

# GLOBAL JOURNAL

OF MEDICAL RESEARCH: K

## Interdisciplinary

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} Highlights }

Tissue Proteins in Neuroaids

Natural IgG Class Autoantibodies

Discovering Thoughts, Inventing Future

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## CONTENTS OF THE ISSUE

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- i. Copyright Notice
  - ii. Editorial Board Members
  - iii. Chief Author and Dean
  - iv. Contents of the Issue
- 
- 1. Quantum Physics, Alternative Medicine, and Spirituality. *1-5*
  - 2. Characteristic Features of the Content of Natural IgG Class Autoantibodies to Nervous Tissue Proteins in Neuroaids. *7-8*
  - 3. Dietetic Management of Lipid Profile in an Adult Population from the Italian Region of Abruzzo: Role of Mediterranean Diet. *9-21*
  - 4. Rapid Need Assessment of District Srinagar, Post September 2014 Floods. *23-27*
  - 5. Procreation – Is it only the DNA? Origin of the Races. *29-31*
- 
- v. Fellows
  - vi. Auxiliary Memberships
  - vii. Preferred Author Guidelines
  - viii. Index





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## Quantum Physics, Alternative Medicine, and Spirituality

By Maria Kuman

**Abstract-** This article explains how quantum physics connects to alternative medicine and spirituality. These three things that seem so distant are connected through the human nonlinear electromagnetic field (NEMF), which only some sensitive individuals can see – it is called aura. However, aura could be made visible to everybody and to be photographed if high frequency electric field is used, which multiply the photons of our aura (NEMF) and makes its photographing possible. It is called Kirlian photography and it could make visible the discrete (quantum) energy levels of our NEMF. Since, the almost invisible NEMF is called Spirit, the quantum energy levels of our NEMF are de facto our quantum spiritual levels. How this relates to Alternative Medicine? The higher is the Spiritual level of an individual, the higher is the frequency of his NEMF and the higher is his sensitivity – emotional sensitivity, stress sensitivity, and drug sensitivity. If so, the right medicine for these more spiritual and more sensitive individuals would be the more gentle alternative medicine (homeopathy, herbal, or acupuncture). If western medicine is used on these sensitive individuals, the dose must be decreased a few times because what is the normal dose for the individuals with low sensitivity will be too much for them. They would suffer a bouquet of allergic reactions and the drugs would more harm than help them.

**Keywords:** quantum physics; quantum spiritual levels; our quantum computer; alternative medicine for sensitive (spiritual); spirituality.

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**Keywords:** *quantum physics; quantum spiritual levels; our quantum computer; alternative medicine for sensitive (spiritual); spirituality.*

## I. INTRODUCTION

If you think that Quantum Physics has nothing to do with Spirituality, we are going to prove you wrong. The latest studies showed that during prayer the conscious is not active - it is shut down [1]. This usually happens during hypnosis when the hypnotist puts the Conscious to sleep to access the Subconscious [2]. If so, is our prayer giving us access to our subconscious? And what our subconscious contains, of which we are not aware?

The author of this article found answer to this question after spending almost 40 years measuring our weak nonlinear electromagnetic field (NEMF), which is 1,000 times weaker than the biocurrents of the body, but rules and regulates everything in the body. The author had to develop supersensitive equipment to be able to measure it.

The author found through measurements that the NEMF is very emotionally sensitive [3] and since the emotional brain is in the Subconscious, it became

obvious that NEMF rules and regulates everything in the body from the Subconscious. Then the author found that the waves of this NEMF, which propagate on the surface of the body, are responsible for our fast response [4], which increases many times our chances for survival.

Should our life depend on the response of our nervous system, which is very slow, we would be dead long time ago. The fast response indicates that there is something more sophisticated than our slow nervous system and this sophisticated thing is in the Subconscious. Hypnotists found that in a state of hypnosis, when the conscious brain was sleeping, the individuals performed calculations with much higher speed [2].

The hypnotized individuals (with sleeping conscious and active subconscious) were doing calculations 10,000 times faster than when they were using their Conscious mind operating on biochemical principles. Therefore, it seems that in the Subconscious operates a more sophisticated computer, which works with the nonlinear coherent waves of our NEMF. Since it operates with waves, it must be a Quantum Computer.

It was also found that beside with our eyes, we could also see with our mind [2]. Russian scientists investigated V. Bronnikov, who could see with his mind [5]. First, when he sees with his eyes, the equipment registers impulse from his eyes to his brain. Second, when he is blindfolded and the equipment does not register impulse from his eyes to his brain, he could still see.

He could even see the object when it is behind a dense screen [5], which proves that nonlinear waves are involved because only nonlinear waves can pass through a screen. He could even see the object from different angles [5], which indicates that the vision with the mind is three-dimensional or holographic. Obviously, seeing with the mind involves nonlinear coherent (laser type) waves and since our NEMF is rich of such waves, it must be involved in it.

Hypnosis shows that the Subconscious of each individual store detailed information of his whole life. To do this, the Quantum Computer of our Subconscious must have enormous memory storage. Obviously, when we sleep the non-stop alternative switches between light sleep, when the conscious is active (and dreams take place) and deep sleep when the Subconscious is active, are transfer of the information recorded during the day in the Conscious (on the surface of the brain) to the

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deeper area of the brain called the Subconscious for long-term storage.

## II. OUR NEMF IS OUR SPIRIT

I have spoken with many people who have been in a state of clinical death and came back. They all describe seeing their lifeless body lying on the bed, while hovering over it for three days. Since their body is dead, the only way they could see their body is through their Mind. Since seeing with the Mind is three-dimensional or holographic, it must be done through the Quantum Computer, operating with the nonlinear coherent waves of our NEMF.

This means that during clinical death, when we say that the Spirit leaves, our NEMF leaves the body. Russian scientists did measure the NEMF and they found that it takes three days and three nights for this field to separate from the nervous system and leave the body [6]. Therefore, the Mind belongs to the Spirit and the Spirit (our NEMF) could see the physical body holographically through the coherent waves of our Spirit (NEMF).

Holographic is not only our vision. Our hearing and smell are also holographic. The German scientist Herman von Helmholtz 100 years ago showed that our ears detect waves and analyze frequencies [6]. Later, it was found that our ability to smell is also based on frequencies, so-called osmic frequencies [6]. It must be this way, if all we have seen, heard, and smelled during our life time is stored at subconscious level in the Quantum Computer, which operates with waves on the holographic principle.

## III. WHO COULD SEE WITH THE MIND?

Dr. Valerie Hunt [7] measured the frequencies of the NEMF of different people and found that they can vary rather dramatically. She found that the clairvoyants have NEMF frequencies between 400 Hz and 800 Hz. The people that can in trance connect with other dimensions have frequencies between 800 Hz and 900 Hz. However, some people can have NEMF with frequencies as high as 200,000 Hz and more. (However, for the human NEMF both the frequencies and the intensity of the field are important.)

The higher the frequency of NEMF, the more spiritual the person is, and the better he sees with his mind [7], [8], [9]. This is an additional proof that the mind is attribute to the Spirit (NEMF). This also shows why we should thrive to be more spiritual – the more spiritual we are, the easier it is to reach and be able to use the powerful Quantum Computer of your Subconscious. If you are not spiritual, you are limited to the use of the primitive digital material computer of your Conscious.

If during prayer the Conscious is not active, prayer is a way to reach the Subconscious and use the Quantum Computer for healing, achieving wisdom, or achieving a Spiritual goal. This explains how the prayer for health works. If prayer is a way to reach the Quantum computer, which works with the waves of the NEMF that rule and regulate everything in the body, obviously you can achieve health with a prayer.

## IV. THE SEVEN ENERGY LEVELS OF YOUR BODY

Our nonlinear electromagnetic field (NEMF) has donut shape and it is spinning around axis passing through the hole of the donut, which is along the backbone. Our NEMF, being nonlinear exhibits turbulence manifested as six spinning energy centers along the backbone. They alternate vortex – anti-vortex – vortex – etc. Our NEMF sucks energy in through the vortices, and breathes energy out through the anti-vortices.

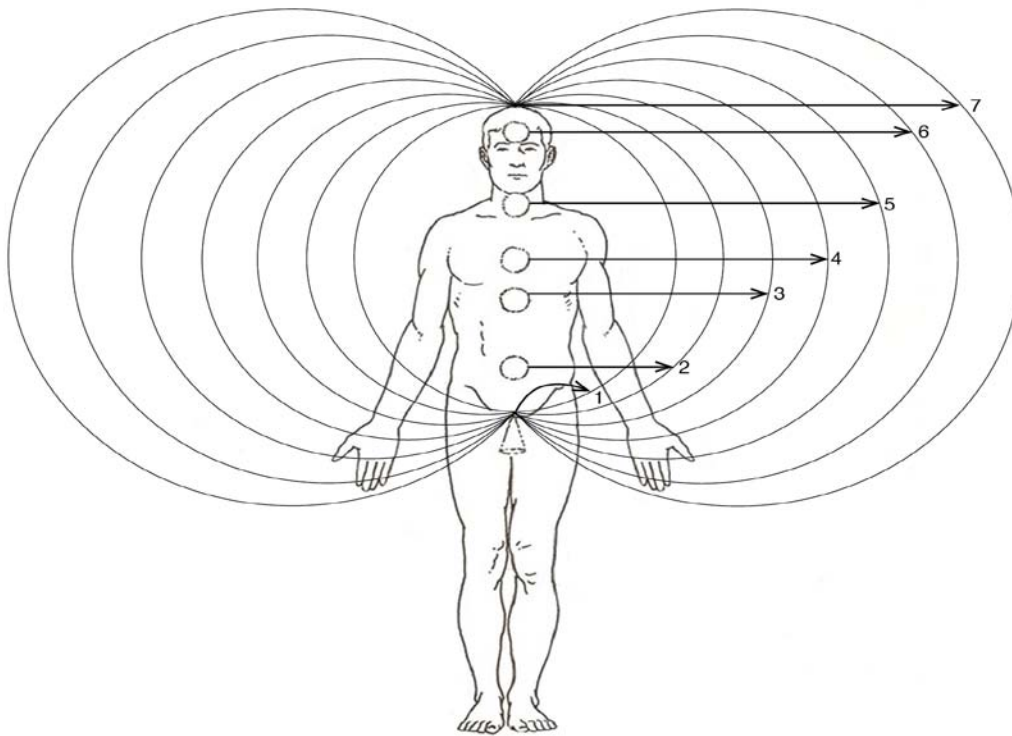
These six spinning energy centers along the backbone rule and regulate the six endocrine glands, which by emitting hormones directly into the blood stream rule and regulate everything in the body. The seventh spinning energy center on top of the head sums up the energy of the six spinning centers under it (Fig. 1).

Each of the seven spinning energy centers has its energy level in the aura, which make the NEMF look like a Russian doll. However, all six donuts with different radius are connected in the upper point (top of the head) and lower point (tailbone) of the backbone, which is the axis of spinning of our NEMF. The spinning around the backbone induces magnetic field and the upper and lower points of the backbone are the northern and southern pole of the induced magnetic field (Fig. 1).

## V. THE SEVEN ENERGY LEVELS OF YOUR SPIRIT

Possible are seven more discrete levels of the Spirit, but only 5 of these discrete quantum energy levels 8th, 9th, 10th, 11th, and 12th can exist on Earth. Each of them is a light ball over the top of the head at a growing height. The Spiritual Level 8 is a light ball with a center on top of the head. It is seen as a halo around the head (in the way the saints are pictured on icons), but this is the lowest spiritual level.

Fig. 2 pictures the next spiritual quantum energy level 9. As seen, the center of the light ball is one foot from the top of the head. Spiritual level 10 is a light ball with a center two feet from the top of the head, etc. The higher is the spiritual level the higher is the emotional sensitivity of the individual, as well as his stress sensitivity and drug sensitivity.



*Fig. 1:* Pictured are the seven basic discrete quantum levels of the donut-shaped NEMF of the body (in vertical cross-section) and their relation to the alternating vortices and anti-vortices in the middle of the body. This illustrates that discrete quantum energy levels are present when turbulence is present.

That is why, the higher an individual grows spiritually, the more essential it becomes to learn to control his emotions and the more essential it becomes to know to take only a small portion of the medication prescribed to others because the whole dose will more kill him than help you. For such spiritually high people with higher frequency and sensitivity more suitable are the alternative modalities of our medicine, such as herbal remedies, acupuncture, homeopathic remedies.

The last two spiritual levels #13 and #14 are to be accomplished in the spiritual realm. These are Spirits that don't need to reincarnate on Earth in a material body any more. Since the Spirits (NEMF) are nonlinear, and a group of nonlinear oscillators (Spirits) have higher energy than the simple sum of their energy, the growth in the last two levels is done in groups of Spirits in the Spiritual realm.

However, such high-level Spirits #13 or #14 could volunteer to come to earth to help during transition periods, when help is needed most. On Earth, these Spirits are called transcendental souls. The present time is such transition period because the dark era of Fish ended in 2012. In Hindu sources, the dark era is called Kali Yuga and the Goddess Kali is pictured with a necklace of skulls because this was the era of wars and ignorance.

On December 21, 2012, we entered the era of Aquarius, which is the era of light and spiritual uplift. For that reason, we have now transcendental souls on Earth to help us accomplish the transfer.



*Fig. 2:* Kirlian photography of Spiritual level 9 (the author in 1991).

