow up-to-date information in ND than in HCP+MDSP (Table 1).

Looking at the Table 2, it is found that average knowledge points of students studying at ND was 5.54±1.32 greater than 4,90±1.47, which is the average knowledge points of students studying at HCP+MDSP, and that the t value for the differences between them was significant at the $p<0.05$ significance level ($t=3.870$ $p=0,000$). This finding indicates that there is a difference in favor of ND students by the knowledge scores of students studying at ND and HCP+MDSP. Examining the Table 3, it is found that 15.6% of the students studying at ND included in the study had a “low” level of knowledge, 79.7 % have a “moderate” level of knowledge, and 4.7 % had a “high” level of knowledge; and that 38% of the students studying at HCP+MDSP included in the study had a “low” level of knowledge, 60.2% had a “moderate” level of knowledge, and 1.9 % had a “high” level of knowledge; as well as the chi-square value for the difference between them is significant at the $p<0.05$ significance level. These results show that there is a difference in the knowledge levels of students studying in ND and HCP+MDSP, which were included in the study, in terms of basic life support and first aid. It is obvious that ND students had a higher level of knowledge than HCP+MDSP students. Generally, it was found that 23.7% of the students had a “low” level of

knowledge, 72.7% had a "moderate" level of knowledge, and 3.7% had a "high" level of knowledge.

Looking at the Table 4, the t-values of the differences between the students in terms of their total scores of basic life support and first aid knowledge by their gender were found to be significant at $p<0.05$. This finding shows that there is a difference between the students in terms of their total scores of Basic Life Support and First Aid Information by gender. It is seen that women's total score averages of both Basic Life Support and First Aid Information are higher than that of men. After all, it can be said that women are more likely to have Basic Life Support and First Aid Knowledge than men. F values of the differences between students in terms of their total scores of Basic Life Support and First Aid Information were found to be significant at $p<0.05$ by the departments in which the students studied. This finding indicates that there is a difference between the students in terms of their total scores of Basic Life Support and First Aid Information by the departments in which they studied. The LSD Post Hoc test, which was applied to understand which departments the difference was due to students studying in, found that students studying at ND and HCP had higher Basic Life Support score averages than students studying at MDSP, and that students studying at ND had higher First Aid Information score averages than students studying at HCP and MDSP. The KW values of the differences between students in terms of their total scores of basic life support and first aid information were found to be significant at $p<0.05$ by the class level in which they studied. This finding shows that there is a difference between the students in terms of their total scores of Basic Life Support and First Aid Information according to the level of the class they are studying. The LSD Post Hoc test, which was applied to understand the difference between students in the 3rd and 4th grades, found that both Basic Life Support and First Aid Information score averages were higher than those of students in the 2nd grade.

Table 1. Comparison of students based on sociodemographic characteristics

			ND	**HCP+MDSP**	χ^2	*p*
Age groups	18-20 ages	n	15	54	69,466	0,000
		%	7,8	50,0		
	21-22 ages	n	127	39		
		%	66,1	36,1		
	23-30 ages	n	50	15		
		%	26,1	13,9		
Gender	Female	n	159	72	10,174	0,001
		%	82,8	66,7		
	Male	n	33	36		
		%	17,2	33,3		
Where s/he trained	High School	n	10	23	25,837	0,001
		%	5,2	21,3		
	Driving Course	n	9	6		
		%	4,7	5,6		
	First aid course	n	4	0		
		%	2,1	0,0		
	Other	n	0	1		
		%	0,0	0,9		
	High school and driving course	n	1	0		
		%	0,5	0,0		
	University and driving course	n	9	2		
		%	4,7	1,9		
	High school, university and	n	0	1		
		%	0,0	0,9		

	driving course					
	High school and university	n	2	1		
		%	1,0	0,9		
Following up to date information	Yes	n	105	42	6,904	0,009
		%	54,7	38,9		
	No	n	87	66		
		%	45,3	61,1		

* No one was trained, so the analysis could not be done. p<0.05, χ^2: Chi-square test analysis was performed.

