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Research Article

Covıd 19 Pandemıc and After the Vaccınatıon 12-18 Month

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Abstract

Aim: The aim of this study is to determine whether health problems occur within 12-18 months after receiving the COVID 19 vaccine.

Methods: This research was done in cross-sectional type. Young adults aged 18-25 years who did not have a chronic disease at the time of vaccination were included in the study. The research was carried out using a questionnaire prepared by the researchers. The research was conducted with 810 young adults between 1-31 December 2022.

Results: The mean age of the participants was 20.39 ± 1.80 years. 75.56% of the participants had only Biontech vaccine and 68.1% had 2 doses of vaccine. 60.2% had vaccinated 12 months ago. 5.2% of the participants stated that they gained weight after vaccination. Female participants who had menstrual irregularity before vaccination reported that menstrual irregularity decreased during the period after vaccination.

Conclusion: There were changes in health quality observed 12-18 months after vaccination, but it was not statistically significant. These differences may be due to the inability to adapt to changing conditions. Whether the vaccine creates differences in the genetic transfer stage in the following years depends on the results of the studies to be done.

Keywords: COVID 19; side effect; vaccines; young adults; health; biochemistry

Introduction

COVID 19 has shaped our lives since the beginning of 2020 and we continue on our way with the habits we have acquired in the past 3 years. Despite such restrictive and impressive measures, millions of people still lost their lives.

With the intense efforts of the scientific world, new vaccines were developed and the way was opened for the relaxation of restrictions and the return of life to the old days. While vaccines continue to be made by companies and official institutions, those who want to get approval for the vaccines they make knocked on the door of the world health organization, and some of them were approved for emergency use by making a preliminary examination. Over time, reassessments have been made and either permanent approval has been granted or emergency use approval has been withdrawn.

In fact, all these processes were managed completely transparently. When you look at the website of the World Health Organization, it can be examined at what stage the vaccines are [1].

Although everything seems normal so far, the effects of a vaccine 1-3-10 years after its invention should be evaluated. Because it would be unreasonable to wait that long, as survival is the first. However, in the second stage, it is necessary to examine whether the vaccine leaves permanent effects on the individual and whether it creates a problem in gene transfer from generation to generation in the third stage.

When thalidomide was first produced in the 1950s, it was a drug produced against nausea and vomiting, which gradually decreased after intense in the first 3 months of pregnancy due to hormonal changes. It was written on its prospectus that it is safe enough for everyone to use it easily. However, the drug remained on the market for almost 10 years, and when miscarriages and birth anomalies emerged and problems were linked, it was revealed that this was due to Thalidomide, and the drug was directly recalled at a global level [2].

But there are still individuals with Thalidomide living with missing limbs. Of course, there are countries that are not affected by the Thalidomide disaster. The reason for this is that it does not approve the use of the vaccine depending on the phase 1-2-3 trials and clinical results that are not considered sufficient. Therefore, it is especially valuable to be skeptical, to assume that there may be a danger that may have a greater impact than to experiencing nausea, and not to risk it. However, if the suspicion had been in vain, it would have been the subject of criticism by stating that it was applied late by the society. Many different drugs are still in clinical trials for years, so that a disaster like Thalidomide does not happen again and future generations are not in danger. During the COVID 19 process, Pfizer/Biontech, Sinovac-Coronavac and Turkovac vaccines, which were given for use at the beginning of 2022, were used in Turkey. Turkovac

vaccines were not included as they did not meet the research time requirement.

Only Biontech was used to characterize the Pfizer/Biontech vaccine, and Sinovac was used to name the Sinovac-Coronavac vaccine. When Biontech was first released, it was an mRNA-based vaccine, which caused hesitation. Production of vaccines based on mRNA was a new technology and there was not much research on it. Sinovac, on the other hand, is an inactivated vaccine produced by conventional methods.

Many studies have been conducted on the short-term side effects of the Biontech vaccine.These include pain at the injection site, fever, rash, muscle and bone pain, burning sensation in the eye, diarrhea, fatigue, immenstrual cycle disorder, prediabetes symptoms, hypertension, palpitations, decreased or increased appetite, weight gain, IgA vasculitis, myocarditis, systemic capillary leak syndrome. Many different conditions have been reported, such as arterial and venous embolism [3-13].