## VI. CONCLUSION

This article showed that the Spiritual levels are discrete (quantum), which can be seen with Kirlian

photography. The higher is the spiritual level of an individual, i.e. the higher is his frequency, the higher is his sensitivity to emotions, to stress, and to drugs. The alternative medicine (homeopathy, herbal, acupuncture),



being milder, will be the right medicine for these sensitive individuals.

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# Characteristic Features of the Content of Natural IgG Class Autoantibodies to Nervous Tissue Proteins in Neuroaids

By Satima R. Kuranbaeva

**Abstract-** An increase in immunoreactivity is revealed, which is represented by a change in the level of neurotropic autoantibodies to neurotransmitter proteins involved in pathogenesis and formation of aberrant plasticity in patients with HIV infection. The increase in the content of autoantibodies to neurospecific proteins causes the onset, progression and preservation of pathological process depending on the presence of disorders in the nervous system.

**Keywords:** *HIV, pathogenesis, immune reactivity.*

**GJMR-K Classification:** *NLMC Code: QU 55*



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**Keywords:** HIV, pathogenesis, immune reactivity.

## I. INTRODUCTION

According to UNAIDS, about 50 million people are HIV-infected on the planet. People (less than 10% know about their illness) 16 million already died of AIDS. HIV infection is registered in 152 countries of the world. More than 60000 newly diagnosed HIV carriers are registered on a monthly basis in the world, every 4 minutes a new AIDS patient, every 15 seconds a new infected HIV [1, 3 and 6]. It is known that neurospecific antibodies to hippocampus and other neuronal structures contribute to the implementation of the launch and further maintenance of the generator pathologically intensified excitation and hence the development of neurological complications with HIV [4, 5].

*The purpose of the study:* To establish the role of natural autoantibody (AAB) class IgG to nerve tissue proteins (S-100, GFAP, NF-200 and Main Protein of Myelin (MPM)) in the pathogenesis of the nervous system lesions in HIV.

## II. MATERIALS AND METHODS

The level of autoantibodies to neurotropic proteins was determined in the blood serum of 99 patients with HIV Infection. The average age of patients was  $38,9 \pm 1,2$  years, of them 44,4 % (44) were women, 55,6% (55) were men. In the course of the study, 4 groups of the patients were identified: defeats of the neurosystem, conditionally not connected with HIV and caused by stress, toxic-allergic influence, presence of somatic pathology and other factors (48 patients, 48.5%; 1<sup>st</sup> group); with the primary lesion of nervous system of HIV without significant immunodeficiency in

the blood and symptoms of lesions of other organs and systems, but concurrent with the violation of immunologic constants (primary neuroAIDS S-9.1% (9 patients); 2<sup>nd</sup> group); With the secondary lesion of the nervous system as a manifestation of intensified opportunistic infection and progressed expressed immunodeficiency (secondary neuroAIDS-22, 2 % (22 patients); 3<sup>rd</sup> group); Patients without lesions of the nervous system (20 patients, 20.2%; 4<sup>th</sup> group). A quantitative definition of serum immune reactivity antibodies (AB1 and AB2) to the receptors of neurotransmitters was carried out with the help of solid Immunoassay method ELI-N-Test and the same name test-sets, production of "MITS Immunkulus" (Russia). 20 clinically healthy people, comparable in sex and age were monitored.

## III. RESULTS

In clinically healthy people (control group), the defined indices were as follows: AAB S100- $77.5 \pm 7.6$  y.e., AAB GFAP - $57.9 \pm 5.7$  y.e., AAB NF-200- $72.9 \pm 7.1$  y.e, AAB MPM- $58.8 \pm 5.6$  y.e. When evaluating the results of immunological research it was established that all groups of patients differed from the control group, both in level and in the degree of dispersion of studied immunological indices. And the nature of immune disorders directly depended on the presence of lesions of the nervous system. So, the highest among the studied AAT in all groups was the level of AAB to S100 and in patients with the defeat of the nervous system against the background of HIV, this figure exceeded the normative values on average 1.9 times ( $p < 0.01$ ), and in patients without the defeat of the neurosystem 1.6 times ( $p < 0.05$ ). Such a significant increase in the level of AAB to the protein S100, which is a calcium-binding protein, can be a confirmation of the hypothesis that one of the links of the pathogenesis of lesions of the neurosystem with HIV is to increase the permeability of neural membranes for ions  $Ca^{2+}$  with the increase of their concentration in the intercellular space. It should be noted that AAB to the protein S100, Depolarized the membrane of the neuron, change its potential (table1).

The level of whey autoantibodies to neurotropic proteins in patients with symptomatic and idiopathic epilepsy, y.e.

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Table 1

Indicators	1 <sup>st</sup> group (n=48)	2 <sup>nd</sup> group(n=9)	3 <sup>rd</sup> group (n=22)	4 <sup>th</sup> group (n=20)	Control (n=20)
NF200	127,6±8,9*	137,6±6,9*	121,8±8,2*	101,8±6,2 <sup>^</sup> a	72,9±7,1
GFAP	100,4±7,2*	118,4±5,2*	102,5±8,3*	92,5±7,3a	57,9±5,7
S100	130,3±11,8*	150,3±11,8*	124,1±4,6*	104,1±5,6 <sup>^</sup> a#	77,5±7,6
MPM	118,8±7,7*	119,6±6,7*	102,4±8,0*	82,4±5,0 <sup>^</sup> a#	58,8±5,5

Note: \*-reliability of data in relation to the control group ( $p < 0.05-0.001$ ); <sup>^</sup> - reliability of data in relation to 1st group ( $p < 0.05$ ); A - reliability of data on the relation to the second group ( $p < 0.05$ ); # - data reliability in relation to 3rd groups ( $p < 0.05$ )

Given the fact that the soluble Ca-binding protein neural tissue S100 is a trophic factor for Serotonergic neurons, regulates the permeability of ion channels the detection of autoantibodies in this protein has a great clinical value in neurological practice and can be used as a marker for brain tissue damage in patients with HIV. Analysis of the level of AAB to the protein NF200 also showed a reliable increase in their titles in patients in all groups, including patients without defeating the NS against the background of HIV (on average 1.7 times with the defeat of the NS and 1.3 times without defeat, respectively,  $p < 0.05$ ). At the same time there was a reliable prevalence of the level of AAB to NF200 in patients with non-defeated NS ( $101.8 \pm 6.2$  y.e. against  $72.9 \pm 7.1$  y.e,  $p < 0.05$ ), which indicates the excess plasticity, which is likely to preserve more durable pathological connections of the neurological system in patients with HIV. The level of whey AAB to Neurospecific protein MPM also reliably exceeded the values of the control group in all groups on average 1.7 times in patients with the defeat of the NS, ( $p < 0.01$ ) and 1.3 times in patients without defeat NS, respectively, ( $p < 0.05$ ). It is known, that myelin possesses the expressed immunogenic property, and its destruction is the universal mechanism of reaction of nervous tissue on various damages. The emergence of elevated indices of antibodies to MPM in the blood serum indicates a violation of the brain barrier, the most significant in patients without defeating the NS against the background of HIV. It should be noted that GFAP plays fundamental role in maintaining the normal functioning of both individual astrocytes and CNS as a whole. The change of its content has an important clinical value in diseases of the Nervous System. In patients with HIV, both with the defeat of the NS and without defeat a reliable increase in the group with the defeat of the NS on average 1.8 times was established, and without hitting the NS 1.6 times ( $p < 0.05$ ).

#### IV. CONCLUSION

Thus, the clinical-immunological analysis revealed a clear regularity of the content of antibodies to neurotropic proteins depending on the presence of the NS lesion in HIV, which evidence of the worsening of neuroimmune irregularities as increase in the level of defeat of the NS in patients with HIV.

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# Dietetic Management of Lipid Profile in an Adult Population from the Italian Region of Abruzzo: Role of Mediterranean Diet

By Maria Alessandra Gammone, Stefania Martelli, Antonella Danese  
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**Abstract- Background:** There has long been a lot of debate about the role of nutrition in the pathogenesis of cardio-vascular diseases. Monounsaturated and polyunsaturated fatty acids, especially n-3 PUFAs are the types of fat that favor metabolic markers and represent central components of the Mediterranean diet, which is considered an ideal dietary pattern with great cardioprotective effect.

**Aim:** This study aims to assess the influence of Mediterranean diet on lipid metabolism, compared to not-Mediterranean hypocaloric dietary patterns.

**Materials and Methods:** This prospective clinical trial evaluated total cholesterol, LDL, HDL, and triglycerides and their modifications in a group of adults in relation to the two different kinds of diet: on the one hand the typical western dietetic pattern, characterized by higher intakes of red meat, dairy products and refined grains, low consumption of fruits and vegetables (L-diet), and the Mediterranean diet (M-diet).

**Keywords:** mediterranean diet, weight loss, lipid profile, nutrition, cardiovascular risk.

**GJMR-K Classification:** NLMC Code: WK 819



D I E T E T I C M A N A G E M E N T O F L I P I D P R O F I L E I N A N A D U L T P O P U L A T I O N F R O M T H E I T A L I A N R E G I O N O F A B R U Z Z O R O L E O F M E D I T E R R A N E A N D I E T

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# Dietetic Management of Lipid Profile in an Adult Population from the Italian Region of Abruzzo: Role of Mediterranean Diet

Maria Alessandra Gammone <sup>α</sup>, Stefania Martelli <sup>ο</sup>, Antonella Danese <sup>ρ</sup> & Nicolantonio D'Orazio <sup>ω</sup>

**Abstract- Background:** There has long been a lot of debate about the role of nutrition in the pathogenesis of cardiovascular diseases. Monounsaturated and polyunsaturated fatty acids, especially n-3 PUFAs are the types of fat that favor metabolic markers and represent central components of the Mediterranean diet, which is considered an ideal dietary pattern with great cardioprotective effect.

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Serum levels of total cholesterol, LDL, HDL, triglycerides were assessed in 40 participants (two groups of twenty): ten men and ten women aged between 35 and 45 years. The anthropometric evaluation included the following parameters: weight, height, waist circumference, hip circumference, waist-hip ratio (WHR) and body mass index (BMI). There were anthropometric and hematochemical assessments after three and six months.

Each recruited patient received personalized diets after estimating the correct daily caloric needs through Harris-Benedict Equation. Overweight patients underwent hypocaloric diets with a slight daily physical activity (a thirty-minute walk).

**Results:** L-diet group showed a slight weight loss for subjects with BMI>24.9, with a mild improvement in total cholesterol levels but a worsening in HDL levels. In the M-diet group, we observed not only a more consistent weight loss in subjects with BMI>24.9 but also a significant improvement in HDL.

**Conclusion:** The Mediterranean diet was associated to the normalization of the plasma levels of total cholesterol, LDL, HDL, and triglycerides, as well as to an important reduction of body weight and visceral fat, and consequently cardiovascular risk factors.

**Keywords:** mediterranean diet, weight loss, lipid profile, nutrition, cardiovascular risk.

## I. INTRODUZIONE

Istituzioni pubbliche e organismi scientifici hanno dato vita, nei vari paesi del mondo, a linee guida o direttive alimentari per indirizzare il consumatore verso una dieta sana e bilanciata. Il modello alimentare più diffuso a livello internazionale è la dieta mediterranea, frutto di numerosi studi epidemiologici e sperimentali che testimoniano l'azione protettiva da essa svolta contro patologie croniche degenerative. I paesi del Mediterraneo infatti hanno tassi di morbilità più bassi per malattie croniche soprattutto cardiovascolari e dunque una speranza di vita più alta [1].

Negli ultimi decenni sono stati pubblicati innumerevoli studi sui benefici di essa e di alcune delle sue componenti sulla salute; dimostrando effetti benefici sulle malattie cardiovascolari, sul diabete, sulle demenze, su alcune forme di cancro ed anche sulla depressione [2-5]. È risultata efficace soprattutto per la prevenzione ed il trattamento del sovrappeso e dell'obesità, il cui aumento nel Mediterraneo è conseguenza di una generale riduzione dell'attività fisica sia nell'età evolutiva che in età adulta [6]. La Conferenza Internazionale sulle diete del Mediterraneo tenutasi a Londra nel gennaio del 2000, ha definito come "dieta mediterranea" l'insieme dei cibi tipici utilizzati agli inizi degli anni '60 in alcune regioni del Mediterraneo come Creta, alcune regioni della Grecia e il Sud dell'Italia [7], con evidenti effetti protettivi nei confronti di patologie cardiovascolari e tumori. Essa è, pertanto, l'unico modello alimentare al mondo ad essere riconosciuto "Patrimonio dell'Umanità" (UNESCO, Nairobi in Kenya, 16 Novembre 2010) e ad essere definito come un sistema radicato nel pieno rispetto del territorio e della sua biodiversità, che assicura la conservazione e lo sviluppo delle attività tradizionali, artigianali, di pesca e raccolta nelle comunità del Mediterraneo come per esempio quelle di Soria in Spagna, Koroni in Grecia, Cilento in Italia e Chefchaouen in Marocco. Lo scienziato Ancient Keys studiò dal 1950 al 1970 intere popolazioni che contrapponevano nella dieta diversi stili di vita stabilendo quali fenomeni culturali, diete e attività, erano le cause principali dei tassi differenti della malattia di cuore fra la popolazione. Agli inizi degli anni '50 egli viaggiò in diversi Paesi e si accorse che, dove i livelli di colesterolemia erano bassi, i medici ospedalieri locali

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riferivano rarità dell'infarto miocardico. Egli notò inoltre che le malattie cardiovascolari erano poco frequenti a Creta e in alcune aree d'Italia, come nel Cilento, nonostante l'alto consumo di grassi, in particolar modo dell'olio extravergine d'oliva. Sua moglie si dilettò a misurare periodicamente le sue concentrazioni ematiche di colesterolo trovandole basse con rare eccezioni, rappresentate perlopiù dai membri del Rotary Club del luogo. Keys lanciò il *Seven Countries Study of Cardiovascular Diseases* rilevando l'importanza della dieta mediterranea e documentandone i benefici sia sulle patologie croniche cardiovascolari sia sul miglioramento dello stato di salute nel tempo. L'esame di 12 000 soggetti tra i 40 ed i 60 anni, residenti in diversi paesi come il Giappone, gli USA, l'Olanda, la Jugoslavia, la Finlandia e l'Italia, confermò l'ipotesi di Keys: quanto più l'alimentazione dei soggetti esaminati si allontanava dagli schemi mediterranei, maggiore era l'incidenza delle cosiddette "malattie del benessere" [8].

