

DOI: <https://doi.org/10.54702/ms.2023.22.1.0001>

The effect of muscle stretching exercises on some physiological variables of swimming practices at the age of (35-40) years

Eman Kadhum Hani¹, Mona Talib Al-Badry² 

E-mails: iman.k.hani@alsalam.edu.iq¹, mona.basheer@copew.uobaghdad.edu.iq²

1&2 Physical Education and Sport Sciences College for women, University of Baghdad

Received: 15/07/2022, Accepted: 10/12/2022



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

Abstract

The research introduction included addressing the importance of various exercises for muscular stretching, which mainly aims to build physical and physiological capabilities under scientific conditions to achieve the purpose for which these exercises were developed. The research problem emerged by observing the low physical level of swimming practices, which leads to continuous muscle spasms as a result Inevitable for poor motor abilities, including flexibility. Through familiarizing the two researchers with the sources and modern research and taking the opinions of experts and specialists, as well as working in the field of fitness and swimming for long periods, they diagnosed an important situation that is constantly repeated among the vast majority of trainees of all ages and is considered one of the dangerous phenomena, which is the phenomenon of weak motor fitness, which inevitably affects the correct movement and preventing the person from performing the correct muscular work. The two researchers used the experimental method for one group, and tests related to physiological variables, and by applying muscle stretching exercises on a sample of the research community, they were chosen randomly. The research sample consisted of (7) trainees. The results were treated by statistical means through the use of (SPSS statistical bag) and the results were presented in tables and discussed. The study concluded that the adoption of muscle stretching exercises works to develop some physiological variables of swimming practices at ages (35-40). The two researchers recommended the need to adopt muscle stretching exercises for swimming practices at ages (35-40) as well as other age groups.

Keywords muscular stretching, physiological and swimming

The introduction:

The scientific progress that we see in the world today is one of the main reasons for the progress of human life and in its various fields, including the sports field, but this progress can only be achieved by choosing the best methods and applying them continuously. Through programmed scientific planning that is followed up to achieve human goals and then reach that progress. The field of public health or physical education for the sake of health and its various measures is one of those sciences that have been developed and opened up new horizons for researchers and scholars to find the best ways to overcome the

problems represented in modern-day diseases due to lack of physical activity and lack of targeted exercise, which will inevitably affect all areas of life negatively

Exercises that give it strength and tighten muscles are among the most important exercises that affect physiological variables and somehow affect the health of the body, its motor and physical capabilities, and functional devices. The physical properties are all the physical and motor components, features, or elements that form part of physical fitness and play a major role in its capabilities. Generally, it is very important for all people because it works to increase the

efficiency of the internal functional devices that affect the special activity of the trainees. Muscle stretching exercises are important. Very because there is a wide range of different positions and movements for muscle stretching exercises, all of which aim to achieve some of what the body needs in order to build and develop the targeted skills and under scientific control to achieve the goal for which it was set. These tigers aim to shape and build the body and develop the different physiological variables in general, and the importance of the research lies in the use of specific exercises for stretching and stretching and seeing the extent of their impact on selected physiological variables for women aged 35-40 years and swimming practices, and through the two researchers' access to modern sources and research and taking opinions Experts, specialists, and long-term work in the field of fitness and swimming. The research problem becomes clear by diagnosing an important condition that is constantly repeated in the vast majority of swimming practices at different ages. Learn the skill of swimming correctly and practice it safely without exposure to danger such as drowning as a result of the sudden spasms that occur, so the researchers wanted to delve into this important field and stand on the real causes of this condition and treat it through the use of stretching exercises to achieve the

best. The research aims to prepare muscle stretching exercises to develop some physiological variables for women Swimming practices for ages (35-40) years. 2- Getting to know each other. The effect of muscular stretching exercises on some physiological variables for women swimming at the ages of (35-40) years. The research hypotheses were that there were statistically significant differences between the results of the pre and post-tests in some physiological variables for women practicing swimming at the ages of 35-40, in favor of the post-test.

Procedure method:

The two researchers used the experimental approach with an experimental design with one experimental group and the application of measurement (pre-post) as it is the most appropriate approach, due to the nature of the research problem. (4) Choosing the origin community and the research sample in a deliberate manner and with correct scientific foundations is one of the basic steps, (6) The two researchers identified the research community with swimming practices in the Yarmouk Recreational Club of women at the age of (35-40) years (2021), in a random way, and their number is (18 trainees). The two researchers homogenized the research sample

Table (1)
shows the homogeneity of the sample

Variables	measuring unit	number of values	arithmetic mean	median	standard deviation	Coefficient of torsion
Length	cm	7	160.8	161.5	3.438	0.256
Wight	Kg	7	88.148	88.5	2.567	0.312
Age	year	7	37.785	38	1.423	0.495

