

**How to Cite:**

Khayoon, Z. N., Dakhil, R. L., & Abdalreda, A. A. (2022). Studying the reality of physical therapy for Iraqi premier league football players. *International Journal of Health Sciences*, 6(S1), 13779–13791. <https://doi.org/10.53730/ijhs.v6nS1.8494>

# Studying the reality of physical therapy for Iraqi premier league football players

**Lect. Zuhair Nadhim Khayoon**

Faculty of Physical Education and Sports Sciences, Dhi Qar University, Iraq  
Email: [zuhairalarabi22@gmail.com](mailto:zuhairalarabi22@gmail.com)

**Prof. Rabeea Lafta Dakhil**

Faculty of Physical Education and Sports Sciences, Dhi Qar University, Iraq  
Email: [rabeelafta@gmail.com](mailto:rabeelafta@gmail.com)

**Assistant Prof. Dr. Ahmed Atshan Abdalreda**

Faculty of Physical Education and Sports Sciences, Dhi Qar University, Iraq  
Email: [ahmed.alrekabi@utq.edu.iq](mailto:ahmed.alrekabi@utq.edu.iq)

**Abstract**---The research included four chapters, where the first chapter included a definition of the research from the introduction to the research and its importance. It touched on the importance of physical therapy in treating sports injuries and its possibilities in working on the return of the athlete to practicing sports activity and returning to training, as well as to competition and optimal practice in football matches. Obstacles that accompany physical therapy in clubs and raise awareness of players and their coaches about the importance of physical therapy and its important role in treating and rehabilitating sports injuries and preparing different parts of the body for physical work after injury. Iraqi Premier League clubs in football, and the third chapter included presenting the results obtained by the researcher and analyzing them through appropriate statistical treatments and discussing them in a precise scientific discussion. Al Mumtaz for devices (electrical stimulation, heat, etc.) Cooling, massage devices) and building a scale of obstacles that accompany physical therapy for the players of the Iraqi Football Premier League

**Keywords**---physical therapy, premier league, football players.

**Introduction to the research, introduction and importance of the research**

The scientific and technological development that has occurred in all medical specialties, including the specialty of physical therapy, has become taught in universities and institutes, and there are many graduates and specialists working

in this field. It leads to certain reactions in the body that differ from one person to another and even the same person according to the type of disease and injury, in addition to being an assistant for patients who suffer from negative complications as a result of their excessive use of chemotherapy and medication. Therefore, in this specialty, a successful and effective solution was found to help heal a large number of injuries and diseases that Drug treatment or even surgical treatment does not work with it. Therefore, physical therapy has become a stand-alone specialty that includes several different methods and means based on scientific theories and practical facts.

And the importance of conducting this research lies in what are the obstacles that accompany the work of physiotherapy in treating and rehabilitating these injuries in order to contribute to limiting their spread in order to preserve the health and safety of players and focus efforts to reduce their occurrence and continue their practice of playing correctly.

### **Research problem**

Through the researcher's work in a specialized center for physiotherapy and rehabilitation and accompanying him as a therapist for the Naft Al Wasat Football Club, the Iraqi Premier League, and by watching many of the matches that players play while playing matches with their teams and their exposure to injuries, he had the idea to know and conduct the current study in the obstacles that accompany treatment and rehabilitation Sports injuries through physical therapy in clubs and raising awareness of players and their coaches about the importance of physical therapy and its important role in treating and rehabilitating sports injuries and preparing the various parts of the body for physical work after injury.

- The objectives of the research: to identify the reality of physical therapy in the clubs participating in the Iraqi Premier League in football and to identify the obstacles related to the reality of physical therapy.
- Research hypotheses: There is a statistical significance of the reality of the effectiveness of physical therapy, and there are obstacles accompanying the work of physical therapy for the players of the Iraqi Premier League.

### **Research fields**

- The human field: Iraqi football Premier League players
- Time domain: the period from 1/2/2021 to 1/3/2021
- The spatial domain: the stadiums and headquarters of the teams participating in the Iraqi Football Premier League.

### **Research methodology and field procedures**

Research Methodology: The researcher used the descriptive approach with a survey method and correlational relationships because it is the most appropriate to the nature of the problem.

