ISSN: 0976-3031

International Journal of Recent Scientific Research

Impact factor: 5.114

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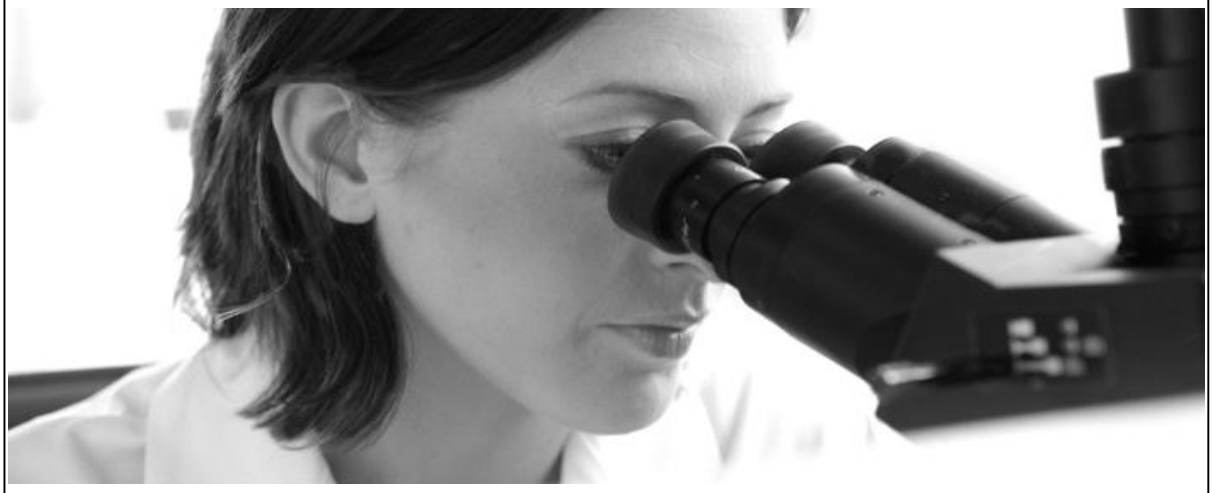

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Volume: 6 Issue: 10

THE PUBLICATION OF
INTERNATIONAL JOURNAL OF RECENT SCIENTIFIC RESEARCH
http://www.recentscientific.com
E-mail: recentscientific@gmail.com

ISSN: 0976-3031

Available Online at http://www.recentscientific.com

International Journal of Recent Scientific Research
Vol. 6, Issue, 10, pp. 6759-6764, October, 2015

International Journal of Recent Scientific Research

RESEARCH ARTICLE

EFFECT OF ANABOLIC STEROIDS ON THE INCREASE OF MUSCLE MASS AND THERE RELATIONSHIP WITH THE RISKS HEALTH CASE LEISURE ALGERIAN SPORT BODYBUILDING

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ARTICLE INFO

Article History:

Received 16th July, 2015
Received in revised form 24th August, 2015
Accepted 23rd September, 2015
Published online 28st October, 2015

Key words:

Doping VS Anabolic Steroids, Risks, Algerian Bodybuilder.

ABSTRACT

The importance of this study intent to expose the Risks for Health where similar studies confirm that, steroids can increase muscle mass when they are used in large amounts and coupled with heavy exercises. From that, came this modest study to determine the effects of Anabolic Steroids as chemical supplies injections or including as Anabolic Steroids in the practice four Algerian Body builders, which they can, pay in gyms to seek an increase in muscle mass results in the shortest time.

From that, our subjects were (1O) Algerian amateur athletes who practice bodybuilder for ±5years ago and who volunteered accepted to participate in our experience. Where five from them practice injections and doping bulbs. While (05) other incorporate in their Nutrition the Anabolic Steroids. Accordingly, to our study based on the follow Analysis of blood,the Chest circumference,1RM testing and weight to determine the progress associated with their exercise and their efficiency in their program, for two months. Where our homogenate was based in age (chronological-training) and employment types Anabolic Steroids with are more than$R \geq 0.7$.

Our goal for this research is limited in

- Which causal relationships can be determined in theirprogress and efficacy as deferencepracticed of type's anabolic steroid?
- Which causal relationships can be observed in their UR Regulations vital functions?
- Which correlation ship explain the Risks of the two practice in case deference practiced of type's anabolic steroid?

As to study the correlation ship that explain the increase muscle mass and Risks health we chose the T-TEST independent and correlation, from the background:

- Anabolic steroid effects the body.
- Distribution illegally case of our gym.