By looking at the homogeneity table, we see that the values of the torsion coefficient were all between (+1-), and this indicates the homogeneity of the sample, and this achieves that the results will be moderately distributed

among the members of the research sample by adjusting all the variables that may affect the results. The most important physiological variables that affect the process of muscle contraction and relaxation. After consulting

experts and specialists in this field, laboratory medical analyzes to measure some physiological variables in the blood Method of work The laboratory sits on the chair and the tester draws 5cc blood and then analyzes it inside the laboratory by giving a picture of the blood and giving the results Physiological Variables Calcium (ca) Potassium (k) Phosphorus (ph) Vitamin D (D3), the two researchers conducted pre-tests (7) in the elite laboratory on 3/25/2021. With the help of the medical laboratory team, the specialist doctor took samples from the trainees' blood to conduct the necessary tests to obtain the level of the compounds in the blood. The two researchers prepared stretching exercises muscle according to the scientifically established mechanism in a way that suits the achievement of the planned goals, using exercises that do not constitute high loads that strain the sample and cause problems, the training program, the implementation of the exercises begins on 3/27/2021 until 5/27/2021, the duration of the exercises set in weeks: (8) Weeks, weekly training days: (Saturday - Tuesday - Thursday), the number

of weekly training units: (3) units, the total number of training units: (24) training units, the training method used depending on the repetitions in a specific period of time, the group of exercises begins after a warm-up (jogging and various exercises) for a period of (5-10) minutes. The implementation of stretching or stretching exercises for a period of 10 minutes. The closing part is relaxation exercises and a period of 5-7 minutes. Two types of stretching were used. PNF (static stretching and dynamic stretching). (5), the total period of the training unit is (20-27) minutes. The exercises are performed outside the pool, that is, on land. The two researchers conducted the post-tests in the sports hall of the Yarmouk Recreational Club / Baghdad Governorate on 5/29/2021, which is a measurement of the level of compounds in the blood. (calcium (ca), potassium (k), phosphorus (ph) and vitamin D (D3). With the same conditions and timing as the pre-test.

Results:

Table (2)
shows the statistical treatments for the pre and post measurements of the research sample

Variable name	Pre-test measurement		Post-test measurement		A M D	Pre, post M	T value	Error presen tage	Result
	A	STD	A	STD					
Calcium (ca)	8.071	0.427	9.40	0.182	1.328	0.561	6.256	0.001	Sign
potassiu (k)m	4.117	0.157	4.491	0.139	0.374	0.077	12.754	0.000	Sign
phospho (ph)rous	2.690	0.260	3.742	0.310	1.052	0.484	5.744	0.001	Sign
Vitamin (d3)D	11.54	1.247	13.742	1.087	2.200	0.503	11.564	0.000	Sign

under a degree of freedom (6) and an error level (0.05).

Discussion:

It can be seen from Table (2) between the pre and post measurements that there are statistically significant differences after comparing the value of (T-Test) calculated for corresponding samples between the pre and post tests and in favor of the post test. An important and logical relationship with the training situation or the level of physiological ability, as it represents a reflection of the concept of motor ability, and the researchers believe that it is possible to consider muscle stretching exercises as one of the basic exercises in building the physiological capabilities of swimming practices (35-40), and this is consistent with the results of Aya Nasr, and Zainab" (1) (9).

As the use of training specificity has an important and essential role in the basic movements of the trainees, and this was reflected by raising the level of physiological variables because these exercises target the basic and auxiliary working muscles and thus brought about a physiological adaptation in the muscles of the body according to the use of the maximum range of motion mechanism based on the application of the principles of sports training. In the acquisition of motor abilities in a distinctive way, and these exercises led to the creation of special adaptations for the functional devices and were reflected in the development of the level of physiological capabilities, so there was an increase in the level of (calcium concentration, potassium concentration, phosphorus concentration, and vitamin D (D3) in the blood, and here confirms (Qasim Hasan Hussain) indicated that the level of physiological capabilities rises "as a result of training, whereby, with the help of some enzymes of the working muscles, they complete their effectiveness during sports exercises. (2), and this is explained by the increase that occurs to these variables in the

body as a result of the sports activity that works the body to withdraw these ions in the various organs of the body into the blood, such as those stored in the bones or in the liver, and transfer them to the blood to compensate for the deficiency that occurs as a result of physical exercises. This result is consistent with what was indicated by the researcher (Mccoy, M and Hargreaves) that "training leads to changes in the level of concentration in the blood, as one study found that there is an increase in the level of concentration of ions after physical exertion" (3) (8). Therefore, the results were logical in the post-tests.