### **The research community and its sample**

The researcher determined the research community with the players of the Iraqi Premier League football clubs, whose number is 600 players, representing (20) clubs of the Iraqi league clubs for the sports season 2019-2020, as shown in

Table (1). As for the research sample, it is the part taken from the original community and it was determined by Al-Amdiya, whose number is (180) players, representing 6 clubs from the Iraqi league clubs, which are clubs (Al-Mina, Basra Oil, Maysan Oil, Al-Wasat Oil, Najaf and Al-Diwaniyah)

First: The exploratory sample: It included a number of Iraqi Premier League club players, and their number was (10) players, and they represented (5.55%) of the total sample.

Second: The construction sample: It included a number of Iraqi Premier League club players, and their number was (100) players, and they represented (55.55%) of the total sample.

Third: The application sample: It included a number of Iraqi Premier League club players and their number was (70) players, and they represented (38.88)% of the total sample. Table (1) shows the details of the sample

Table No. (1) It shows the details of the distribution of the research sample

No	Club Name	Number Of Players	Construction Sample	Rationing Sample	Survey Sample
1	Minaa	30	20	10	-
2	Basra Oil	30	20	10	-
3	Maysan oil	30	15	15	-
4	middle oil	30	15	15	-
5	Najaf	30	15	10	5
6	Diwaniyah	30	15	10	5
	Total	180	100	70	10

Tools, devices and means of research

### **Research tools: observation, interview and questionnaire**

The devices used in the research: a dell computer

The means used in the research: Arab and foreign sources and references, previous studies and research, the international information network (Internet), tests and measurements.

Procedures for building a scale of physical therapy obstacles in the Iraqi Premier League in football

### **Determining the validity of physical therapy devices**

In determining the validity of the physical therapy devices used for Iraqi Premier League club players, the researcher relied on the opinions of experts in sports medicine and physical therapy. The form was distributed to (15) experts and the following table shows that:

Table No. (2)

indication	K <sup>2</sup>	%	Does not fit	%	fit	devices	No
moral	8.33	8.33	1	91.6	11	electrical stimulation	1
moral	5.33	16.6	2	83.3	10	Ultrasound	2

insignificant	3	75	9	25	3	Magnetic therapy	3
insignificant	1.33	66.6	8	33.3	4	short waves	4
moral	5.33	16.6	2	83.3	10	laser	5
moral	12	0	0	100	12	thermostats	6
moral	12	0	0	100	12	cooling devices	7
moral	5.33	16.6	2	83.3	10	massage devices	8
insignificant	1.33	66.6	8	33.3	4	Wax baths	9

The tabular value of Ca2 (3.84) at the (0.05) level

### The initial formula numbers for the scale items

(17) paragraphs have been formulated distributed on the scale areas as follows:

Obstacle areas that accompany physical therapy for Iraqi Premier League players

Obstacles specific to the reality of physical therapy (17) paragraphs

Presenting the paragraphs of the scale in its initial form to the arbitrators:

After preparing the scale in its initial form, it was presented to a group of experts and specialists in the field of sports injuries and sports physiology. After the arbitrators expressed their opinions and observations about the scale items, the researcher analyzed the experts' opinions using a square test as a criterion for accepting or excluding the scale items. Its significance is less than (0.05) and items whose significance level is more than (0.05) were excluded, and these values represent the opinion of (15) experts .

Based on the foregoing, (1) paragraph out of (17) paragraphs were excluded in relation to the scale, and Table (3) shows that.

Table (3) shows the percentage of experts and specialists' opinions on each paragraph of the obstacles field related to the reality of physical therapy

indication	sig	K <sup>2</sup>	disapproves	Agrees	number of experts	No
moral	0.005	8.067	2	13	15	1
moral	0.000	15	0	15	15	2
moral	0.000	15	0	15	15	3
moral	0.000	15	0	15	15	4
moral	0.000	15	0	15	15	5
insignificant	0.439	0,600	6	9	15	6
moral	0.005	8.067	2	13	15	7
moral	0.005	8.067	2	13	15	8
moral	0.005	8.067	2	13	15	9
moral	0.001	11.267	1	14	15	10
moral	0.000	15	0	15	15	11
moral	0.000	15	0	15	15	12
moral	0.001	11.267	1	14	15	13
moral	0.001	11.267	1	14	15	14
moral	0.000	15	0	15	15	15
moral	0.000	15	0	15	15	16
moral	0.000	15	0	15	15	17

Table (4) shows the number of items left and excluded in the scale

The number of paragraphs left	The sequence of excluded paragraphs	The number of paragraphs excluded	fields	No
16	6	1	Obstacles specific to the reality of physical therapy	1

### Choosing the rating scale

After the paragraphs were formulated, the researcher determined the five-year rating scale for the scale of physical therapy obstacles for players in the Iraqi Premier League for football because it gives multiple choices and reduces the degree of guesswork. The experts' answers supported this proposed scale by agreement (100%) by (15) experts, and this makes the rating scale the user is valid as shown in the following table.