From that, our aims for this study interest

- Are there any statistically significant progress efficacy between the groups as the tests 1RM testing and the Chest circumference and weight?
- Are there any statistically significant to explain destabilizes regulation of vital functions between the two types doping practices?
- Which correlation ship explain the health Risks and progress the increase of muscle mass?

Based in the results accuses following two months we confirm

- The both practices develops muscular capacity and volume.
- The both practices destabilizes the regulation of vital functions.
- There is a strong correlation between the two practices in all comparisons within the same test.
- The greatest risk is in relation urine creatinineand overweight.

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INTRODUCTION

The literature reviewed that, the increase of the total anabolic steroid concentrations and their effects on the body while reducing the toxic effects on the liver and early kidney dysfunction (William N. Taylor, M.D, 2002).Where our Algerian journalists recommended the criminalization of doping in Algeriasport (Chafik Boukabes on behalf of Ahmed Bendifallah.Pharmaco-toxicologue, 2012)as statistically historically, anti-doping efforts focused in our elitessports. From that, we inform our elite athletes that, controls positive equal end of sport career.

In another handaseducator, we stress our athletes visited in the gyms in our country that, the Anabolic steroids are synthetic derivatives of testosterone, modified to enhance its anabolic actions (promotion of protein synthesis and muscle growth). Where (Hamadou Ali Djemel Abd Nacer, 2015) confirmed its applications in the world amateur sport and leisure Algerian Sport Bodybuilding. As ideal that, the training weights accompanied by greater growth, due to the increase in bio-metabolism those proteins positively condense (Mohamed Mahmoud Mandalawi, 2000, p. 95). Our aims in this modesty study is to mobilize bodies responsible of sports and public health that, Leisure Algerian Sport Bodybuilding has become a social problem and a public health concern. Where (Hamadou Ali Djemel Abd Nacer, 2015) confirmed its dangers in the world amateur sport and leisure Algerian Sport Bodybuilding, on the same market as (DAVID A BARON, DAVID M MARTIN, and SAMIR ABOL MAGD, 2007) which Confirmed that, Doping is now a global problem.

Our choice of this subject is due to the Lack of information that, the available data indicates that between 40-70% of athletes use supplements, and that between 10-15% of supplements may contain prohibited substances. Such data indicates that there is a considerable risk of accidental or inadvertent doping through using supplements (Simon Outram, Bob Stewart, 2015). Accordingly, the overspread of the anabolic steroids as public.

our contribution to this topic are due to the use of Algerian bodybuilder practicing this sport in the miss of measures taken latest March 19, 2015 (ALGÉRIE PRESSE SERVICE, 2015)by Sports Minister Mohamed Tahmi that we are considering late. In addition, they can buy its products in gyms and pharmacies.

MATERIAL AND METHODS

The purposes of this study were to expose the dangers of doping kinds as chemical supplies injections or including as Anabolic Steroids in the practice of our Algerian Bodybuilder (mean age ≥18 years) for the raisins seek an increase in muscle mass results in the shortest time. Where the research team's role in this study is limited to monitoring the experience and take the measures planned with the agreement of the participants:

Medical tests

Were These tests added in the laboratory Sports Physiology of EPS Mostaganem

1. Measuring the ratio of urea in the blood
2. Measurement of Creatinine in the blood
3. Measure the ratio of testosterone in the blood
4. Blood glucose measurement

Medical and field tests

Tests 1RM, the Chest circumference and weight.

From that, this study was limited to follow-up

1. Adjust random variables for two months
2. Based on the Measurement variables at the end of this experiment.
3. Rely on the Type and practice integrated as program nutrition doping.

Where our objective interested in this experiment was concentrated on the Measurement variables Medical tests, 1RM,Chest circumference and weight as progress increase muscle mass to study the correlation ship that explain them Risks and effectiveness progress. As homogeneity of our sample, we have select de

- 1RM TESTING Determine the progress associated with an exercise program, and the efficacy of that program (David Robson, 2014).
- Blood tests allow the doctor and the laboratory to see a detailed analysis of any disease markers, the nutrients and waste products in their blood as well as how various organs

(e.g., kidneys and liver) are functioning. Where The most commonly used tests are blood and urine analyses, which can reveal how well many of the organs and systems (Anthony L. Komaroff, Harvard Medical School, 2005)

Data Collection

Subjects

Our experience is composed of (10)voluntarily amateur athletes who practices bodybuilder five from them practice injections and doping bulbs While 5 Another incorporate in their Nutrition Anabolic Steroids where it was agreed that the Search teams is not responsible for complications.