Terminate le sue ricerche, Keys scrisse che l'essenza della mediterraneità della dieta risultava essere fondamentalmente vegetariana: pasta e cereali in varie forme, verdure condite con olio di oliva e ogni sorta di frutta e ortaggi di stagione. Da allora si sono susseguiti molti altri studi che hanno meglio documentato e definito l'efficacia di essa in varie patologie, indagando a fondo sulle sue proprietà nutritive. La letteratura scientifica è molto ampia e corposa a riguardo.

Il *Progetto SUN* [9] dell'Università di Navarra in Spagna, ad esempio, ha studiato l'effetto della dieta sull'ipertensione, sul diabete, sulle dislipidemie, sull'obesità, sulla malattia coronarica e su altre patologie con circa 18 000 soggetti reclutati. I risultati disponibili fino ad ora rilevano che vi sarebbe un'associazione inversa tra l'olio extravergine d'oliva o tra l'adesione a un modello alimentare mediterraneo e l'infarto del miocardio; in particolare per gli uomini, dopo 28 mesi di dieta mediterranea ricca di olio d'oliva si evidenziava un ridotto rischio d'ipertensione ed un abbassamento della colesterolemia, suggerendo dunque la superiore qualità dei grassi assunti tramite la dieta mediterranea come possibile causa di questi effetti benefici.

Lo *Studio ATTICA* [3], condotto negli anni 2001-2002, cui hanno partecipato 3024 soggetti (di età compresa fra 20 e 89 anni, per la maggior parte uomini della regione greca di Attica), ha dimostrato che una maggiore aderenza riduce il rischio per lo sviluppo della disfunzione sistolica ventricolare sinistra nei pazienti affetti da sindrome coronarica. Lo *Studio EPIC (European Prospective Investigation into Cancer and Nutrition)* [10] è il più vasto studio di popolazione condotto sui rapporti tra dieta e salute, a cui hanno preso parte 520 000 persone provenienti da dieci paesi europei. Lo studio EPIC tentò di chiarire i rapporti tra dieta, fattori ambientali, stile di vita e incidenza di cancro

e di altre malattie croniche. Ha evidenziato come un incremento dell'aderenza alla dieta mediterranea corrispondesse a una riduzione dell'incidenza di cancro.

Il *Lyon Diet Heart Study* [11] ha accertato che una dieta di tipo mediterraneo può diminuire il tasso di recidiva dopo un primo infarto miocardico. I risultati dello studio, di tipo randomizzato, mostrano che l'effetto protettivo della Dieta Mediterranea si mantiene fino a quattro anni dopo l'infarto.

Lo *Studio GISSI-Prevenzione* [12] ha invece dimostrato come nei pazienti con infarto miocardico che sono riusciti a mettere in pratica alcuni consigli dietetici, in particolare con l'aumento del consumo di cibi mediterranei, il rischio di morte precoce sia diminuito, indipendentemente da qualsiasi trattamento farmaceutico.

## II. ASSETTO LIPIDICO E RISCHIO CARDIOVASCOLARE: POSSIBILE RUOLO DELLA NUTRIZIONE

Tra i parametri di rischio cardiovascolare la dislipidemia è un fattore rilevante e indipendente ma ha il vantaggio di essere modificabile. Nelle linee guida sul trattamento delle dislipidemie ESC/EAS [13] si sottolinea l'importanza di un'adeguata dietoterapia per raggiungere desiderabili valori di colesterolemia e trigliceridi, come componente fondamentali delle strategie attuate da società scientifiche internazionali per prevenire dislipidemie e cardiovasculopatie. Gli obiettivi sono quelli di attuare una sana alimentazione per raggiungere un peso corporeo ideale, attenersi ai livelli raccomandati di lipoproteine a bassa densità LDL, ad alta densità HDL, trigliceridi, zuccheri semplici, praticare attività fisica e controllare la pressione arteriosa.

Nel corso degli anni numerosi studi epidemiologici e fisiopatologici hanno messo in luce che dislipidemie e obesità viscerale sono strettamente connesse tra loro [14].

La quantità di tessuto adiposo addominale, stimata con la misurazione della circonferenza vita, è direttamente proporzionale all'insulino-resistenza, all'aumento della concentrazione plasmatica di trigliceridi (ipertrigliceridemia) e LDL e ad un prolungato tempo di circolo nel plasma di queste lipoproteine e dei loro prodotti catabolici, altamente aterogeni [15].

Una correlazione inversa tra livelli di colesterolo HDL e rischio cardiovascolare è ampiamente documentata in letteratura. L'analisi combinata di quattro studi prospettici americani, ha messo in luce come per ogni decremento di 1 mg di HDL il rischio cardiovascolare aumentava del 3% nelle donne e del 2% negli uomini [16].

Diversi effetti ateroprotettivi sono stati attribuiti alle HDL e dimostrati negli ultimi 20 anni. Tra i più importanti la protezione dalla perossidazione delle LDL

e dai danni cellulari provocate dalle stesse LDL ossidate; il ruolo centrale delle HDL nel trasporto inverso del colesterolo dai tessuti periferici al fegato; gli effetti antinfiammatori sui monociti e sulla componente cellulare delle pareti vasali; l'aumento della vasodilatazione arteriosa; l'inibizione dell'aggregazione piastrinica; l'inibizione del reclutamento di cellule infiammatorie all'interno della parete arteriosa [17-19].

L'accumulo di grasso viscerale rappresenta dunque un fattore di rischio di malattia cardiovascolare. La dislipidemia che tipicamente si associa all'obesità viscerale è caratterizzata da tre fattori: aumento della concentrazione plasmatica di trigliceridi, presenza di lipoproteine a bassa densità in prevalenza (più piccole e dense del normale marcatamente aterogene) e bassi livelli di colesterolo nelle lipoproteine ad elevata densità. Tale fenotipo lipidico è sovente associato a placche ateromasiche instabili e ad un marcato aumento dei markers di infiammazione. Dato lo stretto legame tra grasso viscerale e alterazione dell'assetto lipidico, appare clinicamente utile per la correzione della dislipidemia, l'introduzione di appropriate norme dietetiche e dell'incremento dell'attività fisica, come raccomandato dalle linee guida dell'American Diabetes Association e del NCEP-ATP III [11, 20].

La dislipidemia aterogena rappresenta uno dei casi in cui il pattern dietetico mediterraneo esplica il suo effetto protettivo modulando favorevolmente alcuni importanti fattori di rischio.

Studi epidemiologici [8] hanno osservato una grande differenza geografica nei tassi di incidenza di malattie cardiovascolari. Rispetto ai paesi del nord Europa o negli Stati Uniti, nei paesi del sud Europa, come la Francia, la Spagna, in Grecia e in Italia vi è una bassa incidenza di malattia coronarica (CHD). Il modello alimentare mediterraneo è stato il fattore più frequentemente invocato per spiegare questa differenza.

La prima piramide alimentare mediterranea fu elaborata da Willet nel 1993: essa prevedeva un consumo giornaliero abbondante di cereali, patate, frutta fresca e secca, vegetali, legumi, olio d'oliva e piccolo o moderato consumo di formaggio, e yogurt; poche volte a settimana piccole o moderate quantità di pesce, pollame, uova e dolci (zuccheri concentrati, miele); poche volte durante il mese piccole quantità di carne rossa. Il vino era ammesso con moderazione e veniva consigliata un'attività fisica abituale. La revisione 2009 delle Linee guida redatta dall'Istituto Nazionale di Ricerca per gli Alimenti e la Nutrizione (INRAN), presenta la nuova piramide alimentare, la stessa utilizzata nel corso di tale studio. La nuova piramide (Fig.1) sostituisce la precedente e si rivolge alla popolazione italiana di età compresa tra i 18 e i 65 anni. Rispetto alla piramide precedente, non dà indicazioni iconografiche degli alimenti ma, fornisce indicazioni sulla frequenza di consumo giornaliera e settimanale.

Tuttavia, è difficile definire la dieta mediterranea come una caratteristica comune di tutti i paesi del Mediterraneo, poiché esistono differenze notevoli. Ad esempio, la variante italiana della dieta mediterranea è caratterizzata da un maggior consumo di pasta, mentre in Spagna, il consumo di pesce è particolarmente elevato. In Grecia, si consumano grandi quantità di pane integrale, cibi cotti e insalate ricche di olio d'oliva, dove verdure e legumi sono compaiono in grandi quantità. Tuttavia, in tutti i casi nell'alimentazione del bacino mediterraneo il rapporto grassi monoinsaturi/saturi è molto superiore rispetto al nord Europa e Nord America [21] così come l'apporto di molecole antiossidanti e antinfiammatorie, per il più abbondante consumo sia di frutta e verdure fresche [22-26], sia di olio extravergine di oliva come condimento [27], sia per il maggior consumo di prodotti ittici e dunque di PUFA [28] nonché di altre sostanze bioattive di origine marina [29-34].

### III. MATERIALI E METODI

Al fine di dimostrare come la dieta mediterranea possa avere effetti benefici sulla salute umana rispetto a un modello dietetico tipicamente occidentale tendenzialmente iperproteico, abbassando i livelli di colesterolo e trigliceridi e quindi il rischio di sviluppare patologie cardiovascolari e diabete di tipo 2, abbiamo testato la sua efficacia su un campione di adulti abruzzesi non affetto da dislipidemia su base familiare senza alcuna evidenza clinica di CHD. Il trial prospettico sperimentale è stato svolto presso l'Unità Operativa di Nutrizione Umana e Clinica del Dipartimento di Scienze Orali Mediche e Biotecnologiche dell'Università di Chieti, con l'obiettivo di testare significativamente l'efficacia della dieta mediterranea su pazienti con alterazioni dell'assetto lipidico, utilizzando la piramide alimentare come unico strumento terapeutico per tutto l'iter di indagine, in assenza di qualsiasi tipo di terapia farmacologica coadiuvante. Nel trial clinico sono stati adottati sul campione arruolato due modelli alimentari diversi, in corrispondenza dei quali abbiamo registrato cambiamenti significativi dei livelli sierici di lipoproteine e trigliceridi. Abbiamo osservato le associazioni di questi due modelli alimentari con il rischio di sviluppare malattie cardiovascolari monitorando l'andamento dei biomarkers (colesterolo totale, LDL, HDL, trigliceridi) e le variazioni del WHR e del BMI. Per evitare che le disuguaglianze riscontrate tra i due gruppi sui livelli di Colesterolo LDL o HDL indotte dalle due diete potessero essere associate a differenze biologiche di sesso e di età, sono stati inseriti nello studio sia uomini che donne, di età compresa tra i 35 e i 45 anni e l'aderenza dei pazienti ai modelli dietetici somministrati è stata rigorosamente e periodicamente controllata. Sono stati arruolati 40 soggetti, 20 uomini e 20 donne di professioni diverse e di età compresa tra i 35 e i 40 anni,



