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Melatonin to Reduce Death Toll Main Chromosomal Pathologies Highlights Saltiness Cognitive Threshold Test Results of the Sweet Taste Cognitive **Discovering Thoughts, Inventing Future** VOLUME 20 **ISSUE 8** VERSION 1.0

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## Results of 118 People Who Participated in the University Festival and Underwent a Saltiness Cognitive Threshold Test by using SALSAVE

By Akemi Ito, Mayumi Hirabayashi & Naomi Katayama

Nagoya Women's University

*Abstract-* To prevent hypertension, which is closely related to lifestyle, especially eating habits, it is necessary to reduce salt intake. Therefore, in this study, we performed a saltiness cognition threshold test for participants at the university festival and obtained the saltiness cognition threshold results for the general public. 94 % of participants could perceive salty taste when the salty taste concentration was 1.0 % or less. On the other hand, two participants could not perceive saltiness even at a salty concentration of 1.6%, a 67-year-old female, and an 82-year-old female. We would like to continue the saltiness cognition threshold test and collect the data of participants to clarify the saltiness cognition threshold for general people.

Keywords: saltiness test, cognition, threshold, SALSAVE, university festival.

GJMR-K Classification: NLMC Code: QW 640



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# Results of 118 People Who Participated in the University Festival and Underwent a Saltiness Cognitive Threshold Test by using SALSAVE

Akemi Ito<sup>a</sup>, Mayumi Hirabayashi<sup>o</sup> & Naomi Katayama<sup>o</sup>

Abstract- To prevent hypertension, which is closely related to lifestyle, especially eating habits, it is necessary to reduce salt intake. Therefore, in this study, we performed a saltiness cognition threshold test for participants at the university festival and obtained the saltiness cognition threshold results for the general public. 94 % of participants could perceive salty taste when the salty taste concentration was 1.0 % or less. On the other hand, two participants could not perceive saltiness even at a salty concentration of 1.6%, a 67-year-old female, and an 82-year-old female. We would like to continue the saltiness cognition threshold test and collect the data of participants to clarify the saltiness cognition threshold for general people.

Keywords: saltiness test, cognition, threshold, SALSAVE, university festival.

### I. INTRODUCTION

A standard2020, it hoped that the daily salt intake standard2020, it hoped that the daily salt intake should be 6.5g for females and 7.0g males. After five years, it expected that the desired intake of salt will probably change to below the international standard of 6.0 g per day. Reducing salt helps prevent various diseases. For example, High blood pressure, Kidney disease, and Heart disease <sup>1,2,3,4</sup>. For both young <sup>5</sup> and old people <sup>6,7</sup>, reducing salt helps maintain good health, and reducing salt education is effective <sup>8,9</sup>. Therefore, this study reports the result of the saltiness cognitive threshold test for people who participated in the university festival. Since this result can grasp the saltiness perception threshold of the general public, it will be a useful date for future salt reduction education.

### II. MATERIALS AND METHODS

#### a) Participants

The participants were 35 males and 83 females (10 to 80 years old) using a salt cognitive threshold test (SALSAVE: manufactured by Advantech).

#### b) Assessment of salt taste identification

The salty concentration was 0.2-0.6% in 6 levels by using SALSAVE. Participants put a filter paper impregnated with salt in their mouths to check the taste and told the inspector what it tasted. The inspector recorded the participant's answer. There were 118 participants, 35 males, and 83 females.

#### c) Ethical review board

This study conducted with the approval of the Ethics Committee (Nagoya women's university 'hito wo mochiita kennkyuu ni kansuru iinnkai'). The approval number is 30-14.

### III. Results

#### a) Saltiness recognition test result

There were 118 participants, 35 males and 83 females (to see Table 1). By age group, there were seven males in their '10s, seventeen in their '20s, six in their '30s, two in their '40s, one in their '60s, and two in their '80s. There were nine females in their '10s, 33 in their '20s, three in their '30s, six in their '40s, six in their '50s, seven in their '60s, twelve in their '70s, and seven in their '80s.