Fatigue, insomnia, joint pain, fever, headache, dizziness, pain at the injection site, hot flushes, weakness, rash have been reported after Sinovac vaccine [14-19].

There are studies showing that Covid 19 vaccines still provide protection even after six months [20].

Short-term results of most vaccines produced during the COVID 19 process have been published. However, there is not much research on mid-term effects. Unlike the literature, there are no studies consisting of healthy and young participants who did not have any disease when they were vaccinated, and 12-18 months have passed since the day they were vaccinated. Our aim is to determine the differences in health in the individual by adhering to the vaccine brand that he has been in the past.

Material and Methods

Type of research and sample selection

This study was planned as a cross-sectional study to determine whether healthy young people living in a residential area in Turkey have noticed any changes in their health within 12-18 months of receiving any COVID 19 vaccine. The research was carried out between 1-31 December 2022. Young adults between the ages of 18-25, who did not have any chronic diseases, did not have any physical disabilities, who agreed to participate in the study and could speak Turkish, were included in the study. All participants who agreed to participate in the study and met the inclusion criteria were included in the study. The research was completed with 810 participants, reaching 80% of the population.

Data collection

The data were collected on the campus of a university between 1-31 December 2022. The data were collected by the researchers using a questionnaire prepared in line with the literature. The questionnaire consists of 41 questions, including questions to determine the demographic characteristics of the participants (age, gender, economic situation, etc.), their evaluation and thoughts about the COVID 19 vaccine.

Ethical Approval

An application was made to the local ethics committee in the place where the study was conducted and ethical approval was obtained (E-39243114-770-104867/38/01). Participants in the study were informed about the study and their written and verbal consents were obtained.

Statistical analysis

The data were evaluated with the SPPS 22 package program on the computer. Data were evaluated using numbers, percentages, means and standard deviations.

Results

The demographic characteristics of the participants in the study are given in Table 1. Participants of the study were 20.39 ± 1.80 years, 78.5% were women, 71.6% had undergraduate education, 56% lived in the city, 67.2% had a nuclear family, 89%, 1 does not work in an income generating job, 61% have a medium income, 92.1% are single, 100% did not have a chronic disease before the COVID 19 vaccination.

Characteristic's			
		n	%
Age average	20,39 ±1,80		
Gender	Man	174	21.5
	Woman	636	78.5
Education Levels	High School	196	24.2
	Under Graduate	580	71.6
	Master and Above	34	4.2
Place of residence	Village-district	196	24.2
	Town	416	51.4
	City Centre	198	24.4
Family Type	Nuclear	544	67.2
	Big family	266	32.8
Working status	Employed	88	10.9
	Inoperative	722	89.1
Income status	Income lower than expenses	228	28.1
	Income equal to expenses	494	61.0
	Income more than expenses	88	10.9
Marital Status	Single	64	7.9
	Married	746	92.1
Chronic Disease Status Before Vaccination	Yes	0	0
	No	810	100

Table 1. Demographic characteristics of the participants participating in the research.

In Table 2, we asked the participants which brand of COVID 19 vaccine they had and when. In addition, we asked the participants whether there were any side effects after vaccination, how many days it lasted, and whether they went to the hospital for this condition. The answers we received are listed in Table 2.