Table 2. Comparison of students studying at ND and HCP+MDSP based on BSL and First Aid knowledge total score averages

	SCHOOL	**n**	$\bar{x}$	**S**	**t**	***p***
Knowledge	ND	192	5,54	1,326	3,870	0,000
	HCP+MDSP	108	4,90	1,478		
Attitude	ND	192	7,10	1,418	4,709	0,000
	HCP+MDSP	108	6,22	1,779		

*p<0.05, t: test analysis was performed.

Table 3. Comparison of students studying at ND and HCP+MDSP based on BLS and First Aid knowledge levels

Knowledge level	**ND**		**HCP+MDSP**	**Total**	χ^2	***p***
Low	n	30	41	71	19,707	0,000
	%	15,6	38,0	23,7		
Moderate	n	153	65	218		
	%	79,7	60,2	72,7		
High	n	9	2	11		
	%	4,7	1,9	3,7		

*p<0.05, χ^2: Chi-square test analysis was performed.

Table 4. Comparison of students studying at ND and HCP+MDSP based on BLS and First Aid knowledge total scores

			n	$\bar{X}$	S
Gender	Basic Life Support	Female	231	5,43	1,368
		Male	69	4,91	1,502
			t=2,684 p=0,008		
	First Aid Knowledge	Female	231	6,91	1,472
		Male	69	6,36	1,963
			t=2,515 p=0,012		
Department	Basic Life Support	ND	192	5,54	1,326
		HCP	59	5,19	1,395
		MDSP	49	4,55	1,515
			F=10,480 p=0,000		
	DIFFERENCE		1-2>3		
	First Aid Knowledge	ND	192	7,10	1,418
		HCP	59	6,17	1,840
		MDSP	49	6,29	1,720
			F=11,129 p=0,000		
	DIFFERENCE		1>2-3		
Grade (Class)	Basic Life Support	2	109	4,90	1,472
		3	95	5,44	1,302
		4	96	5,65	1,353
			KW=17,377 p=0,000		
	DIFFERENCE		3-4>2		
	First Aid Knowledge	2	109	6,22	1,771
		3	95	7,20	1,310
		4	96	7,02	1,522
	TEST		KW=18,606 p=0,000		
	DIFFERENCE		3-4>2		

*p<0,05, KW: Kruskall-Wallis analysis was used.

Discussion and Conclusion

When knowledge levels were evaluated by knowledge scores in our study, it was discovered that ND students had higher knowledge levels than HCP+MDSP students. The reason for that may be considered as the limited first aid lesson hours in HCP+MDSP and more information being explained in a short span of time, and the number of hours allocated to the first aid course in ND is more, they can practice continuously in the laboratory environment and they are more likely to encounter first aid and basic life support events in hospital practices every semester. On the other hand, due to the curriculum and only two years of education, HCP+MDSP students' hospital practices time is more limited, so they are likely to encounter fewer first aid and basic life support practices in this limited time. Furthermore, the fact that HB students are educated in the city center and their practical areas are more extensive increases the likelihood of encountering such cases, whereas the number of HCP+MDSP students in the district's practical areas is more limited. It is possible that the significant