	10's	20's	30's	40's	50's	60's	70's	80's
Male (n=35)	7	17	6	2	0	1	0	2
Female (n=83)	9	33	3	6	6	7	12	7
Total (n=118)	16	50	9	8	6	8	12	9

Table 1: Participant gender and age composition (number of participants)

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The results using SALSAVE were as follows (see Table 2, Table 3, Table 4, and Table 5). There were 84 who could perceive saltiness at a salt concentration of 0.6%, 61 in females, and 23 in males. There were 25 who could perceive saltiness at a salt concentration of 0.8%, 16 in females, and nine in males. There were three who could perceive saltiness at a salt concentration of 1.0%, one in females and two in males. It evaluated that the salt concentration recognized as a light taste. There were four who could perceive saltiness at a salt

concentration of 1.2 %, three in females and one in males. Two women could not perceive even if the salt concentration was 1.6%.94 % of participants could perceive salty taste when the salty taste concentration was 1.0 % or less. Four participants were able to perceive saltiness with a salt concentration of 1.2%, and were 45-year-old male, 71-year-old male, 73-year-old female, and 81-year-old female. Two participants could not perceive saltiness even at a salty concentration of 1.6%, a 67-year-old female, and an 82-year-old female.

Table 2: Saltiness perception threshold (SALSAVE) results (number of participants)

	0.60%	0.80%	1.00%	1.20%	1.40%	1.60%	1.6%以上
Male (n=35)	23	9	2	1	0	0	0
Female (n=83)	61	16	1	3	0	0	2
Total (n=118)	84	25	3	4	0	0	2

Table 3: Saltiness recognition threshold test (SALSAVE) result judgment (number of participants)

	Normal	Observation	Consultation
	0.6%-1.0%	1.2%-1.6%	1.6%以上
Male (n=35)	34	1	0
Female (n=83)	78	3	2
Total (n=118)	112	4	2

Table 4: Saltiness recognition threshold test (SALSAVE) result judgment (%)

	Normal	Observation	Consultation
	0.6%-1.0%	1.2%-1.6%	1.6%以上
Male (n=35)	97.10%	2.90%	0.00%
Female (n=83)	94.00%	3.60%	2.40%
Total (n=118)	94.90%	3.40%	1.70%

Table 5: Breakdown of people whose salt cognition threshold test (SALSAVE) results are outside the normal range

0	Observation		Consultation
1.20%	1.40%	1.60%	1.6%以上
Male 45			Female 67
Male 71			Female 82
Female 73			
Female 81			

### IV. DISCUSSION

The fact that 94% of the participants could perceive saltiness with a low saltiness (1.0% or less) felt that the effect of health promotion in Japan, which had been enlightened about salt reduction for nearly 20 years, is manifested. On the other hand, two participants could not feel the salty taste even at a salt concentration of 1.6%, so we feel that it was better to continue enlightenment on salt reduction. There are good drugs on the market for hypertensives<sup>10</sup>, but we would like to enlighten people to eat a lightly salted diet to prevent

lifestyle-related diseases. In the future, we think it would be good to ask questions about eating habits, give advice on improvements, and continue to raise awareness about salt reduction.

### V. Conclusions

We reported the results of 188 people (35male and 83 female) who participated in the saltiness cognitive threshold test at the university festival. Ninetyfour percent of the participants were able to perceive saltiness with a low salt concentration (1.0 % or less). However, two of the participants could not perceive saltiness even at a high salt concentration of 1.6 %. We would like to continue the saltiness cognition threshold test and collect the data of participants to clarify the saltiness cognition threshold for general people. We believe that these results will be useful data for future guidance on salt reduction.