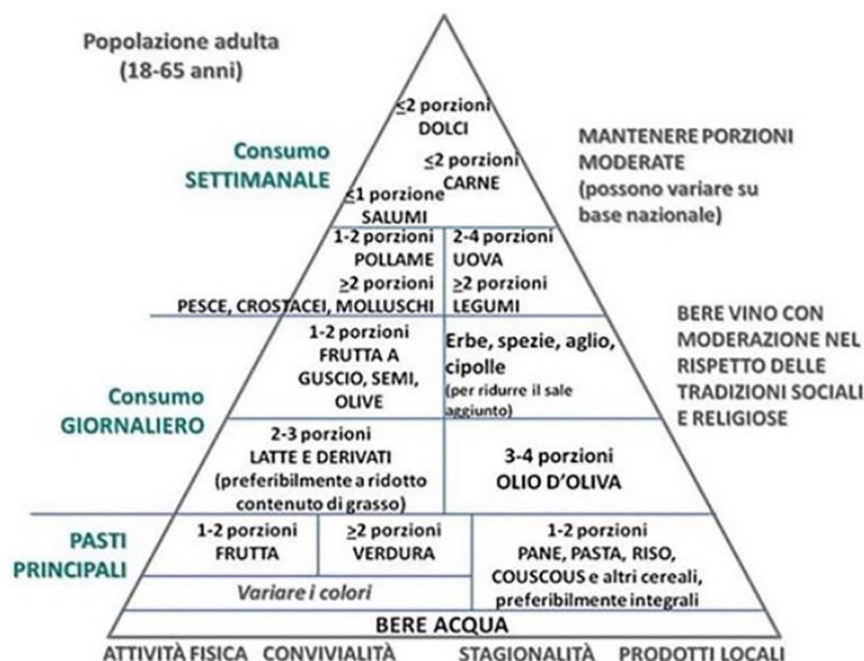
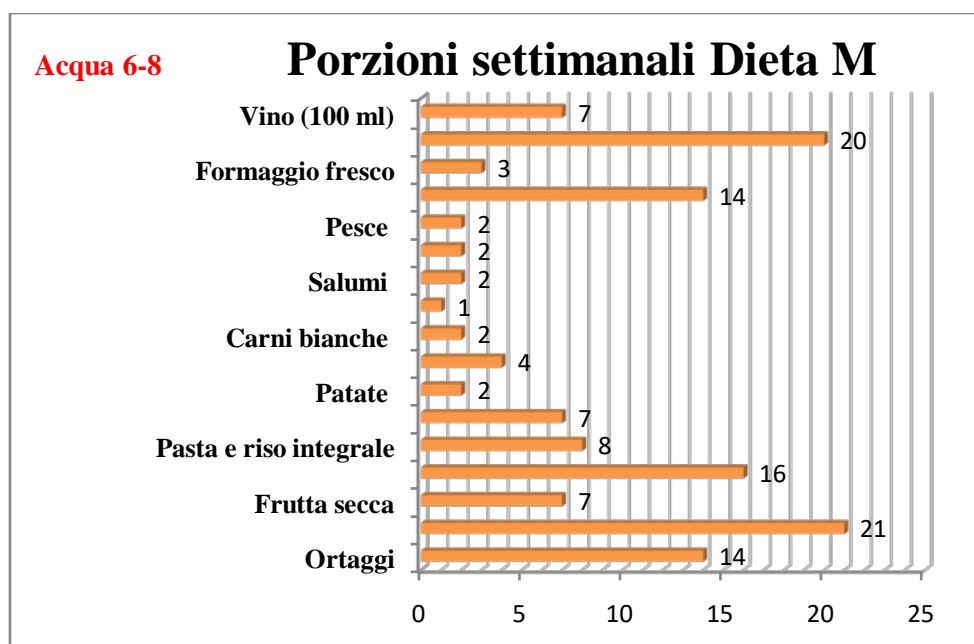


Figura 1: La nuova piramide alimentare della dieta mediterranea proposta dalle Linee Guida INRAN 2009

suddivisi, in maniera randomizzata, in due gruppi da 20, contenente ciascuno 10 uomini e 10 donne. Per il reclutamento del campione i partecipanti al trial non potevano avere abitudini tabagiche (almeno un anno e mezzo di astinenza dal fumo), né alcun trattamento farmacologico in corso; altri criteri di esclusione sono stati l'assunzione di integratori o pillola anticoncezionale e pregresse diagnosi di infarto cardiaco, angina pectoris, diabete, ulcere duodenali o gastriche, ictus cerebrali, patologie epatiche, calcoli alla cistifellea. Tutti presentavano assetto lipidico alterato secondo le Linee-guida del National Cholesterol Education Program (NCEP) con livelli di Colesterolo Totale > 200 mg/dl, HDL < 45 mg/dl, LDL > 130 mg/dl e Trigliceridi > 150 mg/dl [35]. Ogni partecipante è stato sottoposto inizialmente ad anamnesi familiare, clinica e patologica, a valutazione della composizione corporea (peso, altezza, circonferenza vitale, circonferenza fianchi, WHR, BMI), dello stato nutrizionale e a un recall dietetico delle 24 ore, utile per conoscere le abitudini alimentari e l'apporto idrico medio quotidiano. Da ogni referto clinico, sono stati estrapolati i livelli di Colesterolo totale, LDL, HDL e Trigliceridi. I pazienti sono stati classificati secondo la *World Health Organization BMI Classification* [36] in: sottopeso (BMI < 18.4), normopeso (BMI 18.5-24.99), sovrappeso (BMI 25.0-29.9), obesità grado I (30.0-34.9), obesità grado II (BMI 35.0-39.9), obesità grado III (BMI > 40) e in base al WHR in obesità ginoide, androide o mista. Per ciascuno è stato calcolato il metabolismo basale (MB) e il relativo fabbisogno calorico giornaliero.

Il modello alimentare mediterraneo (Dieta M) impiegato per il primo gruppo, è stato elaborato secondo le linee guida redatte dall'INRAN, facendo riferimento all'ultima revisione del 2009 [37]. Dopo aver calcolato il Metabolismo Basale tramite la formula di Harris-Benedict [38] e il fabbisogno energetico giornaliero totale, tenendo conto del livello di attività fisica svolta (LAF), sono state formulate diete personalizzate rispettando porzioni settimanali suggerite delle Linee Guida INRAN, adattando le grammature all'introito calorico necessario (Fig.2). Si definisce porzione la quantità standard di alimento espressa in grammi, che si assume come unità di misura da utilizzare in un'alimentazione corretta al fine di soddisfare il fabbisogno nutrizionale del consumatore.





**Figura 2:** Porzioni settimanali suggerite nella dieta M, secondo le Linee Guida INRAN del 2009.

Il fabbisogno calorico giornaliero è stato così ripartito:

- Carboidrati 55-57% delle kcal tot./die (pane, pasta e riso integrali, miglio, orzo, farro, quinoa, bulgur, avena, legumi, ecc.)
- Lipidi 26-28% delle kcal tot./die (olio extravergine d'oliva) così ripartiti: grassi saturi non più del 7-10% delle kcal totali (burro, margarina, pancetta, crema di noccioline e cacao, carne rossa, formaggi stagionati); acidi grassi monoinsaturi fino al 20% delle kcal totali (olio extravergine d'oliva), acidi grassi polinsaturi circa il 7% delle kcal totali con un rapporto omega-6/omega-3 intorno a 5:1 ( $\omega 6$ : noci, cereali, pane integrale, oli vegetali;  $\omega 3$ : pesce (EPA e DHA), noci (ALA), oli vegetali come l'olio di lino)
- Proteine 15-17% delle kcal tot./die (proteine animali: carne bianca, uova, pesce, latte e derivati, proteine vegetali: cereali, legumi, frutta secca.)
- Il consumo di sale è stato limitato a 5g al giorno, pertanto il sodio a 2.5g/die.
- Zuccheri semplici non più del 10% delle kcal totali
- Fibra 30g/die (preferibilmente solubile)
- Frutta secca oleosa intorno ai 20g/die
- 5 porzioni/die di frutta e verdura
- Acqua 1.5-2 l/die
- I sei pasti totali giornalieri prevedevano la seguente ripartizione calorica:
  - Colazione 20% delle kcal tot.
  - Spuntino 15% delle kcal tot.
  - Pranzo 40% delle kcal tot.
  - Merenda 5% delle kcal tot.
  - Cena 30% delle kcal tot.

Dopocena: infusi, thè, tisane, camomilla senza zucchero

È stata inoltre consigliata un'attività fisica leggera di circa 30 minuti/die (per es. passeggiata).

Il pattern dietetico del gruppo controllo (dieta L), di stampo occidentale, pur essendo sempre ipocalorico, differiva una maggiore assunzione di carne rossa e di prodotti lattiero-caseari, cereali raffinati e ridotto consumo di frutta e verdura. (Fig. 2 e 3).

Il fabbisogno calorico giornaliero è stato così di seguito ripartito:

- Carboidrati (CHO) intorno al 30% delle kcal tot./die (pasta e pane non integrali e cereali perlopiù raffinati)
- Proteine 30 % (proteine animali > proteine vegetali)
- Lipidi 40% (acidi grassi saturi >10 %, monoinsaturi <20%,  $\omega 6 > \omega 3$ )
- Nessuna indicazione specifica per il consumo di frutta fresca e secca, verdure, zuccheri semplici, fibra, sale, acqua e attività fisica.

Il follow-up è stato stabilito per sei mesi con un primo controllo dei parametri antropometrici, ematochimici e nutrizionali a distanza di tre mesi circa. Durante tutto il periodo di studio, ogni paziente è stato sollecitato a manifestare le proprie impressioni, sensazioni, e difficoltà riscontrate durante l'attuazione dei pattern dietetici. Inoltre nessun paziente ha abbandonato il trattamento o è rientrato nel drop-out per scarsa compliance o per averlo modificato senza previa consultazione.

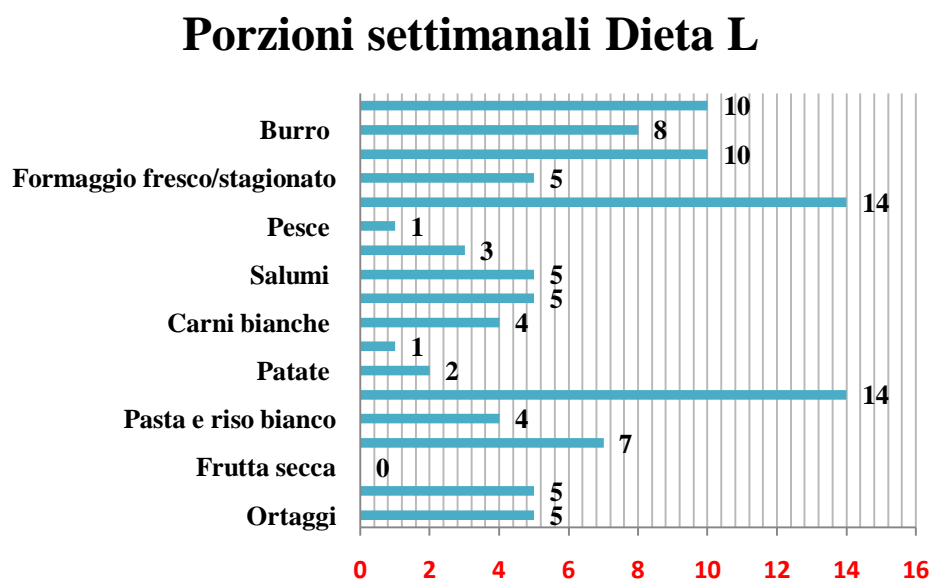


Figura 3a: Porzioni settimanali assunte dal gruppo in dieta L

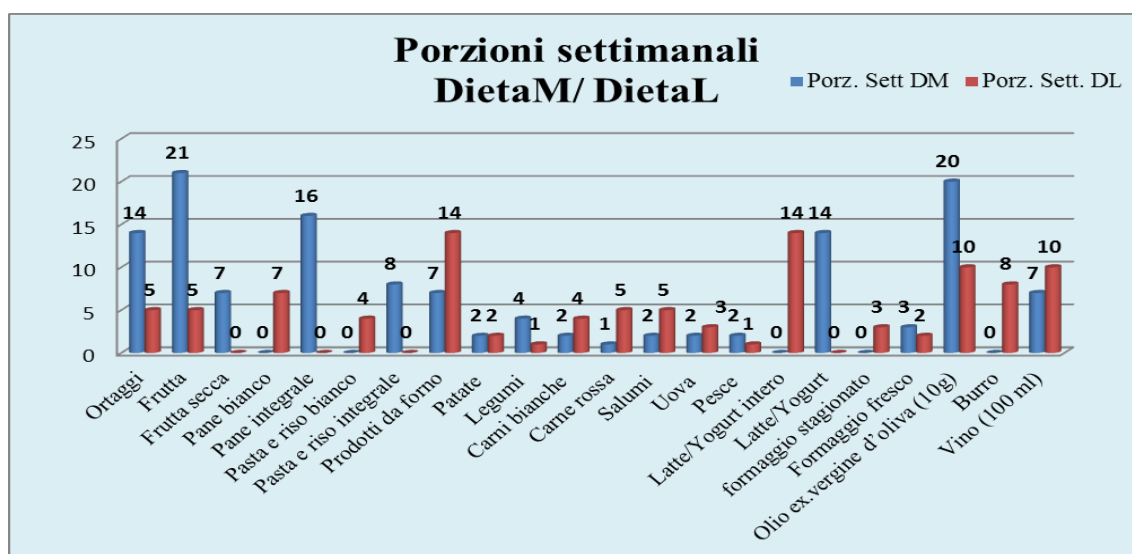


Figura 3b: Confronto tra le frequenze settimanali di assunzione delle principali categorie di alimenti nelle due diete messe a confronto.

#### IV. RISULTATI

I 40 soggetti arruolati nello studio non avevano ricevuto nessuna indicazione dietetica prima del trial. Sono stati seguiti per circa sei mesi. Dopo la prima fase di assessment, a distanza di tre mesi, è stato effettuato uno screening ematologico e tutti i partecipanti sono stati rivalutati da un punto di vista antropometrico e nutrizionale. Le variabili monitorate in ciascun gruppo con i due diversi pattern dietetici sono state: peso, circonferenza vita, WHR, BMI, colesterolo totale, LDL, HDL e trigliceridi. L'assetto lipidico dei soggetti in dieta M ha dimostrato una miglior risposta, mentre il gruppo in dieta L ha subito un graduale peggioramento dei livelli ematici di LDL e HDL nonostante un lieve calo

ponderale dei soggetti con BMI > 24.9. Per ciascuna variabile considerata è stata fatta distinzione dei sessi all'interno dei due gruppi di studio.