Conclusions:

- 1- Adopting muscle stretching exercises works to raise the level of calcium in the body of swimming practitioners at ages (35-40)
- 2- Adopting muscular stretching exercises works to raise the level of potassium in the body of swimming practitioners at ages (35-40).
- 3- The adoption of muscle stretching exercises works to raise the level of phosphorus and the level of vitamin (3D) in the body of swimming practitioners at ages (35-40).

References

- 1- Aya Nassir, & Dr. Abeer Dakhil. (2022). The Effect of a Physical Program On Some Physiological Variables to Reduce the Polycystic Ovaries in Women Aged (20-25) Years. Modern Sport, 21(2), 0101.- <https://doi.org/10.54702/msj.2022.21.2.0101>
- 2- Israa Kadhun Al-ghazali, & Dr. Muna Talib Al-badry. (2021). The relationship of flexibility and grip strength among women with osteoporosis, ages (40-50) years. Modern Sport, 20(2),0121. <https://doi.org/10.54702/msj.2021.20.2.0121>

3- Ruaa Akram Al-Hijazi, & Dr. Abeer Dakhil. (2021). The effect of rehabilitative exercises associated with the technique of Chiropractic in relieving the pain of muscle stretching in the lower back of people with a herniated disc. Modern Sport, 20(2), 0023. <https://doi.org/10.54702/msj.2021.20.2.0023>

4- Hayder Nazar, Dr.Abeer Dakhil, dr. Muhammed Asim Muhammed, & dr. Mazin Hadi Gizar. (2022). Using Artificial intelligence to evaluate skill performance of some karate skills. Modern Sport, 21(1), 0001. <https://doi.org/10.54702/msj.2022.21.1.0001>

5- Qassim Hassan Hussein; Physiology its principle and applications in the sports field: (Mosul, Dar Al-Hekma for printing, 1995 (

6- Mccoy, M and Hargreaves Potassium and ventilation during Ingrenen Exercise Intrained and trained (men: J of Appl , physiol , 1992.(

7- Abd al-Muti Muhammad Assaf and other Methodological developments and the scientific research process, 1st edition, (Amman, Dar Wael. (For Publishing and Distribution, 2002 .

8- Muna Albadry, esraa kadim ;The relationship of flexibility and grip strength among women with osteoporosis, ages 40- 50 Years (modern sport) ,vol20 No2 2012). <https://doi.org/10.54702/msj.2021.20.2.0121>

9 - Zainab Jabbar Muhammad: Administrative Obstacles and their Reflection on Physical Education Lesson in Primary Schools of the Second Karkh Education Directorate. Modern Sports Journal. A special issue for the virtual reality conference. 2021.

تأثير تمارين الاطالة العضلية في بعض المتغيرات الفسيولوجية للممارسات السباحة بعمر (35-40) سنة م.م. ايمان كاظم هاني ، أ.د. منى طالب البديري

تضمنت مقدمة البحث بالتطرق الى اهمية التمارين المختلفة للاطالة العضلية والتي تهدف اساسا الى بناء قدراته البدنية و الفسيولوجية تحت شروط علمية لتحقيق الغرض الذي وضعت من اجله تلك التمارين وبرزت مشكلة البحث من خلال ملاحظته المستوى البدني المتدني لدى الممارسات للسباحة مما يؤدي الى حدوث تشنجات عضلية مستمرة كنتيجة حتمية لضعف القدرات الحركية ومن ضمنها المرونة . ومن خلال اطلاع الباحثان على المصادر والبحوث الحديثة و اخذ اراء الخبراء و المختصين وكذلك العمل في مجال اللياقة و السباحة لفترات طويلة شخصتا حالة مهمة تتكرر باستمرار لدى الغالبية العظمى من المتدربات على مختلف اعمارهن وتعتبر من الظواهر الخطيرة الا وهي ظاهرة ضعف اللياقة الحركية مما يؤثر حتما في الحركة الصحيحة ومنع الشخص من اداء العمل العضلي الصحيح وقد استخدمت الباحثتان المنهج التجريبي للمجموعه الواحدة ،والاختبارات الخاصة بالمتغيرات الفسيولوجية . وبتطبيق تمارين الاطالة العضلية على عينة من مجتمع البحث تم اختيارهم بالطريقة العشوائية .حيث تكونت عينة البحث من (7) متدربات . وقد عولجت النتائج بالوسائل الإحصائية من خلال استخدام (الحقيبة الإحصائية SPSS) وعرضت النتائج ضمن جداول وتم مناقشتها. وتوصلت الدراسة إلى أنّ اعتماد تمارين الاطالة العضلية تعمل على تطوير بعض المتغيرات الفسيولوجية للممارسات للسباحة بأعمار (35-40). واصلت الباحثتان بضرورة اعتماد تمارين الاطالة العضلية للممارسات للسباحة بأعمار (35-40) وكذلك فئات عمرية اخرى