From this bandthe research teams role is limited to monitoringthe expierence and take measures planned with the agreement of theparticipants

Data Analysis

Based on data tests progress and the Medical tests with their natural ratios and rates were our Lab team confirm that all

sample results are Greater than the normal limit see the normal limit and fig2.

The normal limit : Glucose:0.70-1.10mg/L Urea: 0.20-0.40mg/L

Creatinine: 0.8 to 1.3 mg mg/L Testosterone: 2.80-8ng/mL

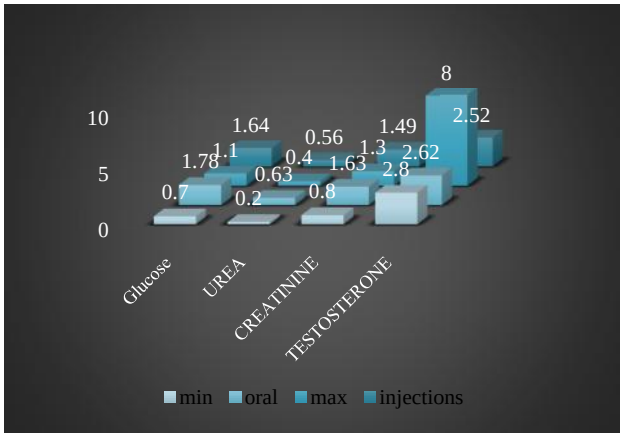

Fig 1 shows the results of medical test

Based on data tests progress the both practices develop muscular capacity, volume and weight which is in the benefit of Nutritional Anabolic steroids group.

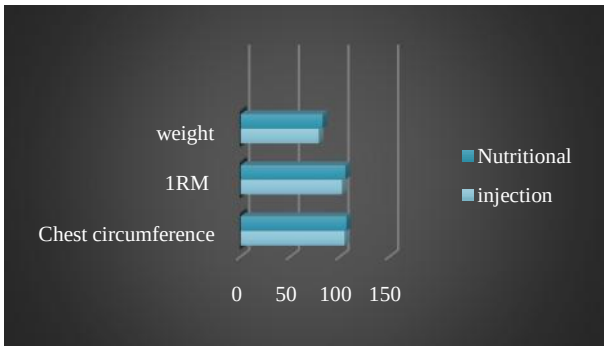

Fig 2 shows the results of progress

RESULTS AND DISCUSSION

From the fig1 and 2 through the results table,1, and 2major of comparisons are in the benefit of Nutritional Anabolic steroids group(Mean-SD)all sample results are Greater than the normal limit within all comparisons. Based on data progress, the comparing of t confirm that, the both practices develops muscular capacity and volume in the deference weight, which is in the benefit of nutritional Anabolic steroids group. Where this result is consistent with the judgment that, most of Studies confirmed that steroids could increase muscle mass, when they are used in large amounts and coupled with heavy exercise. Where our find and subjection line with (Haff , G. Gregory ,Triplett , N. Travis, 2015) set that, in a classic study on the dose–response curve of anabolic steroids, Forbes (81) demonstrated that the total dose of anabolic steroids has a logarithmic relationship to increase in lean body mass where the Injectable steroids are Efficacy increased muscle mass, strength, and athletic.Whereas (Katarina T. Borer, 2003)reportedthat, the efficacy of anabolic steroids in increasing muscle mass and strength was not confirmed scientifically until very recently (Bhasin *et al*. 1996; Sinha-Hikim *et al*. 2002). Conviction in the weightlifting community of their effectiveness where (Thomas E. Hyde, Marianne S. Gengenbach, 2007)shown to have many properties that increase muscle mass, strength, and athletic performance which (Jeri Freedman, 2009) set as word of the energizing and strength-enhancing effects of steroids spread, they became the drugs of choice. Extensive use of steroids began in weight lifting for the caused we refer to (George A Bray, Claude Bouchard, 2014) that, they have broad physiological effects, accounting for their significant adverse effect profile. Weight gain is the most frequent self-reported adverse effect of chronic steroid therapy. For those reasons, we support the view of (Luis Severiche, 2013) that, Steroids are an important issue to be addressed within the physical bodybuilding, fitness, and people who practice weightlifting (weight lifting) are the steroids, due to the sometimes exaggerated by the media. Which is consistent with the judgment of (Aharon W. Zorea Ph.D, 2014)that, Nutritionanabolic steroids evolved throughout the 1980s as public attention, where we think that the Spread is correlated to the set of (Lauralee Sherwood, 2011)