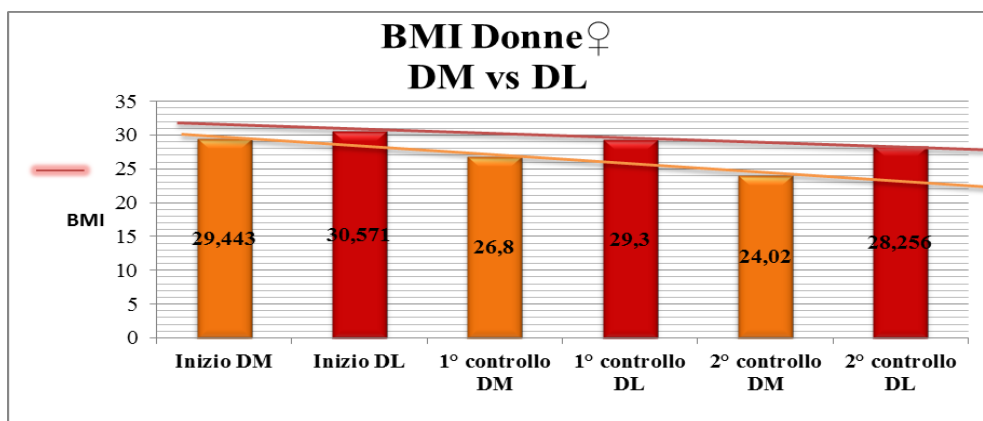
Al primo controllo, a 3 mesi, i partecipanti di sesso maschile e femminile in dieta M hanno mostrato una variazione percentuale media ( $\overline{M\Delta\%}$ ) della circonferenza vita rispettivamente del -2 % e del -2.86 % circa rispetto ai valori iniziali, mentre per i partecipanti di sesso maschile e femminile in dieta L questa variazione risultava rispettivamente del -1.6 % e del -0.94% circa. Anche il peso corporeo ha subito una riduzione del -4.8% circa negli uomini e del -3.5% nelle donne in dieta M; del -2.1% negli uomini e del -1.2 % nelle donne in dieta L.

Al secondo controllo, a 6 mesi la  $\overline{\Delta\%}$  della circonferenza vita rispetto al primo è stata la seguente: circonferenza vita per le donne -2.80% e per gli uomini -3.68% in dieta M; per le donne -0.74% e per gli uomini -1.13% in dieta L ( $p < 0.05$ ).

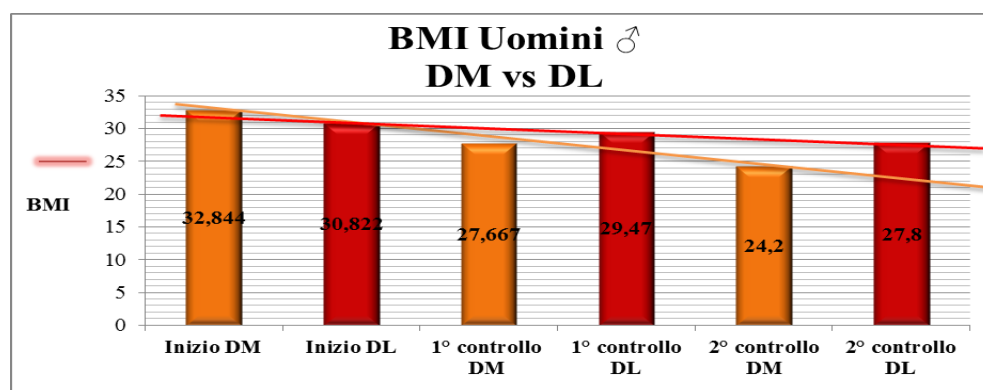
A fine studio è stata calcolata la  $\overline{\Delta\%}$  della circonferenza vita rispetto alla fase iniziale (dopo 6 mesi): il gruppo in dieta M ha subito complessivamente una riduzione del -7.99% ( $p < 0.05$ ), mentre il gruppo in dieta L del -5% ( $p < 0.05$ ). Mentre la variazione percentuale del peso è stata -7.77% ( $p < 0.05$ ) nel gruppo DM essa è stata pari a -3.2% ( $p < 0.05$ ) del gruppo DL.

Tali variazioni sono state poi confermate dal calcolo del BMI che, al termine del follow-up dopo i 6 mesi, ha mostrato nelle donne un decremento medio percentuale ( $p < 0.01$ ) del -18.5% in dieta M e del -7.6% nelle donne in dieta L (Fig. 4a). Ancor più positivi sono

stati i risultati dei partecipanti di sesso maschile in dieta M con una variazione percentuale ( $p < 0.01$ ) del BMI del -24.5%, rispetto al -10.4% degli uomini in dieta L (Fig. 4b). Dopo il primo e il secondo trimestre di intervento dietetico sono state valutate le variazioni nell'assetto lipidico. Trascorsi sei mesi dalla fase iniziale, confrontando i valori registrati al primo controllo con quelli raccolti al secondo, si nota che il valore medio del colesterolo totale del gruppo in dieta M è inferiore a quello del gruppo in dieta L (fig. 5a). Dai valori registrati al secondo controllo (a sei mesi) si nota che il valore medio del colesterolo LDL del gruppo in dieta M è inferiore rispetto al valore medio del gruppo in dieta L (fig. 5b). A sei mesi (ossia al secondo controllo), abbiamo riscontrato una differenza significativa anche a carico del colesterolo HDL (fig. 5c) e dei trigliceridi (fig. 5d) con i risultati migliori sempre per il gruppo in dieta M.



**Figura 4a:** Variazione percentuale media del BMI nelle donne in dieta M confrontata a quella delle donne in dieta L dall'inizio dello studio al primo (-9% in DM rispetto al -4.3% in DL) e secondo controllo (-10.4% in DM rispetto a -3.6% in DL).



**Figura 4b:** Variazione percentuale media del BMI nelle donne in dieta M confrontata a quella delle donne in dieta L dall'inizio dello studio al primo (-12.7% in DM rispetto al -4.4% in DL) e secondo controllo (-11.73% in DM rispetto a -5.6% in DL).

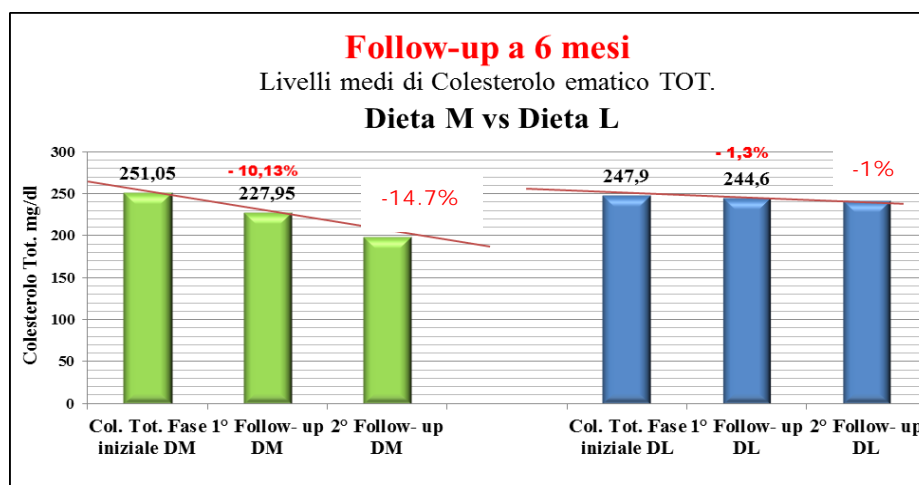


Figura 5a: Variazione dei livelli di Colesterolo totale nei due gruppi di pazienti tra la fase iniziale, il primo ed il secondo controllo.

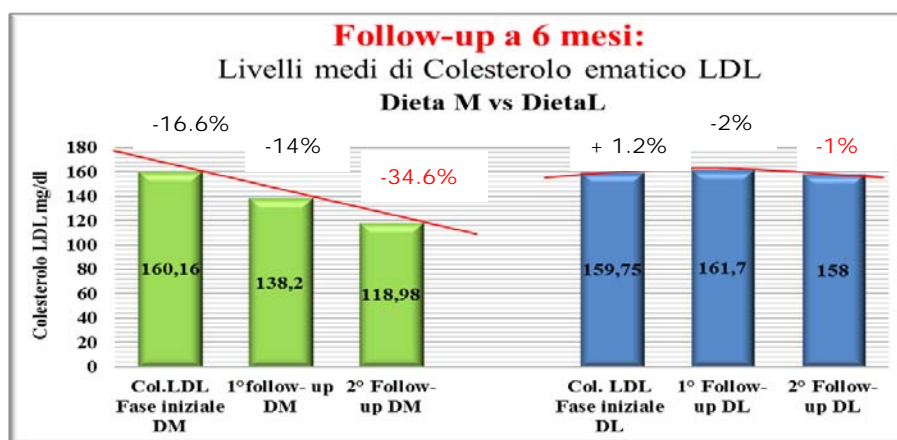


Figura 5b: Variazione dei livelli di Colesterolo LDL nei due gruppi di pazienti tra la fase iniziale, il primo ed il secondo controllo.

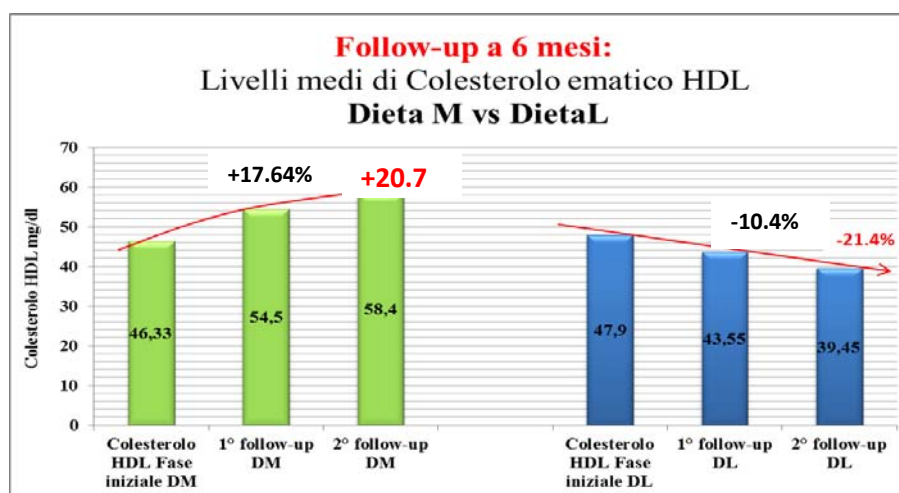
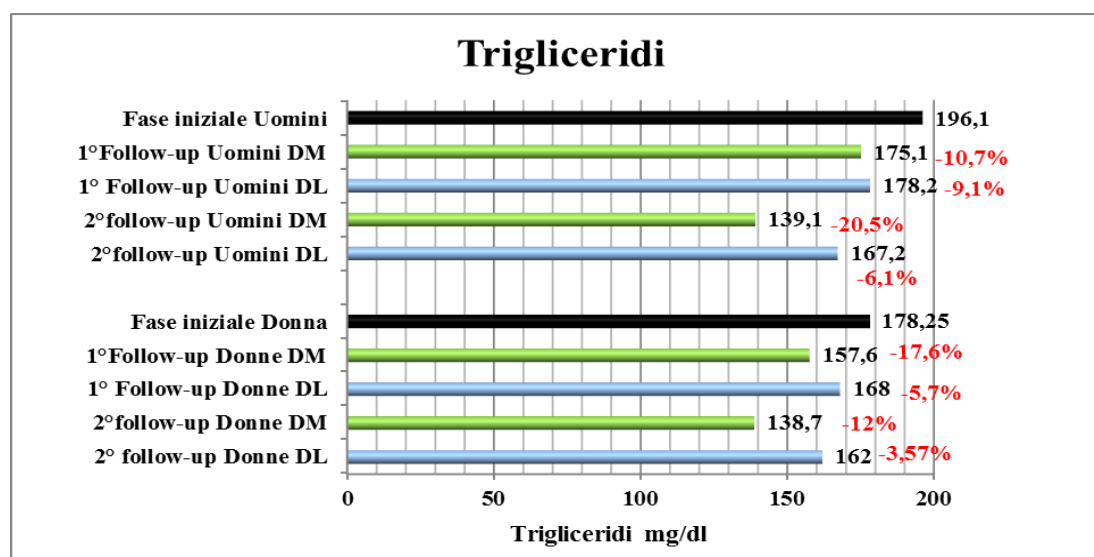


Figura 5c: Variazione dei livelli di Colesterolo HDL nei due gruppi di pazienti tra la fase iniziale, il primo ed il secondo controllo.



**Figura 5d:** Variazione dei livelli di trigliceridi nei due gruppi di pazienti tra la fase iniziale, il primo ed il secondo controllo con distinzione tra i sessi.

## V. DISCUSSIONE

I partecipanti in DM hanno consumato, secondo il pattern dietetico somministrato, più verdura, più frutta di stagione, frutta oleosa, olio extra vergine d'oliva, più pesce e cereali integrali rispetto al gruppo DL. Tali partecipanti invece hanno seguito un pattern dietetico pur ipocalorico ma senza indicazioni di frequenza di consumo ad indirizzo "mediterraneo", pertanto consumando per sei mesi più carne rossa, cereali raffinati, meno olio extravergine d'oliva, più prodotti lattiero caseari freschi e stagionati, più affettati e meno vegetali. Entrambi i gruppi hanno incrementato l'attività fisica con una camminata di 30 minuti al giorno, praticata 3 volte a settimana.

Al termine del trial abbiamo osservato associazioni significative tra il modello dietetico mediterraneo e quello occidentale con diversi biomarkers plasmatici.

In particolar modo la dieta L è risultata significativamente ( $p < 0.001$ ) correlata ad un peggioramento del colesterolo HDL e LDL per entrambi i sessi (HDL gruppo DM: +20.7%; HDL gruppo DL: -21.4%; LDL gruppo DM: -34.6%; LDL gruppo DL: -1%).