Table (5)

I never agree	I rarely agree	sometimes agree	I often agree	I always agree	Paragraph direction
1	2	3	4	5	positive
5	4	3	2	1	negative

### The exploratory experience

The researcher conducted the exploratory experiment before the final application of the research in an appropriate time, through the application of the scale and on a sample of (10) players on (1/12/2021) for the purpose of creating the reasons for success when applying the main scale to the research sample

### Discriminatory power of the scale

The discriminatory ability of the item means the ability of the item to distinguish between individuals who are distinguished in the quality measured by the scale and individuals who are weak in that trait. Undoubtedly, the scale that consists of good items is strong. The weak and the superior is the most important indication describing the situation regarding the statistical paragraphs of the social sciences (spss), and that the discriminatory power is revealed by knowing the total degree of the answers of the sample members under study, then the forms are arranged in descending order, after which two groups are chosen (27%) of the total sample that were subjected to measure.

Table (6) Shows the value (t) calculated to indicate the discriminatory ability of the scale items

Paragraph Strength	Indication level	Calculated t value	lower group		senior group		sequence
			standard deviation	Arithmetic mean	standard deviation	Arithmetic mean	

Featured	0.000	8.660	0.559	1.3676	0.552	4.6832	1
Featured	0.000	4.959	0.894	1.2760	0.893	4.6354	2
Featured	0.000	4.744	0.552	1.2652	1.108	4.7460	3
Featured	0.000	5.662	0.104	1.6842	0.455	4.7365	4
Featured	0.000	4.535	0.456	1.8253	1.102	4.8173	5
Featured	0.000	7.077	0.848	1.8473	0.455	4.1823	6
Featured	0.000	4.749	0.849	1.8574	0.898	4.240	7
Featured	0.000	4.264	0.553	2.4202	0.894	4.4212	8
Featured	0.000	4.802	0.412	2.7560	0.450	4.8287	9
Featured	0.000	4.605	0.845	2.2242	0.553	4.6243	10
Featured	0.000	4.809	0.5367	2.1042	0.451	4.3130	11
Featured	0.000	4.220	0.413	2.3119	0.456	4.4531	12
Featured	0.000	5.363	0.844	2.5252	0.558	4.4534	13
Featured	0.000	3.783	0.842	2.7282	0.844	4.2265	14
Featured	0.000	5.713	0.762	2.9710	0.452	4.6865	15
Featured	0.000	4.955	0.892	1.5642	0.894	4.7348	16

Table (7) shows the number of items left and excluded in the scale

The number of paragraphs left	The sequence of excluded paragraphs	The number of paragraphs excluded	fields	No
16	-	0	Obstacles specific to the reality of physical therapy	1

### Internal consistency coefficient

This method shows us the extent of the homogeneity of the paragraphs, as there may be duplicate paragraphs, but they measure different dimensions, so the internal consistency coefficient is used to achieve this purpose, and many studies have justified their use of this method. The researcher used the correlation coefficient (Pearson) between the scores of the sample members on each paragraph and between their scores on the scale as a whole by means of the statistical bag (SPSS) and after completing the statistical analysis; it became clear that all the items are consistent.

Table (8)

It shows the values of the internal consistency coefficient of the physical therapy obstacles scale for the players of the Iraqi Football Premier League			
indication	Sig	correlation coefficient	No
moral	0.000	0.871	1
moral	0.000	0.863	2
moral	0.000	0,813	3

moral	0.000	0.968	4
moral	0.000	0.573	5
moral	0.000	0.952	6
moral	0.000	0.860	7
moral	0.000	0.851	8
moral	0.000	0.858	9
moral	0.000	0.867	10
moral	0.000	0.926	11
moral	0.000	0.788	12
moral	0.000	0.968	13
moral	0.000	0.880	14
moral	0.000	0.802	15
moral	0.000	0.573	16