difference in knowledge levels between the two groups of students is due to these factors. The total scores of Basic Life Support and First Aid Knowledge were found to be insignificant at the $p<0.05$ significance level based on the age of the students included in the study. This could be because the average age of the student groups involved in our study was close to each other. The first aid level of mothers with children aged 0-6 was examined in a study conducted by Dereli et al.(2010), and the group with the highest knowledge score was determined to be those aged 35 and over. In this study, there was a statistically significant difference when the level of knowledge increased with age, as well as between age groups and knowledge scores (Eğlence et al., 2007).The reason for this difference can be attributed to the fact that mothers gain experience from the events they encounter as they grow older. The values of the differences in Basic Life Support and First Aid knowledge scores by the genders of the students included in the study were found to be significant at the $p<0.05$ significance level. This finding revealed that there was a difference in the students' total scores for Basic Life Support and First Aid knowledge based on their gender. It was discovered that women had higher mean scores for both Basic Life Support and First Aid knowledge than men. In a study similar to ours, Eğlence et al. (2007) revealed that female teachers had higher levels of knowledge than male teachers (Filho et al., 2006). Women were found to have a higher level of advanced cardiac knowledge than men in a study by Filho et al. in a group including physicians. In a study conducted by Genç on a group of teachers, it was found that, in contrast to our study, men gave more correct answers than women (Genç, 2009). Unlike our findings, Özkan's study of police officers found that gender had no effect on knowledge levels (Özkan, 2011). Likewise, in the study conducted by Kımaz et al., it was found that gender had no effect on knowledge level (Kımaz et al., 2006). Similarly, gender had no effect on knowledge level in the study of Erdur et al (Erdur et al., 2008). Price et al., in their study, it was observed that gender did not affect the level of knowledge in a group of specialist physicians (Price et al, 2006:295-99). Similar to our study, it was found that age does not affect the level of knowledge in the study of Bilir's "Medical doctors' knowledge levels and factors affecting BLS" (Bilir et al, 2007). In addition, the study of Wilson et al. found that age did not affect BLS knowledge and skills (Wilson et al, 1983). Furthermore, as a result of Çelik's "Evaluation of nurses' approaches to CPR", it was discovered that increased age did not affect the information score (Çelik et al., 2008).

In contrast to our study, when Koç's research was examined, a statistically significant difference in knowledge scores was found between the 35 and over age group and the 20-24 age group. As a result of this research, it was found that first aid knowledge scores increased with increasing age (Koç, 1994). There was also a statistical difference between first aid knowledge scores and the age variable as a result of Savaşer's research. When this study is examined, the age group 24 and below has the highest level of knowledge scores (Savaşer, 2001). These results differed from our results. The reason for this can be attributed to the fact that the teachers involved in Savaşer's study have recent graduations and their knowledge is still fresh, as well as the fact that non-physician health personnel are also intertwined with the profession and have only recently begun their careers. Correct answers to the first question in the Basic Life Support information questions, about the purpose of basic life support, are higher in ND than in HCP+MDSP. According to Babacan's study with various health personnel, research assistants (92.5%) correctly responded to the definition of basic life support when compared to other health personel (Babacan, 2002). In our study, we found that students from both schools answered the second question, chest compression/compression ratio, at a high rate, with no significant difference between them. In Babacan's study, however, a high percentage of correct answers were given to this question, with paramedics (100%) and student paramedics providing the highest percentage of answers (100%)

(Babacan, 2002). 192 ND students, and 108 HCP and MDSP students enrolled this study. According to the results of the study, HB students provided more correct answers to Basic Life Support Knowledge questions. Likewise, ND students answered the First Aid Knowledge questions correctly at a higher rate.

Looking at the knowledge levels, it was found that 15.6% of the students studying at ND had a "Low" knowledge level, 79.7% had a "Moderate" knowledge level, and 4.7% had a "High" knowledge level; 38% of HCP+MDSP students had a "low" knowledge level, 60.2% had a "moderate", and 1.9% had a "high" knowledge level, as well as the chi-square value for the differences between them was found to be significant at $p<0.05$ significance level. These results indicate that there is a difference in the knowledge levels of students studying in ND and HCP+MDSP, which were included in the study, in terms of basic life support and first aid. Students' knowledge levels were found to be higher in ND when compared to HCP+MDSP. In overall, it was found that 23.7% of the students had a "low" level of knowledge, 72.7% had a "moderate" level of knowledge, and 3.7% had a "high" level of knowledge. In line with the information obtained as a result of the research, it is recommended to dedicate adequate time to the first aid lesson in the student's curriculum, to include the topic of basic life support in the first aid lesson, to use current resuscitation guides as a source while explaining the basic life support, to organize trainings for reviewing first aid and basic life support information at regular intervals in the schools where they are educated, to encourage students to follow the current changes in first aid and basic life support, to set up a platform where current changes related to first aid and basic life support can be conveyed to students if possible, and to promote and encourage students in this respect.

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