Table1 Description of The Acquired Results of Our Samplesin efficacy and progress doping practice

variablesAnabolic Steroids		Mean	SD	t	df	Sig. (2-tailed)	R
Chest circumference	Injections	104.6	3.85	-1.08	8	0.31	1
	Nutritional	106.6	1.52			0.33	
1RM	Injections	102	4.53	-1.15		0.28	1
	Nutritional	105.4	4.83			0.28	
weight	Injections	78.6	2.41	-2.49		0.04	1
	Nutritional	82.4	2.41			0.04	
Correlations progress Between the variables	Chest&1RM R=.402; p<.250		Chest& weight R=.647*; p<.043		1RM& weight R=.798**; p<.006		

Table2 Description of The Acquired Results of Our Samples in the Medical tests

variablesAnabolic Steroids		t	Mean±SD	df	Sig. (2-tailed)	R
glucose	Nutritional steroids injections and bulbs	0.83	1.78±.23 1.64±.28	8	0.43	1
urea	Nutritional steroids injections and bulbs	2.72	.63±.045 .56±.043		0.03	1
creatinine	Nutritional steroids injections and bulbs	2.82	1.63±.08 1.49±.08		0.02	1
testosterone	Nutritional steroids injections and bulbs	1.85	2. 60±.07 2.52±.06		0.10	1
CorrelationsBetween the variables	Gluc& urea R=.070; p<.848	Gluc& crea R=-.116; p<.749	Gluc& testo R=.020; p<.956	Urea & testo R=.626; p<.053	Urea& crea R=.834**P≤.003	crea &testo R=.275; p<.441	

In addition, they do not mention their composition were(C Saudan, N Baume, N Robinson, L Avois, P Mangin, M Saugy, 2006)that, the Anabolic steroids are synthetic derivatives of testosterone, modified to enhance its anabolic actions (promotion of protein synthesis and muscle growth). From those reasons the impact of this research rolling around the drugs and dietary supplements that have become promoted in sports halls we conclude that, Growth hormone (GH) has six functions of interest to athletes Stimulation of protein and nucleic acid synthesis in skeletal muscle Stimulation of Anabolic steroids can increase muscle mass and strength, but the effect is dose dependent. (all, W. Larry Kenney &, 2012)

Whereas based on data medical standards tests table2, our sportive must avoid this ideal because their health will be Susceptible to diseases; mostly lead the user to death as the example of our champion Benaziza (Wikipedia, 2015).In case of the body building and the result of the Similar studies that, the Nutritional supplements can be a source of positive doping cases. As some supplements contain prohibited substances without showing this on their label (Olivier de Hon, Bart Coumans, 2007) from that, we recommend the confirmation of (Lauralee Sherwood 2011): these agents adversely affect the reproductive and cardiovascular systems and the liver Kidney. Where we agreewith (John Josias Conybeare (Sir.), William Neville Mann, 1975)that the simplest test of renal function is the measurement of the blood urea level. The normal range is from 20 to 40 mg. per 100 ml. The actual level depends upon the equilibrium between urea productions from protein. Where for the creatinine, we agree with (CATHEY PINCKEY AND EDWARD R. PINCKNEY, M.D., 1982):that the Normal values: Blood serum creatinine values range for 0.8 to 1.3 mg per 100-ml.

In the case of the measured of testosterone, we agreed with (David Wild, 2013)for that the Normal values Testosterone are 0.22–2.9nmol/L 9.9–27.8nmol/L for Women 0.06–0.82 ng/mL and Men 2.8–8.0 ng/mL (Bayer ACS: Centaur) as for the measured of Glucose. Where we agreed with (G. P. TALWAR,L .M. SRIVASTAVA, 2006) that, blood sugar concentration are from 70 mg/100 ml to 120 mg of glucose in blood.

From the results of correlations variables calculated in this study, we refer to the significates of T calculate in the table 2and 1,whichT calculate is not significant in test glucose and the testosterone in the opposite of the testcreatinine and ureaas data tests medical. In parallel as a data progression and efficacy kinds practiced where the correlation is not significant between Chest&1RMin opposite ofurea&creatinine, Chest& weight, and 1RM& weight. From those correlations, we agreed with (Simon Outram, Bob Stewart, 2015) that, the potential for supplement use to result in doping infringements is likely to be of concern for anyone involved in sports nutrition. The available data indicates that between 40-70% of athletes use supplements, and that between 10-15% of supplements may contain prohibited substances. Where (Michael L. Bishop, Edward P. Fody, Larry E. Schoeff, 2013) (Pierre-Edouard Sottas , Gordon F. Kapke, Jean-Marc Leroux, 2013) that, the evaluation of renal function rely on the measurement of waste products in blood, usually urea and creatinine, which accumulate when the kidneys begin to fail.While, the abuse of testosterone resulted in cases of impotence, prostate cancer, and the development of male characteristics (SARL Politique hebdomadaire, 1984).