Table (10) it shows the coefficient of internal consistency between the paragraph and the range of obstacles for physical therapy

indication	Sig	correlation coefficient	No
moral	0.000	0.671	1
moral	0.000	0.763	2
moral	0.000	0.625	3
moral	0.000	0.573	5
moral	0.000	0.876	6
moral	0.000	0.846	7
moral	0.000	0.765	8
moral	0.000	0.943	9
moral	0.000	0.915	10
moral	0.000	0.936	11
moral	0.000	0.822	12
moral	0.000	0.738	13
moral	0.000	0.851	14
moral	0.000	0.927	15
moral	0.000	0.821	16

### **Psychometric properties of the physical therapy obstacles scale for Iraqi football Premier League players**

The process of preparing standards requires the availability of basic and important conditions to ensure the safety and scientificity of the standard. Perhaps one of the most important of these conditions is its excellence in honesty and stability.

#### **The veracity of the scale**

The concept of honesty is one of the most important basic concepts in the axis of tests and measurement. The validity of the test is defined as the degree to which the test or scale measures the thing to be measured (), and honesty is an important concept in the measurement axis and is a guide if the test measures the trait or phenomenon to be measured. The researcher has adopted There are two types of validity to verify the validity of the scale:

### **Validity of the content**

This type of honesty aims to know the extent to which the test or scale represents the aspects of the trait or characteristic to be measured in support of whether the test or scale measures a specific aspect of the phenomenon or measures all of it, that is, the extent to which its content matches what it wants to measure. ( ). This type of honesty was achieved when the scale was presented to a group of experts and specialists in the field of sports injuries, physiology, testing and measurement to determine the validity of its paragraphs, and their number was (15) experts.

### **The validity of the hypothetical configuration**

This honesty is sometimes called concept honesty or construct validity because it depends on empirical verification of the extent to which the scale's degrees match the measured property or concept. The measure prepared for this study of the validity of this type is first by using the discriminatory ability.

### **Scale stability**

The test or scale that is characterized by stability is the one that gives the same results if it is repeated on the same individuals and in the same circumstances. There are several methods by which the reliability coefficient can be extracted, and the researcher has chosen two methods:

#### **First: The internal consistency method (Facronbach)**

It is one of the most common measures of stability and is more suitable for scales with a graduated scale. This method depends on the extent to which the items are related to each other within the scale, as well as the correlation of each item with the scale as a whole. The average of the internal correlation coefficients between the paragraphs is what determines the Facronbach coefficient. Many sources indicate that if the Facronbach score is from (70) and above, its paragraphs are better.

The researcher calculated the stability coefficient by the Facronbach method for all members of the construction sample of (100) players using the statistical bag (spss) and it appeared that the value of the stability coefficient is equal to (0.971), which is a high stability value.

#### **Second: the half-split method**

The researcher adopted the basic experiment sample forms (construction sample) amounting to (100) forms, and the number of scale items was (16) items (8) even and (8) odd items, and the correlation coefficient between these two parts was extracted using the statistical program (spss) and the value of Correlation coefficient (0.891), and this shows stability for half of the test, so (Spearman-Brown coefficient) was used to find the reliability coefficient for the test as a whole, which is (0.954), which is a good indicator of stability on the scale.

### **Skew modulus**

Most of the sample distributions are not completely symmetrical and may tend to one side of the maximum value at a rate more than the other. This deviation from symmetry is called skewness(). Skewness, but if it is the opposite, it is called negative skewness. To find out how close or far the sample answers are from the

normal distribution, the researcher calculated the skew coefficient using the statistical program (spss) and it reached (0.284) and the table (11) shows that.

Table (11) Statistical indicators of physical therapy obstacles scale for Iraqi football Premier League players

Skew Modulus	Standard Error	Standard Deviation	Arithmetic Mean	The Scale
0.284	1,95	19.543	184.654	Obstacles

### Standard Scores

Raw scores are used to convert into scores that can be collected for the purpose of comparing them and facilitating their interpretation. These scores have the advantage that they do not include negative values ( ). One of the conditions that must be taken into account when using the criteria is that the criteria be modern and that the legalization sample be representative of the original community so the researcher processed the results of The scale is statistically measured by using the arithmetic mean, standard deviation, z-score and T-degree of the scale to extract the standard scores of the scale and its axes.