Inoltre anche il WHR nel gruppo DL non ha mostrato importanti cambiamenti, così come il BMI che, dopo sei mesi, pur essendosi ridotto grazie al calo ponderale, non è tuttavia rientrato nel range di normalità: il BMI medio in dieta L è risultato 27.8 (-9.8%) per il sesso maschile e 28.25 (-7.6%) per il sesso femminile. Il pattern dietetico di stampo mediterraneo ha invece riequilibrato i valori dislipidemici iniziali e migliorato il BMI che è rientrato nella fascia di normopeso: BMI medio in dieta M 24.2 (-26.3%) per il sesso maschile e 24.02 (-18.4%) per il sesso femminile.

Nella valutazione del rischio per la salute umana è importante considerare non solo il BMI, ma anche la

distribuzione del tessuto adiposo: è stato, infatti, riconosciuto che un'eccessiva quantità di grasso viscerale è un importante fattore di rischio per la salute, indipendentemente dal BMI. Le persone con un grasso localizzato prevalentemente in sede addominale hanno infatti un aumentato rischio di diabete tipo 2, dislipidemia, ipertensione arteriosa e malattie cardiovascolari [39].

Pertanto al termine dello studio abbiamo calcolato la  $\overline{M}\Delta\%$  ( $p < 0.05$ ) della circonferenza vita: nel gruppo in DM è risultata pari a -4.74% per il sesso femminile e -6.41% per il sesso maschile; nel gruppo in DL è risultata invece pari a -2.4% per il sesso femminile e -1.73% per il sesso maschile; la  $\overline{M}\Delta\%$  ( $p < 0.05$ ) del peso corporeo: nel gruppo in DM -5.94% per il sesso femminile e -9.27% per il sesso maschile; nel gruppo in DL -2.6% per il sesso femminile e -3.2% per quello maschile.

Da tali risultati, è ragionevole pensare che la dieta mediterranea, considerata, in base alle sue tradizionali caratteristiche come una dieta prevalentemente ricca in legumi, frutta, verdure, grassi vegetali prevalentemente mono/polinsaturi, è capace di esercitare un benefico effetto sull'adiposità viscerale e sui livelli ematici di colesterolo totale, LDL, HDL e trigliceridi. Durante entrambi i controlli, sono state raccolte informazioni anche sui livelli di sazietà prima e dopo i pasti. Nel gruppo DL il 60% dei pz, dopo circa un'ora dal pasto, presentava leggera sonnolenza e senso di fame. Mentre nel gruppo DM l'85% dei pz sentiva senso di sazietà e non presentava sonnolenza. Tutto ciò è giustificato dal fatto che la DM migliora sia la sazietà immediata dopo il pasto che la "satiatio" ovvero il senso di fame che precede il pasto successivo. Il tempo di masticazione si allunga così come il tempo di svuotamento gastrico e quindi si modula la



secrezione di tutti gli ormoni gastroenterici, CCK, grelina, insulina, responsabile della sonnolenza post-prandiale. Questo perché la dieta mediterranea ha una bassa densità energetica ed un basso "carico glicemico" grazie al consumo di alimenti preferibilmente integrali a basso indice glicemico.

Anche trigliceridi, colesterolo totale, HDL, LDL dopo sei mesi di trial clinico hanno subito variazioni importanti e significative ( $p < 0.01$ ). La  $\Delta\%$  ( $p < 0.01$ ) della trigliceridemia: nel gruppo in DM: -26% nel sesso femminile e -27.8% nel sesso maschile; nel gruppo in DL -13.4% nel sesso femminile e -10.6% nel sesso maschile. La  $\Delta\%$  ( $p < 0.01$ ) della colesterolemia totale nel gruppo in DM -20.55% nel sesso femminile e -21.1% in quello maschile; nel gruppo in DL -1.36% nel sesso femminile e -0.5% in quello maschile. La  $\Delta\%$  ( $p < 0.01$ ) dell'LDL: nel gruppo in DM -22.17% per il sesso femminile e -30% nel sesso maschile; nel gruppo in DL -2.56% per il sesso femminile e +1.22% per il sesso maschile. La  $\Delta\%$  ( $p < 0.01$ ) dell'HDL: nel gruppo in DM +20% per il sesso femminile +28.55% per quello maschile; nel gruppo in DL -23.6% per il sesso femminile e -14.4% per il sesso maschile. Le differenze riscontrate sono giustificate dalla diversa percentuale lipidica impostata sul fabbisogno tot/die individuale e dalla scelta degli alimenti. La quota lipidica della DM è in gran parte rappresentata dall'olio extravergine d'oliva con i rispettivi indubbi vantaggi derivanti dalla sua composizione chimica e dall'essere vettore di molte sostanze antiossidanti. Il consumo di questo alimento si associa a un basso apporto dietetico di acidi grassi saturi. Le azioni protettive antiaterogene dipendono non solo dal suo elevato contenuto di acidi grassi monoinsaturi (MUFA) ma anche dai suoi componenti fenolici aventi una nota azione protettiva nei confronti dell'ossidazione delle LDL [27]. La dieta può modificare la composizione di quest' ultime: il consumo dell'olio extravergine d'oliva ricco in fenoli aumenta significativamente il contenuto in acido oleico e fenoli delle LDL e le rende più resistenti all'ossidazione, inoltre i fenoli stessi svolgono un'azione cardioprotettiva [23, 24]. I benefici del consumo di olio extravergine d'oliva vanno ben oltre il miglioramento del profilo lipidico e comprendono un effetto antiossidante sulle lipoproteine, antiinfiammatorio vascolare, antitrombotico, di prevenzione della stabilità insulinica, della funzione endoteliale, di miglioramento della pressione arteriosa [27].

Inoltre, l'effetto ipocolesterolemizzante di una dieta ricca in PUFA è riconducibile al binomio acido eicosapentaenoico (EPA) + acido docosaesaenoico (DHA). Il consumo di modeste quantità di pesce (2 porzioni a settimana come il pattern DM) che corrispondono a 250 mg/giorno di apporto di EPA + DHA, riduce il rischio di decesso per CHD del 36% in confronto al non consumo [28]. I grassi saturi (SFA) di origine industriale che troviamo in burro, pancetta,

agnello, formaggi stagionati, carne rossa ecc. (pattern DL) esplicano un effetto deleterio: aumento del colesterolo LDL, riduzione del colesterolo HDL, aumento dei trigliceridi, promozione dell'insulino-resistenza, alterazione del metabolismo lipidico e bilancio delle prostaglandine in senso pro-trombotico [28], induzione di risposte pro-infiammatorie e di attivazione endoteliale. La frutta secca, inserita solo nel pattern dieta M, ha anch'essa influenzato le variazioni percentuali dei livelli sierici di colesterolo LDL e HDL durante il follow-up, come già dimostrato in letteratura scientifica: il suo consumo in piccole quantità è una caratteristica della dieta mediterranea degli anni '60 con una significativa associazione inversa con il rischio di malattia coronarica. Il meccanismo attraverso il quale la frutta secca può migliorare lo stress ossidativo con un aumento della resistenza delle LDL all'ossidazione, è rappresentato dall' elevato contenuto in antiossidanti, (fenoli e tocoferoli) localizzati nella pellicola del guscio esterno, PUFA e MUFA.

Gli effetti del consumo di questi alimenti sono stati osservati e analizzati in diversi studi scientifici e risultano essere dose-dipendenti [28].

Al fine di quantificare la capacità che ha un alimento di promuovere la crescita degli ateromi a livello endoteliale in arterie e arteriole, è stato introdotto dal Dipartimento di Nutrizione Clinica e metabolismo lipidico dell'Università dell'Oregon l'indice di aterogenicità [40]. Si calcola per 100 gr di alimento con la seguente formula:  $(1.01 \times \text{g ac. grassi saturi}) + (0.05 \times \text{mg colesterolo})$ .

L'aterogenicità di un alimento dipende soprattutto dalla concomitante presenza di elevate quantità di colesterolo ed acidi grassi saturi, ed in particolare dalla concentrazione di questi ultimi. Sono da consumare quelli con indice CSI (Cholesterol Saturated Fat Index) inferiore a 10 (figura 6).

In questo trial per il pattern dieta M, abbiamo seguito le indicazioni favorevoli all'uso di carni bianche (pollame, ovini, suino magro), di pesce. I formaggi sono in gran parte sconsigliati per il loro alto contenuto sia in grassi saturi che in colesterolo. Sono permessi latte, yogurt parzialmente scremati o formaggi scremati. Il consumo di uova è stato limitato a 3 uova a settimana.

È bene sottolineare che non tutti i lipidi sono aterogeni, e che alcuni tipi di lipidi possono migliorare il quadro lipidico, come l'olio extravergine d'oliva (fig. 6)

È bene anche ribadire il ruolo protettivo degli antiossidanti nella prevenzione delle malattie degenerative fra cui l'aterosclerosi: le popolazioni con bassa incidenza di coronaropatie ed altre patologie cardiovascolari sono anche quelle in cui è elevato il consumo di frutta, verdura e vino rosso, alimenti che forniscono un elevato apporto di composti ad alto potere antiossidante [22-34].

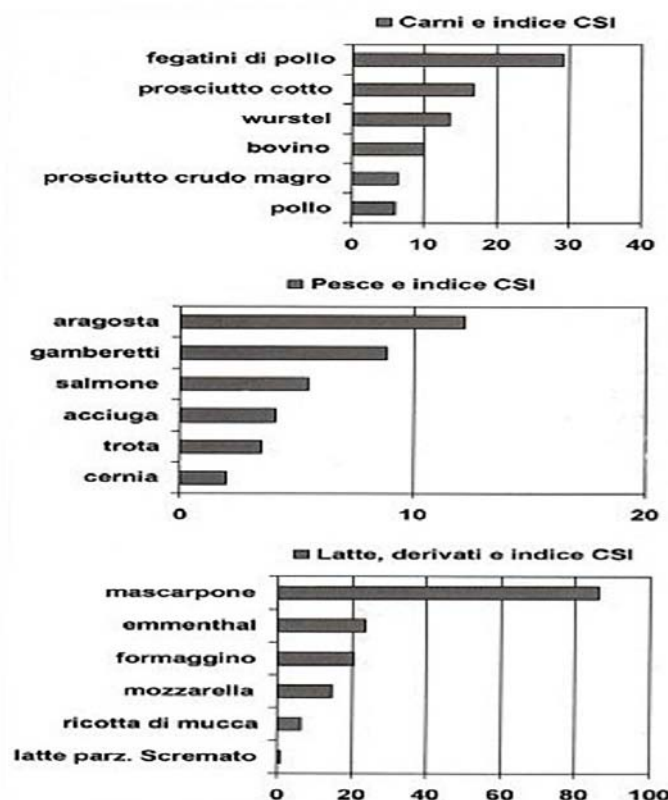


Figura 6: Potenziale ipercolesterolemizzante favorente l'ostruzione di vasi sanguigni INDICE CSI di alcuni alimenti.

Allo schema nutrizionale tipicamente mediterraneo corrisponde un CSI di circa 18 per 1000 kcal, valore da considerare molto buono. La dieta tendenzialmente iperproteica tipicamente occidentale, che prevede il consumo frequente di carne rossa a settimana, insieme ad altri alimenti iperproteici come il parmigiano, insaccati, uova, formaggi stagionati ecc., ha invece un indice CSI molto più elevato.

La dieta italiana è rimasta aderente al modello mediterraneo fino agli anni '60 circa; dopo si è assistito

ad un netto allontanamento dal profilo mediterraneo con un consumo di proteine vegetali sempre minore, sempre meno carboidrati, sempre più grassi, in particolare di origine animale. Diversi sono i punti deboli della dieta italiana attuale: troppe proteine animali, troppi grassi (animali e vegetali) a scapito dei carboidrati complessi (fig. 7).

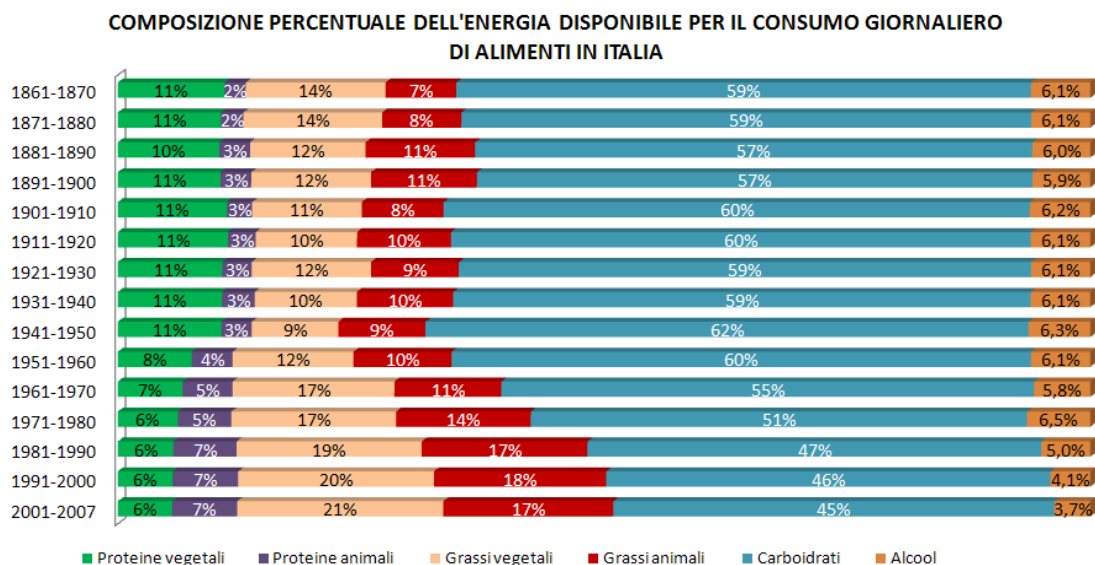


Figura 7: La disponibilità di alimenti in Italia: quanto ci si è allontanati dal modello della Dieta Mediterranea (Elaborazione INRAN su dati ISTAT e FAOSTAT, 2011).