Based on results, ouramateur Health risks are associated with their practicewhereanabolic steroids affect their regulation of vital functions body (Geraline C. Lin, Lynda Erinoff, 1996).Where the similar studies confirm the use of anabolic steroids has implicate the early heart disease, including sudden death, changes in blood cholesterol profile (increased LDL, lower HDL) resulting in increased risk of coronary artery disease, an increase in tendon injuries (United States. Congress. Senate. Caucus on International Narcotics Control, 2005). Where displace glucocorticoids from glucocorticoid receptors and inhibit muscle protein catabolism, leading overall to an anabolic or muscle building effect (Kuhn CM, 2002)despite scientific data on the cardiac and metabolic complications of doping in general review confirm the effects of the abuse (Achar S, Rostamian A, Narayan SM., 2010).

DISCUSSION AND CONCLUSION

Through statistic data analysis and the limits of our experience, our finds confirm that Anabolic Steroids, increase the muscle masson general as far as they destabilizes the regulation of vital functions. From those reasons, we recommend our athletes based on studies classification of chronic kidney disease GFR Stage Description (mL/min/1.73m") confirmed by (Joseph L. Izzo, Domenic A. Sica, Henry Richard Black, 2008).Where the blood analysis of our athletes is not far from those standards, something wepushto inform our samples to avoid these types of practices because the health requires a good reflection of the actors and decision makers(Yves Géry. 2012). Where our find Back grounds theoretical based on the evolution of the nutrition anabolic steroids throughout the 1980s as public attention which explain they Spread in our society(Lauralee Sherwood, 2011),in another (Steven B. Karch, MD, FFFLM, 2006)confirmthat the hypothesis of doping is easily advanced to the athletes who use it for quick visual anthropometric successful results. In our case, this result is significant in the increase of muscle mass as progress and efficacy of take of these kinds of anabolic steroids in Leisure Algerian Sport Bodybuilding (Hamadou Ali Djemel Abd Nacer, 2015).Whereas data medical standards indicate our amateur athlete they must avoid this ideal because their health will be Susceptible to diseases, mostly lead the user to death.

From that, our recommend aims focus on preventing our athlete (Ivan Waddington,Andy Smit, 2009)that, The two conditions selected in the study as practice increase the total anabolic steroid concentrations and their effects on the body while reducing the toxic effects on the liver and early kidney dysfunction. Where in reality, we underlined that, some anabolic steroids are still available in the legitimate trade, others they are manufactured and distributed illegally case of our gym.

Our results and recommendation

This study aims to educate young people where (Simon Wills, 2005)confirm that, a large study from Norway involving 8508 youths aged 15–22 showed that 0.8% had used anabolic steroids at least once." In all studies, a significantly Administration is mainly via the oral or intramuscular route, but topical formulations are also available. Injection is the most popular method of administration, but Testosterone cannot be given. Inter alia, (Randy M. Page, Tana S., 2014)confirms that, Anabolic steroids are synthetic derivatives of the male hormone testosterone produce in tablet or capsule form for oral ingestion or as a liquid for intramuscular injection. Where these derivatives of testosterone promote the growth of skeletal muscle and increase lean body mass.

whereas Evaluation of aminotransferase elevations in bodybuilder using anabolic steroids: hepatitis and rhabdomyolysis where (Joyce H. Lowinson, 2005) recommendations line with Friedl K. Reappraisal of the health risks associated with high doses of oral and inject able androgenic steroids. Which is consistent with our results:

- The both practices develops muscular capacity and volume although the both practices destabilizes the regulation of vital functions.
- There is a strong correlation between the two partied in all comparisons within the same test whereas the great risk is in relation urine creatinine and Increase of weight.

Our aim

Forour sample and responsible in sports and health in our country

-
- Health foremost.
- Integrated the Anti-doping policy for the education of our athlete.
- Study the problem posed in other similar studies.
- Take advantage of this study in the assessment Program of the Algerians prevention.

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How to cite this article:

JeyalalithaThirupathi and K.Murugan.M.Umayavalli.2015, Effect of Anabolic Steroids on the Increase of Muscle Mass and there Relationship With the Risks Health Case Leisure Algerian Sport Bodybuilding. *Int J Recent Sci Res.* 6(10), pp. 6759-6764.

International Journal of Recent Scientific Research

ISSN 0976-3031