### Standard Levels of the Scale

The researcher used the normal distribution curve (Caus), which depends on obtaining the mean distribution curve for the data on the nature of the sample, its number and the appropriateness of the tests for this sample. Five levels, where the standard grades are divided into (5) levels, and the modified standard grades consist of (12 degrees), as shown in the table (12)

Table (12) Standard levels of physical therapy obstacles scale for Iraqi football Premier League players

Percentage	The Number	Raw Grade	Modified Standard Score	Standard Score	Levels
%13	13	202-240	68-80	1,8+ 3+	Very High
%25	25	164-201	56-68	0,6+ 1,8+	High
%47	47	125-163	44-56	0,6- 0,6+	Average
%9	9	87-124	32-44	1,8- 0,6-	Low
%6	6	48-86	20-32	3- 1,8-	Very Low

Table No. (13) Scale of physical therapy obstacles for players in the Iraqi Premier League for football

Player's Obstacles	Obstacles related to the reality of physical	Raw scores for the	Standard score	levels
72-85	63-75	202-240	68-80	very high

58-71	51-62	164-201	56-68	high
45-57	39-50	125-163	44-56	Average
31-44	27-38	87-124	32-44	low
17-30	15-26	48-86	20-32	very low

### **Final application of the scale**

After completing all the requirements for building the scale and it is ready in its final form for application, as it consists of (16) paragraphs, and its degree ranged between 40-240

The researcher applied the scale in its final form to the application sample of (70) players for the period from (1/5/2021) to (1/7/2021), as the scale was transferred to the sample in the form of an electronic version on the WhatsApp application due to the current epidemiological situation and after Analysis of the responses of the research sample The data was collected in a special form, as each person from the sample had a degree of his own.

### **Statistical means**

The researcher adopted the spss statistical package and used the following statistical methods:

1. Arithmetic mean
2. standard deviation
3. Percentage
4. Chi-square
5. T-test for independent samples
6. Simple Correlation Coefficient (Pearson)
7. Correlation equation (Spearman-Brown)
8. standard deviation
9. Facronbach coefficients
10. Skew modulus
11. Standard degree Z and T
12. split half.

### **Presenting, analyzing and discussing the levels of the physical therapy obstacles scale**

This chapter includes a presentation of the findings of this study, as the questionnaire included the axis of obstacles, especially the reality of physical therapy. It reduces the possibility of error in the next stage of the research and works to strengthen the scientific evidence and give it strength. After the statistical processing of the data of the sample application of the scale, the following results were reached, as shown in the table.

Table (14) It shows the arithmetic mean, standard deviation, hypothetical mean and level of the application sample for the scale of obstacles that accompany the rehabilitation of sports injuries for the players of the Iraqi Premier League for football

The Scale	Skew Modulus	Standard Error	Standard Deviation	Arithmetic Mean	The Scale
Average	17.82	144	158,99	70	Obstacles

It is clear from Table (14) that the arithmetic mean of the scale is (158.99) and the hypothetical mean was (144), so the arithmetic mean is higher than the hypothetical mean, and the standard deviation was (17.82), and this indicates that the research sample was at a level (average) in The use of physiotherapy devices due to the lack of availability of the treating staff with the team, as well as the information available to the players, the allocation of places for physiotherapy centers and the provision of requirements for physiotherapy to reduce those injuries.

Presenting the results of the level of the application sample for the obstacles related to physical therapy:

What are the most important obstacles to physical therapy facing Iraqi Premier League players? In order to answer this question, the researcher calculated the mean, standard deviation, and level for the application sample for the obstacles related to physical therapy.

Table (15) It shows the arithmetic mean, standard deviation, and level of the application sample for physical therapy obstacles

the level	standard deviation	Arithmetic mean
Average	8,54	49,65

Table (15) shows the statistical description of the application sample for physical therapy obstacles, which numbered (70) players. The arithmetic mean was (49.65) and the standard deviation was (8.54), where the level was (average)

Table (16) It shows the standard levels of the scale of obstacles that accompany physical therapy for the players of the Iraqi Football Premier League for the application sample

percentage	the number	Raw grade	levels
%17.14	12	202-240	very high
%11.24	8	164-201	high
%57.14	40	125-163	Average
%8.57	6	87-124	low
%5.71	4	48-86	very low

It is clear from Table (16) and comparing what the application sample achieved with the standard levels, we find that the highest percentage of a measure of physical therapy obstacles for the players of the Iraqi Football Premier League for the application sample, which lies between (163-125), where (40) players got a percentage (57.14%) at an average level In the scale, this difference in obstacles

can be explained by the clubs' capabilities in real work, and here it turns out that the Iraqi Premier League players do not have interest and experience in the field of physical therapy and the proper return to practicing sports activity and daily exercises and joining the team in matches, as well as in their absence from attending physiotherapy sessions after The injury is direct and knowledge of the various physical therapy devices available in the club or outside, whether the hospital or specialized clinics.