La dieta mediterranea non è un programma dietetico, ma un vero e proprio stile di vita, con la caratteristica di utilizzare quantità abbondanti di ortaggi, cereali e frutta fresca, l'olio extravergine di oliva come principale fonte di grassi, il consumo frequente di pesce, poca carne e poco vino durante i pasti. Fra tutti i regimi alimentari del mondo, quello mediterraneo ha dimostrato di essere uno dei più sani [41]. Infatti il consumo assiduo di grassi saturi di origine animale all'interno di un regime dietetico prevalentemente proteico, è uno dei fattori di rischio più severi per l'accumulo di grasso viscerale e quindi di malattia cardiovascolare. La dislipidemia che si associa all'obesità viscerale è caratterizzata da: aumento della concentrazione plasmatica di trigliceridi, presenza di lipoproteine a bassa densità in prevalenza più piccole e dense del normale, marcatamente aterogene, bassi livelli di colesterolo nelle lipoproteine ad elevata densità. Tale fenotipo lipidico è sovente associato a placche ateromasiche instabili e ad un marcato aumento dei markers di infiammazione [42], da cui la necessità di instaurare terapie farmacologiche e parafarmacologiche [43] volte alla correzione degli alterati assetti lipidici.

L'alimentazione è uno dei fattori che maggiormente incidono sulla nostra salute in modo diretto e indiretto [44], sullo sviluppo, sul rendimento e sulla produttività delle persone, sulla qualità della vita e sulle condizioni psico-fisiche. Ma soprattutto una dieta corretta può divenire un validissimo e prezioso strumento di prevenzione e di trattamento per numerose patologie.

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# Rapid Need Assessment of District Srinagar, Post September 2014 Floods

By Sheema Samreen, Muzamil Hassan & S. M. Salim Khan

**Abstract- Introduction:** Natural disasters are common worldwide and cause huge damage. Floods are among frequent natural disasters. Torrential rainfall due to the combined effect of western disturbances and monsoons led to floods in September 2014 in Jammu and Kashmir.

**Objective:** This cross-sectional descriptive study was conducted in District Srinagar 45 days after floods. It was a rapid need assessment done for assessing the health and safety needs of the population.

**Methods:** 30 x 7 cluster sampling based on the Community Assessment for Public Health Emergency Response (CASPER) methodology was used to select seven households from 30 census blocks using two-stage sampling. Data collection was done on demographics, damage, preparedness and needs.

**Results:** Total of 210 households were surveyed. Vulnerable population was present in about 48% (CI: 41% - 55%) of households, 82 % (CI: 76%-86%) had a member who was on prescribed medication especially for non-communicable diseases and 9% (CI: 4%-13%) lacked weeks supply, 59% (CI: 46%-72%) had evacuated the house, 3% houses were destroyed (-0.06-5.8%) and most common need expressed was financial help by 42% (CI: 30%-55%).

**GJMR-K Classification:** NLMC Code: WA 295



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# Rapid Need Assessment of District Srinagar, Post September 2014 Floods

Sheema Samreen <sup>α</sup>, Muzamil Hassan <sup>σ</sup> & S. M. Salim Khan <sup>ρ</sup>

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**Conclusion:** Rapid need assessment helped in data collection in a short period of time during disaster and can help authorities to plan for future and risk mitigation.

## I. INTRODUCTION

Natural disasters are common worldwide and threaten the life of people. Globally, flood is the most frequent and exorbitant disasters (1) (2) (3). Assessment of needs of affected people following disasters is a first line public health response for designing and prioritization of emergency policy. (4) (5) Rapid need assessments (RNAs) are first tool of survey following disasters which steer response efforts to emergencies especially in the recovery phase. (4) (5) The Centers for Disease Control and Prevention (CDC), Atlanta developed a toolkit known as Community Assessment for Public Health Emergency Response (CASPER) for RNAs in 2009 so that on time, valid and economic position of current household-based public health needs could be ascertained during disasters. (4) (6)

Kashmir Valley is prone to floods because of its geographical location and topographical features as has been witnessed in past. (7) The state of Jammu and

Kashmir witnessed one of the devastating floods of history in the September 2014 which affected about million people directly. (8) (9) The relentless rainfall for five days caused by the combined wrath of western disturbances and monsoon in the state of Jammu and Kashmir led to flooding of Jhelum River. (4) (7) (8) The flood affected both urban and rural areas, submerging about 2600 villages, completely or partially, and larger part of the capital city Srinagar city. The flood caused massive damage not only to infrastructure, roads, and communication but even to some of major tertiary hospitals. (4) (9) In some parts of Srinagar which were low-lying the water receded after a month. (7)

So keeping above facts into mind this study was undertaken 45 days after floods using CASPER toolkit with the main aim of assessing the impact of floods on health, needs of population besides assessing public health response after floods.

## II. METHODOLOGY

This was a cross-sectional study done after 45 days of floods from 20 October, 2014 to 25, October 2014 in the city of Srinagar. As per census 2011 the population of Srinagar city consists of 1,236,829 people and 188,645 households. The study was done as per the protocol given by CASPER toolkit which uses 30 x7 two – stage cluster sampling methodology with design effect “2” for collection of relevant data on the health status and basic needs at household level.

In order to select the desired 210 households for the study the methodology as described by CASPER toolkit was followed. In first stage, line listing of all housing units within 2011 census blocks of Srinagar was done and then 30 clusters were randomly selected by probability proportional to size. In second stage, household was selected for interview by going to center of the selected cluster and then moving in a random direction which was decided by spinning a pen. The direction of the pen was followed to interview every 10<sup>th</sup> household until the required seven households were selected for the study.

The data was collected by five teams with two members each in the team who had received training on data collection. A modified questionnaire used for data collection was prepared from the CASPER question bank.

The questionnaire captured information regarding domains such as demographics, functional

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needs, post-flood damage and repair, supply needs, emergency preparedness, concerns about injuries and illnesses, communication and needs.

After entering the household, explaining the objectives of the study and obtaining verbal consent from head /family member (>18 years) a detail interview was done for data collection.

The data was entered and analyzed in Epi – Info 7 software. The data analysis was done using households as units of analysis. Then weighted proportions were calculated using mathematical weight for probability of selection of each interviewed household using formula:

“weight” = “total number of housing units in sampling frame”/number of housing units interviewed within clusters x number of cluster selected

Using the weighted proportions, estimated projections and confidence intervals (CI) were calculated after taking in account the differences within and between the clusters.

Furthermore, contact rate and completion rate of interviews were also calculated by dividing the completed interviews by the total number of households where contact was attempted, and by dividing the number of completed interviews by the number of interviews conducted.

### III. RESULTS

*Table 1:* Demographic Characteristics and Health Needs of Households

Vulnerable Population in Household	Projected Frequencies	Projected Percentages	Confidence Interval	Design Effect
Pregnant Women	8984	4.76%	1-8.524	1.572
Lactating Mother	36830	19.52%	13.26-25.783	1.256
Children < 5 Years	76357	41%	34.35% - 47.65%	1.2
Elderly > 65 Years	89831	48%	41.24% - 54.76%	1.67
Locomotor Disability	6289	3.33%	1.060-5.607	0.808
Blind	2694.9	1.43%	-0.705-3.562	1.629
Deaf	8085	4.29%	0.828-7.743	1.468
On Regular Prescribed Medicines	153611	81.43%	75.899-86.958	1.019
Hypertension	113187	60.00%	32.380-67.620	1.219
Hypothyroidism	46712	24.76%	17.091-32.433	1.591
Diabetes Mellitus	58391	30.95%	25.003-36.902	0.834
Asthma	6289	3.33%	1.06 – 5.60	0.808

*Table 2:* Functional Needs, Damage and Repair during Floods

Variables		Projected Frequencies	Projected Percentages	Confidence Interval	Design Effect
Evacuated house during/before floods		111391	59.05%	45.720-72.375	3.7
Place of evacuation during floods	Friends/relatives	79052	70.97%	59.680-82.255	2.354
	Others	18865	16.94%	7.590-26.281	2.354
	Shelter	13475	12.10%	2.856-21.337	2.354
Damage to home	Minimal/none	91628	48.57%	35.904-61.239	3.236
	Damaged but habitable	73662	39.05%	28.179-49.916	3.236
	Damaged and inhabitable	17967	9.52%	4.636-14.42	3.236
	Destroyed	5390	2.86%	-0.069-5.784	3.236
Feel that house is NOT safe for living		42221	22.38%	14.733-30.025	1.696
Insurance of house		10780	5.71%	1.167-10.261	1.933
House surveyed for damage assessment		7187	3.81%	0.700-6.919	0.996
Compensation paid for damage to house		1797	0.95%	-0.399-2.304	0.996
Moldy musty odor		101509	53.81%	42.129-65.490	2.767
In need of any assistance for house	Cleaning up the House	66475	35.24%	24.409-46.067	2.58
	Repair of house	97916	51.90%	39.022-64.788	3.349

Table 3: General Utilities, Supplies and Relief

Variables	Projected Frequencies	Projected Percentages	Confidence Interval	Design Effect
No Electricity	4492	2.38%	-0.070-4.832	1.302
No Tap Water	899	0.48%	-0.492-1.444	0.996
No Food For Next Three Days	4492	2.38%	0.364-4.398	0.882
No Accessible Toilet	13475	7.14%	3.010-11.275	1.76
Received Relief Water	60187	31.90%	19.487-44.323	3.575
Received Relief Food	1068989	56.67%	43.125-70.209	3.762
Weeks Supply Of Prescribed Medicine	17069	9.05%	3.773-14.322	1.094

Table 4: Emergency, Preparedness, Communication and Needs

Variables	Projected Frequencies	Projected Percentages	Confidence Interval	Design Effect
First Aid Kit At Home	17967	9.52%	4.005-15.042	1.780
Emergency Preparedness Kit	29643	15.71%	7.109-24.320	2.816
Chlorine Tablets No	140137	74.29%	65.39-83.192	2.087
Message To Boil Water	161696	85.71%	79.678-91.750	1.49
No Working Mobile Phones	2695	1.43%	-0.384-6.098	1.907
Sought Medical Care	106001	56.19%	44.944-67.437	2.588
Experienced Anxiety	76357	40.48%	30.169-50.784	2.221
Immediate Needs	Financial Help	79950	42.38%	30.256-54.504
	No Need	39526	20.95%	12.361-29.544
	Basic Commodities	14373	7.62%	3.078-12.161
	Ration	17967	9.52%	4.098-14.949

In this study 213 households were contacted and 210 interviews were completed giving contact rate of 98.5% and completion rate of 100%.

In this study demographics revealed that there was vulnerable population in the households such as elderly, children less than 5 years, lactating mothers, pregnant women and persons with serious difficulty in hearing, blindness and locomotor disability. Regarding health status about 81.43% (153611) households were found to have at least one member who was on regular prescription medications for non-communicable diseases Emergency, Preparedness, Communication and Needs. Majority (60%) were taking prescription medicines for hypertension followed by diabetes mellitus 30.95%, 24.76% for hypothyroidism and 3.33% for asthma. (Table 1)

Table 2 reveals that about 59.03 % (111391) had evacuated there house during or before floods and majority (71%) had moved to friends or relatives home. About 12% of houses were significantly damaged and 22.38% felt that it was not safe to live in their houses. About 6.1% were not residing in their homes at the time of survey. Only 5.7% of households were insured and compensation was paid to less than 1% of households.

This study also showed that more than 50% of houses had musty or moldy odor while as about 75% of households which had evacuated house during floods required assistance for repair .(OR: 9.3; CI4.9-17.7).

The table 3 shows that that even after 45 days of flood basic amenities like food, water and electricity were lacking in some households and about 4492 households lacked food for next three days and just

17068 households had weekly supply of prescribed medicines.

Table 4 shows although almost 75% of households didn't have chlorine tablets but 100% of the households in the region consumed boiled water as a routine practice in the region. Communication services of mobile network were restored in most of the areas but was lacking in about 1.5 % of households. 51% of the households had sought medical treatment during floods. The majority of the households had visited local health camps mostly for the ailments of cough, fever and diarrhea. About 41% of households reported increased anxiety among at least one family member. Anxiety was more among those who had evacuated the house (OR=1.75, p =0.5)

While assessing the immediate need at the time of study overall, 43% (79950) households expressed need of financial help followed by no need (21%) and need for basic commodities -including ration (17%). While comparing the immediate needs of evacuated households with that of non evacuated, 53.26% had a need of financial help, 17.2% had need for and 11.29 % had no need vis –a vis 26.4%, 17.56 and 26.74% of latter households.

#### IV. DISCUSSION AND CONCLUSION

The cross-sectional study was done after 45 days of Kashmir floods in September 2014, in order to assess the immediate needs of the households of district Srinagar. Rapid need assessment surveys are useful to collect timely data in a short period of time. The CASPER methodology by CDC was used in India for the first time during Kashmir floods by rapid assessment



team from National Center for Disease Control, New Delhi three weeks after the floods (4).