Questions			
		n	**%**
Vaccine Name	Biontech	612	75.56
	Sinovac	190	23,45
	Biontech+Sinovac	8	0,98
Dose of Vaccine	1 Dose	102	12.6
	2 Dose	552	68.1
	3 Dose	156	19,2
How Many Months Ago Did You Have Your Last COVID 19 Vaccines?	12 Months ago	488	60.2
	13 Months ago	14	1.7
	14 Months ago	76	9.4
	15 Months ago	44	5.4
	16 Months ago	16	2.0
	17 Months ago	4	.5
	18 Months ago	168	20.7
Side Effect	Yes	252	31.1
	No	558	68,9
Side Effect Times	1 day	39	15.56
	2 days	174	69.16
	3 days	21	8.36
	4 days	5	2.02
	5 days	7	2.59
	7 days	6	2.31
	8 days and Above	39	15.56
Does The Side Effect Still Continue?	Yes	20	2.5
	No	790	97.5
Have You Been to The Hospital For Side Effects?	Yes	20	100
	No	0	0
Blood, Medical Imaging etc. For Side Effect. Did You Have It Done?	Yes	14	70
	No	6	30
Were The Samples Taken For Side Effect Different From The Reference Values?	Yes	2	14,28
	No	12	85,72
Do You Have a Complaint Of Hypertension?	Yes	10	1.2
	No	800	98.8
Have You Been Diagnosed With Hypertension?	Yes	0	0
	No	810	100.0
Do You Have Any Diabetes-Related Complaints?	Yes	16	2.0
	No	794	98.0
Have You Been Diagnosed With Diabetes Mellitus	Yes	10	1.2
	No	800	98.8
Did You Gain Weight After Vaccination?	Yes	42	5.2
	No	768	94.8
What Do You Think Is Your Reason For Gaining Weight?	Appetite	36	85,71
	Other	6	14,28
Did You Have A Cough After Vaccination?	Yes	28	3.5
	No	782	96.5
Have You Been To The Doctor For A Cough?	Yes	16	2.0
	No	794	98.0

Table 2. Data on COVID 19 Vaccine.

In Table 3, we asked various questions to learn about the changes in health protection status after the pandemic.

Questions			
		n	%
Do You Use Supplements (Vitamins, Minerals, etc.) After Vaccination?	Yes	24	3.0
	No	786	97.0
What Supplements Do You Use?	Capsule Containing Vitamin	18	75
	Capsule Containing Iron Ions	2	8,33
	Capsule Containing Magnesium-Calcium Ions	2	8,33
	Capsule Containing Zinc Ions	2	8,33
Did You Use Supplements (Vitamins, Minerals, etc.) Before Vaccination?	Yes	34	4.2
	No	776	95.8
What Supplements Did You Use?	Capsule Containing Vitamin	24	48,97
	Capsule Containing Iron Ions	9	18,36
	Capsule Containing Magnesium-Calcium Ions	4	8,16
	Capsule Containing B Complex Vitamin	12	24,48

Table 3: Supplementary products used by the participants to protect and maintain health.

In Table 4, we asked female participants a few questions about their menstrual cycles. First of all, the World Health Organization and T.C. should determine how and for how long the menstrual cycle should be. It was explained through the menstrual cycle documents of the Ministry of Health. Afterwards, he was asked to answer questions by asking questions.

Questions			
		n	%
Was There Any Irregularity In Your Menstrual Cycle Before Vaccination?	Yes	72	8.9
	No	738	91.1
Did You Go To The Doctor About The Irregularity In Your Menstrual Cycle Before Vaccination?	Yes	52	72,22
	No	20	27,77
Have you received any treatment for irregularity in your menstrual cycle before vaccination?	Yes	42	58.33
	No	30	41,66
Is There Any Irregularity in the Menstrual Cycle After Vaccination?	Yes	22	2.7
	No	786	97.0
Did You Go To The Doctor And Get Treatment For Irregularity In The Menstrual Cycle After Vaccination?	Yes	14	63,63
	No	8	36,37

Table 4. Data on menstrual cycle status of female participants.

	X±sd	X±sd
****If you were to rate your health quality, how much would you give?**	Before COVID Vaccination	After Vaccination
	4.0988 ± 0,9249	3.9679 ± 1,0001
	t: 5,433, p<0,000	

Discussion

COVID 19 has shaped our lives with the pandemic experience and pandemic gains/losses that we will never forget. This effect shows how prominently our relationships with people, our perspective on health, and lifestyle play a significant role in our future lives. The aim of the article was to evaluate the short-term effects of the pandemic vaccines, which are produced and put into use quickly, in the medium term. For this reason, our study was to observe whether the short-term effects persisted 12-18 months after vaccination, and whether it left shekels. Young individuals without chronic diseases were included when the COVID 19 vaccine was available within the limits of the study. It was evaluated that our research group should only consist of young people, since the precursor effects of some diseases may occur and secondary symptoms related to age may occur as the age progresses, and it was conducted as it is.