## **Conclusions and recommendations**

### **Conclusions**

1. There is a significant indication of the effectiveness of physical therapy for the first and second stages of sports clubs in the Iraqi Premier League for devices (electrical stimulation, heat, cooling, massage devices)
2. The current scale is able to detect the level of obstacles that accompany physical therapy for the players of the Iraqi Football Premier League.

### **Recommendations**

1. Using the scale of obstacles that accompany the rehabilitation of sports injuries for the players of the Iraqi Football Premier League
2. Increasing interest in the therapeutic aspect of physical therapy in the rehabilitation of sports injuries and giving it the appropriate importance similar to the medical therapeutic aspect
3. Conducting special courses for players on topics related to the therapeutic and rehabilitative aspects of physical therapy.
4. The need for trainers to pay attention to the therapeutic and rehabilitative knowledge of physical therapy.
5. Conducting other similar studies for the rest of the other sports in the reality of physical therapy.

### **References**

1. Ahmed Abdel Salam Atito, Stadium Injuries, Modern Book Center, 2016 AD, p. 29
2. Bahaa El-Din Ibrahim Salama: Health, Sports and Physiological Determinants of Sports Activity, Arab Thought House, Cairo 2007.
3. Hammadi Muhammad Kamel, Physiotherapy, Comprehensive Sports Library, 2016 AD
4. Thouqan Obaidan and others: Scientific research - its concept, tools and methods, 61, Dar Al-Fikr for printing, publishing and distribution, Amman, 1998.
5. Abdel Baset Siddiq Abdel Gawad, Treatment and Rehabilitation for Sports Injuries, Mahi Publishing and Distribution, 2016 AD
6. Imad El Din Ihsan Ayyad, Physiotherapy for Sports Injuries, Dar Amjad for Publishing and Distribution, 2015.
7. Abdullah Al Emadi and Maher Al Darabi': Psychological and Educational Measurement and Evaluation between Theory and Practice, Amman, Wael House, 2003.

8. Ali Salloum and Mazen Hassan Jassim: Statistics and its applications in the mathematical axis using the spss program, Najaf Al-Ashraf, Al-Ghari Modern Press, 2008,
9. Fayez Jumaa Al-Najjar and others: Methods of scientific research - an applied perspective, 21st edition, Amman, Dar Al-Hamid, 2010,
10. Laila El-Sayed Farhat: Mathematical Cognitive Measurement, Al-Kitab Center for Publishing, Cairo, 2001,
11. S. Meri Al Absi, A. Hasan Jabbar, S. Oudah Mezan et al., An experimental test of the performance enhancement of a Savonius turbine by modifying the inner surface of a blade, *Materials Today: Proceedings*, <https://doi.org/10.1016/j.matpr.2020.12.309>
12. Mostafa Bahi: Scientific and Practical Transactions between Theory and Practice, 1st Edition, Cairo, Al-Kitab Center for Publishing, 1999.
13. Muwaffaq Asaad: Tests and Tactics in Football, Dar Dijla, Jordan, 2007.
14. Mikhail Ibrahim Asaad: Psychometrics, Damascus, Al-Jumhuriya Press, 1981.
15. Wadih Yassin Muhammad and Hassan Muhammad Abd: Statistical Applications and Computer Uses in Physical Education Research, Mosul, Dar Al-Kutub for Printing and Publishing, 1999.
16. Nyandra, M., Kartiko, B.H., Susanto, P.C., Supriyati, A., Suryasa, W. (2018). Education and training improve quality of life and decrease depression score in elderly population. *Eurasian Journal of Analytical Chemistry*, 13(2), 371-377.
17. Suryasa, I. W., Rodríguez-Gámez, M., & Koldoris, T. (2022). Post-pandemic health and its sustainability: Educational situation. *International Journal of Health Sciences*, 6(1), i-v. <https://doi.org/10.53730/ijhs.v6n1.5949>