This study found that vulnerable population was present in most of the household's. The vulnerable population has special needs and during disaster care ought to be taken for protection of health and prevention of malnutrition after floods. It was also seen that 80% of the population was on prescribed medicines especially for the non-communicable diseases. Chronic diseases get exacerbated during disasters and can contribute to mortality (10). Non-communicable diseases (NCD) are leading cause of mortality worldwide so disaster preparedness and response needs to have a provision for management and treatment of NCDs. (11) (12)

The study revealed that more than half of the population had evacuated their households and about similar number of households were damaged, though most of these were habitable. In this study it was found that majority of houses had a moldy or musty odor which is common after floods and have been reported in studies done in America after Hurricane like Katrina but can be dangerous to the inmates and cause serious health effects if not taken care off on time.(13)

In this study it was revealed that even after one and a half month post floods households lacked basic commodities like food, water and electricity. Although reports reveal that huge supplies and commodities were procured by the government and non-government agencies, the study shows that supplies were not distributed in a proper way and post flood measures were not up to mark (14). There was also shortage of prescribed medicines in the households which is similar to findings of other studies and signifies the importance of disaster preparedness as stressed by United Nations in the Sendai Framework for Disaster Risk Reduction 2015-2030 (4) (15).

As documented by other rapid need assessment studies done after disasters worldwide, this study also revealed that there was increase in the mental health symptoms such as anxiety, nightmares ,agitation or depression among household member after floods (4) (16) (17) (18).

Lastly this CASPER tool helped to assess the immediate needs of the households at the time of study. The data can help in further planning and future disaster management strategy of the state for risk mitigation and post flood rehabilitation.

The strength of this study lies in the fact that useful and large set of data was collected in short period of time, which will help the state for framing future policy for disaster management.

Limitation of the study is that most of the questions of this study were self – reported and verification couldn't be done. Also sampling and analysis was done on the basis of households and not on individual level.

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## Procreation – Is it only the DNA? Origin of the Races

By Maria Kuman

**Abstract-** This article discusses procreation and provides scientific evidence that procreation involves not only the DNA. When all the DNA was removed from an unfertilized tadpole cell and then with special equipment information projected from a fully developed tadpole – a tadpole developed. Obviously, information for the development of a fertilized cell into an embryo exists. The type of field created by the special equipment was nonlinear electromagnetic field (NEMF) and this is the weak (informational) field the author of this article measured for almost 40 years. (The weak (informational) electromagnetic field must be nonlinear not to dissipate). The idea that such informational field must exist can be traced back to Aristotle and was vigorously supported by the renowned biologist Rupert Sheldrake who called it “morphogenetic field”. More scientific findings prove the presence and existence of such informational field (NEMF). Based on DNA studies of the human genes, the author claims that the different appearance of different races came from adaptation to the different climate of different places on planet Earth.

**Keywords:** *procreation; procreation and informational field; morphogenetic field; nonlinear electromagnetic field; our quantum computer.*

**GJMR-K Classification:** *NLMC Code: QU 58.5*



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# Procreation – Is it only the DNA?

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Maria Kuman

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### I. INTRODUCTION

The renowned biologist Dr. Rupert Sheldrake, Chief of Laboratory for Biochemical Molecular Studies in Cambridge, UK, postulated that there should be a “morphogenetic field” containing information about the final shape of the embryo, which guides its development. He did this to explain how an egg cell develops into three-dimensional structure. However, trials to measure the “morphogenetic field” failed [1] and I know why they fell. I developed and patented equipment that allows me to measure this weak NEMF. The currents of it are 1,000 times weaker than the biocurrents of the body. It is informational field, which rules and regulates everything in the body through the information it carries, not through energy.

“Morphogenetic fields” exist in crystals, too, and rule the growing of the crystals. Also, the fact that once the monkeys in one island learn to wash the sweet potatoes before to eat them, the monkey on adjacent islands started doing it too, means that there is a wireless communication between them. Paul Davis in his book *The Cosmic Blueprint* [1] writes: “The nature of morphogenetic fields is completely mysterious from the

view point of physics.” After I have spent 40 years of my life measuring it, I can tell you there is nothing mysterious in it – it is a nonlinear electromagnetic field (NEMF), but it is weak.

Being nonlinear means that this field does not dissipate with time and it can pass through obstacles (walls or doors). Seeing with the mind is done through this NEMF. It allows us to see regardless the distance (in space or time) or existing obstacles on the way. It is three-dimensional holographic vision [2]. If the so-called “morphogenetic field” carries information about the final three-dimensional shape of the embryo and guides its development, it must be able to carry three-dimensional holographic image of the embryo. Three-dimensional holographic images are created with laser waves, and the waves of the weak informational NEMF are able to do this.

The idea of existence of such field can also be found in ancient Greece in the teaching of Aristotle. Aristotle believed that the development and functioning of living organisms is guided and controlled by a global plan, which guides the body to a designated end. He extended this philosophy to the cosmos as a whole. “The whole Universe was created as a gigantic organism unfurling in a systematic and supervised way toward its prescribed destiny.” [1]

### II. IS IT ONLY THE DNA?

Scientists found that if one of the spirals of DNA is damaged or part of it missing, it will be restored within two hours through comparison with the existing whole spiral. However, recent studies [3] found that even when both spirals are damaged or parts of them missing, they will be restored. There is no explanation how, but there should be something carrying the whole information.

Also, Russian scientists found that when from an unfertilized egg the entire DNA, which carries the hereditary information, was sucked out, and then with a torsion generator information introduced from an already developed ted-pole - a ted-pole developed with all its parts [4]. Therefore, not the DNA, the primary factor in the procreation is the information carried by the weak NEMF.

And this information is what restores the DNA when both spirals of DNA are damaged or missing. Who carries this information? The author of this article, after measuring the human nonlinear electromagnetic field (NEMF) for almost 40 years, claims that the weak

nonlinear electromagnetic field (NEMF), which rules and regulates everything in the body, carries all the information necessary for the procreation.

### III. THE JOKE WITH DR. WATSONS

Dr. Watson, who took Nobel Prize with Dr. Crick for revealing the double helix structure of DNA, married an 18 years-old female student 13 years later. She was 20 years younger than him and she married the genius Watson to have genius children. What a bad joke. The first son was diagnosed with manic-depressive schizophrenia; the second was normal, but not genius in any way. Maybe, indeed it is not only the DNA that makes procreation to happen.

### IV. DNA AND NEMF

It seems that when the weak NEMF (that carries the information) enters an ovarian cell, the fertilization is considered successful and the procreation can start. The material DNA is not enough for the procreation to takes place. Thus, the three-dimensional future individual is synthesized under the NEMF guidance. Maybe, this weak NEMF is the so-called Spirit - all religions teach that we are material body and Spirit.

How weak is this NEMF? As said, it is 1,000 times weaker than the biocurrents of the body. The author had to develop supersensitive equipment to be able to measure it. Since this NEMF is too weak to be measured with existing equipment, the scientists deny its existence. Another reason to deny its existence is – it is stored in the Subconscious and we don't have conscious awareness of it.

The waves of this weak NEMF (called Spirit) are basis of the operating in the Subconscious Quantum Computer, which from the Subconscious rules and regulates everything in the body. From hypnosis, which puts the conscious to sleep and allows access to the Subconscious, we know that our Subconscious Computer (when the Conscious is shut off) does calculations 10,000 times faster than our Conscious.

This makes the Quantum Computer of the Subconscious supercomputer because it works with waves, which are much faster. These are the waves of our NEMF and they make the speed of processing of our Quantum Computer 10,000 times faster than the calculations done in our Conscious. Since our Conscious works on biochemical basis and our digital computers work on chemical basis, this makes our Conscious Computer a Digital Computer.

Since the Quantum Computer operates with waves, it can connect us to the Universe, it can connect us with each other (telepathic connection), and it can connect us (telepathically) with animals and plants. We are body and Spirit (NEMF) and the more spiritual we are, the higher is the frequency of our NEMF [2] and easier it is to get in touch and use the Quantum

Computer of our Subconscious, which works with the waves of our NEMF (called Spirit).

### V. DR. WATSON RACIST STATEMENTS

Let us go back to Watsons. Why was such a bad joke played to Watsons? It was to show them that DNA is not everything. As we showed in the article [6], we are Body and Spirit, and the Mind and intellect come with the Spirit (the NEMF), not so much from the DNA.

Unfortunately, Dr. Watson didn't get it. Watson later made racist statement that the Africans are lower grade people because their IQ tests are lower. Black people got offended and ascribed this to environment (not DNA) and they were right. We are going to show in this article how the races developed based on DNA studies, only. And this will prove that there is no place for racist statements.

### VI. WHAT DNA STUDIES SAY ABOUT THE ORIGIN OF RACES?

Three Italian genetic specialists L. L. Cavalli-Sforza, P. Menozzi, A. Piazza were paid by UNESCO for 17 years to travel all over the planet, study the human genes, and map them. They did and they publish their results in the book *History and Geography of the Human Genes* [6].

Since the dark-skin Africans have the same features (dark skin and small-curly hair) as the Australian aborigines, the genetists expected to find common genes in both populations regardless how far these places are. However, their genetic studies [6] did not find any common genes between the Africans and the Australian aborigines – none, whatsoever.

They publish their results without comments. However, since both populations live at the same geographic latitude, obviously when adapting to its tropical hot climate, they developed the same features – dark skin and small curly hair. The Ethiopians of East Africa have the same dark skin and small curly hair as the Australians and the West Africans because they live at the same hot tropical climate.

However, if the Ethiopian facial features are different from these of the West Africans, it is because one of the Ethiopian tribes, Oromo, came from the Pacific, as Ethiopian ancient texts say. However, living at the equatorial hot tropical climate for many thousands of years, when trying to adapt to it, they acquired the same dark skin and small-curly hair.

Let us, now, take as an example the Mongoloid race. The Eskimo, who live far to the north, have the same slanted eyes as the Mongoloid race. Probably, the slanted eyes were developed as adaptation to the strong reflection of the sun light from the snow. With time, some of these northern tribes moved south to present day Mongolia, China, Korea, Japan, but the slanted eyes stayed with them.



Let us, now, take as an example the white race. They lived at latitudes between the northern Eskimo and the southern black race. And when adapting to their environment with less sun and cold winters, they developed the features that are specific for them – white skin and narrow nostrils to decrease the flow of cold air.

Thus, I truly believe that there was one prototype of humans on Earth at the beginning. *The different races developed when adapting to the dramatically different climates of different areas and we have genetic studies to prove it [2].*

## VII. CONCLUSION

Considering the above, racial discrimination does not make any sense because we are the same people. If some of us look different, it is because their ancestors lived at different geographic latitude for thousands of years and adapting to these conditions they developed different appearance.

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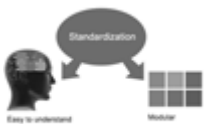
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Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

### **Tables, Figures, and Figure Legends**

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.



## Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

### PREPARATION OF ELETRONIC FIGURES FOR PUBLICATION

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

### TIPS FOR WRITING A GOOD QUALITY MEDICAL RESEARCH PAPER

**1. Choosing the topic:** In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

**2. Think like evaluators:** If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

**3. Ask your guides:** If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

**4. Use of computer is recommended:** As you are doing research in the field of medical research then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

**5. Use the internet for help:** An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



**6. Bookmarks are useful:** When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

**7. Revise what you wrote:** When you write anything, always read it, summarize it, and then finalize it.

**8. Make every effort:** Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

**9. Produce good diagrams of your own:** Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

**10. Use proper verb tense:** Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

**11. Pick a good study spot:** Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

**12. Know what you know:** Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

**13. Use good grammar:** Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

**14. Arrangement of information:** Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

**15. Never start at the last minute:** Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

**16. Multitasking in research is not good:** Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

**17. Never copy others' work:** Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

**18. Go to seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.

**19. Refresh your mind after intervals:** Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.



**20. Think technically:** Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

**21. Adding unnecessary information:** Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

**22. Report concluded results:** Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

**23. Upon conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

## INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

### Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

### Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

*The introduction:* This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

### The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

### General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

**To make a paper clear:** Adhere to recommended page limits.



### *Mistakes to avoid:*

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

### **Title page:**

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

**Abstract:** This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

*Reason for writing the article—theory, overall issue, purpose.*

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

### **Approach:**

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

### **Introduction:**

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.





*The following approach can create a valuable beginning:*

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.

#### **Approach:**

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

#### **Procedures (methods and materials):**

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

#### **Materials:**

*Materials may be reported in part of a section or else they may be recognized along with your measures.*

#### **Methods:**

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

#### **Approach:**

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

#### **What to keep away from:**

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.



**Results:**

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

**Content:**

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

**What to stay away from:**

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

**Approach:**

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

**Figures and tables:**

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

**Discussion:**

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."



Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

#### **Approach:**

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

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Topics	Grades		
	A-B	C-D	E-F
<b>Abstract</b>	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
<b>Introduction</b>	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<b>Methods and Procedures</b>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<b>Result</b>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<b>Discussion</b>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<b>References</b>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring



# INDEX

---

---

## **C**

Clairvoyants · 2

---

## **D**

Diarrhea · 25

---

## **H**

Hypocaloric · 9

Hypothyroidism · 24

---

## **I**

Immunkulus · 7

---

## **N**

Neuroimmune · 8

---

## **P**

Pathogenesis · 7, 9

---

## **S**

Serotoninerpic · 8

---

## **T**

Triglycerides · 9



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