Due to the limitations of our study, the mean age was determined to be 20.39 ± 1.80 years. When the research was conducted in Turkey, 3 different COVID 19 vaccines were applied. However, the Turkovac vaccine started to be administered at the beginning of 2022. Since the data collection time of the study was 01-31/12/2022, participants who had the Turkovac vaccine were not included in the study.

75.56% of the participants had only Biontech COVID 19 vaccine. 0.98% had both Sinovac and Biontech vaccines. 68.1% of the participants received 2 doses of COVID 19 vaccine. Both the World Health Organization and the Turkish Ministry of Health have stated that at least 2 doses of vaccination are required to overcome COVID 19 with the least damage.

60.2% of the participants had the COVID 19 vaccine 12 months ago. In addition, it was reported that 31.1% of the participants had side effects.

69.16% of this side effect ended within 2 days. Dighriri et al. (2022) reported in their study that 69.8% of the side effects ended within the first 24 hours, and 18.1% of them ended within 24-48 hours. In the study of Abukhalil et al. (2023), 66% of the participants stated that they reported side effects after the first dose of vaccine. Our research results are compatible with the literature.

2.5% of the participants reported that the side effects they experienced after vaccination still continued. He stated that he went to the hospital because of this, 70% of those who went to the hospital used blood analysis or medical imaging tools to investigate their disease, and 14.28% of them stated that the values were not among the reference values. Of the same participants, 2% reported that they had diabetes-related complications, and 1.2% were diagnosed with diabetes. There is no data in the literature regarding the occurrence of diabetes after the COVID 19 vaccine. But Tan et al. (2022) and Yano et al. (2022) reported in their study that in the physiological process that occurs after vaccination in genetically predisposed individuals, diabetes mellitus may attack, sudden and extreme increases in the glycemic index may occur, and that this should be evaluated when the patient comes to the hospital. Edwards et al. (2021) and Sakurai et al. (2022) pointed out the importance of evaluating the COVID 19 vaccination durations of patients admitted to the hospital with an acute hyperglycemic case by writing them on the patient information form [23-26].

5.2% of the participants reported that they had gained weight since the time they were vaccinated, and they attributed this to increased appetite with 85.71%. Although there are many sources about decreased appetite after vaccination in the literature, it will not be discussed since there are no sources related to increased appetite.

3.5% of the participants reported that they had a cough that did not go away after vaccination. Only 2% of the participants stated that they went to the doctor with a cough complaint.

3% of the participants take vitamins and minerals, etc. and the vast majority (75%) use tablets containing vitamins. The number of participants who used vitamins and minerals before vaccination was higher (4.2%).

8.9% of female participants reported irregularity in the menstrual cycle before vaccination. 2.7% of the same participants reported that they had menstrual irregularity. It can be said that the number of menstrual irregularities decreased after the COVID 19 vaccine. Farland et al. (2022), Namiki et al. (2022) and Gibson et al. (2022) reported that menstrual irregularity was not related to COVID 19 in their study, but Lessans et al. (2023) stated in their study that menstrual cycle times change [27-30].

As a final question, we asked the participants to rate the quality of health before the COVID 19 vaccine and the quality of health after the COVID 19 vaccine. Participants reported a decrease in health quality after COVID 19, and there was a statistically significant difference ($p<0.000$) between the two scores.

Conclusion

As a result, the COVID 19 pandemic has impacted our lives and changed our standards. There were health differences observed 12-18 months after the vaccination period, but they were not statistically significant. These differences may be due to the inability to adapt to changing conditions. No serious side effects of vaccines were observed among young adults. Whether it creates differences in later years and between generations depends on the results of future studies.

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Declarations Confict of interest

The authors report no conficts of interest. The authors alone are responsible for the content and writing of the article.

Data Availability

The data that support the fndings of this study are available on request from the corresponding author. They are not publicly available due to privacy or ethical restrictions.

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