### Acknowledgements

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# Melatonin to Reduce Death Toll Due to COVID-19: From Innate to Adaptive Immune Response

By Jan Tesarik

Abstract- This paper highlights a new, nonspecific medication, which could be used both as a preventive and a curative measure to slow down the progression of Coronavirus disease 2019 (COVID-19) until a more specific treatment is available. The suggested treatment (immunomodulation) consists in the administration of melatonin, a substance shown to inhibit the innate (blind and usually harmful) immune response while facilitating the adaptive one, the only capable of fighting efficiently against the infection. In low oral doses, melatonin can be administered preventively to persons at risk and those already infected but still asymptomatic. High, intravenously administered doses may help critical patients under imminent threat of death. The combined use of both strategies will hopefully unblock the current overcharge of intensive care units by reducing new admissions and favoring healed patient discharge.

*Keywords:* melatonin, coronavirus, SARS-CoV-2, COVID-19 prevention, COVID-19 treatment, immunomodulation, innate immune response, adaptive immune response, unblocking ICUs.

GJMR-K Classification: NLMC Code: QW 640

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Keywords: melatonin, coronavirus, SARS-CoV-2, COVID-19 prevention, COVID-19 treatment, immunomodulation, innate immune response, adaptive immune response, unblocking ICUs.

### I. INTRODUCTION

Viruses of the Coronaviridae family are endemic in the human populations, responsible for 15-30% of respiratory tract infections each year. They usually cause common respiratory infections without lifethreatening complications.<sup>1</sup> Due to presumably spontaneous mutations, viruses some of the Coronaviridae family became resistant to the human immune defense and caused major, more or less geographically restricted outbreaks. Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV), between 2002 and 2003, followed by that of Middle Eastern Respiratory Syndrome Coronavirus (MERS-CoV), between 2012 and 2015, were both due to a mutated virus of the Coronaviridae family.<sup>1</sup> The current pandemic of Coronavirus disease 2019 (COVID-19), caused by a mutated Coronavirus of the same family, named SARS-CoV-2, is a kind of "déjà vu" in this respect. However, the rapid expansion of the contangion across the world, along with the high mortality in some populations, has brought COVID-19 into the focus of the current health concerns.

# II. What is Known and What can be Expected

The complete genome sequence of SARS-CoV-2 is now available and shares 79.0% nucleotide identity to SARS-CoV, and 51.8% identity to MERS-COV.<sup>2</sup> indicating a high genetic homology among SARS-Cov-2, MERS-CoV and SARS-CoV-2.1 From here ahead, an efficient vaccine might be available in a relatively short time. However, this time cannot be calculated with accuracy, and it is precious because people are dying, and the emergency services of many countries lack an adequate preparation for this unexpected situation. Intensive care units (ICUs) in most countries hit by COVID-19 pandemic suffered, or are still suffering, from problems of human resources as well as a shortage of material and equipment required for facing the current situation with adequate efficiency and safety. Hence, while waiting for the development of a specific treatment for COVID-19, all that we need is time.

### III. How to Gain Precious Time

Despite the supposedly promising preliminary results with a range of antiviral drugs, including the antimalarials chloroquine and hydroxychloroquine, the antiretrovirals lopinavir/ritonavir and other antivirals, such as oseltamivir, umifenovir, remdesivir and favipiravir, the global conclusion is that no proven effective therapies for SARS-Cov-2 currently exist.<sup>3</sup> There are two ways of gaining time required to alleviate the increasing pressure for ICUs. First, by the administration of highly efficient, though nonspecific treatments enabling the attenuation of COVID-19 symptoms to allow patients to leave ICUs as early as possible. Second, by using nonspecific preventive or disease-attenuating treatments in healthy persons at risk of contagion and in those already infected but still asymptomatic to reduce the entry of new patients into ICUs. Melatonin is not likely to be viricidal, but it has indirect protective actions against infection due to its anti-inflammatory, antioxidant, and immunomodulatory features (reviewed in Zhang et al.<sup>1</sup>). The data available today, though obtained with relatively limited patient populations, suggest a reduction of lifethreatening complications of different respiratory distress conditions, both those caused by viral infections, such as SARS,<sup>4</sup> MERS,<sup>4</sup> and Ebola<sup>5</sup> viruses, and those caused by other etiological factors, such as newborn asphyxia,<sup>6</sup> by intravenous administration of high doses of melatonin (Table 1).

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Disease	Years	Reported effects	Reference
SARS	2002-2003	Shift from innate to adaptive	Tan and Hardeland <sup>4</sup>
MERS	2012-2015	Shift from innate to adaptive	Tan and Hardeland <sup>4</sup>
immune response Ebola shock syndrome	2014-2016	Attenuation of hemorrhagic	Reiter et al.⁵
Newborn asphyxia	2015-2016	Improvement of long-term neurodevelopment	Jerez-Calero et al.6

*Table 1:* Summary of the main data supporting the potential of melatonin to attenuate symptoms of severe respiratory distress

The other way to act is to prevent or minimize the infection by SARS-CoV-2 with the use of relatively low daily doses of melatonin (5-10 mg administered orally). This strategy is supposed to avoid COVID-19 contagion and, if it has already occurred, to slow down the disease propagation until a specific treatment is available. In this way, ICUs will not be overwhelmed with an unexpected load of critical patients and will be able to manage patients with better selectivity and specificity, according to the particular condition of each of them.

Most of the deadly effects of COVID-19 infection are not caused directly by the virus, but rather by an inadequate immune response of the infected person. All the three genetically related coronaviruses, SARS-CoV, MERS-CoV, and SARS-CoV-2, cause a similar type of reaction in the infected organism: a repressed specific (adaptative) immune response, with hypo-albuminemia, lymphopenia, neutropenia and decreased percentage of CD8+ T cells. This reaction is accompanied by activation of the innate (nonspecific) immune response, leading to a marked increase in pro-inflammatory cytokines whose accumulation, referred to as "cytokine storm" eventually leads to apoptosis of epithelial and endothelial cells, vascular leakage, and abnormal T-cell and macrophage responses, which can cause the potentially life-threatening acute respiratory distress syndrome.<sup>1</sup> This pathogenetic mechanism is not unique to viral respiratory diseases. It plays an essential role in several other human pathologies involving а hyperactivation of the innate immune response, such as the neonatal hypoxic-ischemic encephalopathy.<sup>6</sup> It is just in this latter pathology where a recent randomized controlled trial has shown a significant improvement of long-term neurodevelopmental outcomes of the affected children with the use of high doses of intravenously administered melatonin (Table 1).6 The excellent tolerance and the lack of detectable side effects of melatonin are other arguments in favor of its preventive and curative use against COVID-19.

As compared to melatonin, most of the the recently tested antiviral drugs<sup>3</sup> show considerable toxicity, especially in patients suffering from other pathological conditions. The same applies to the use of

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corticosteroids, such as dexamethasone, which is currently going "viral". The use of corticosteroids in critical COVID-19 patients was first suggested by Mehta et al.7 to moderate the imminent risk of cytokinemediated hyper-inflammation detectable with the use of appropriate blood tests. However, a later study criticized this suggestion, pointing out that it would be hardly possible to make out the cause-effect relationship between this condition and the overall disease progression from a simple association between the two phenomena.<sup>8</sup> If the hyper-inflammation is а consequence of the host's failing defense against the infectious agent, rather than its cause, further weakening of the patient's immune response may have potentially fatal consequences.8 Hence, it sounds reasonable to use melatonin-mediated immunomodulation rather than corticosteroid-mediated immunosuppression, even in critical COVID-19 patients.

### IV. Is it Ethical to Wait for RCT Outcomes before we Start using Melatonin Against Covid-19?

For several decades there has been a consensus among physicians and clinical researchers that randomized controlled trials (RCTs) provide the most rigorous test to justify the application of new preventive, diagnostic and therapeutic interventions.<sup>9</sup> However, under certain conditions, waiting for definitive conclusions from RCTs before applying a new treatment in clinical practice may be questionable for practical and ethical reasons. From the ethical point of view, RCTs should not be conducted unless there is equipoisegenuine doubt about whether one course of action is better than another, so that it is not ethical to build a trial in which evidence suggests that patients in one arm of the study are more likely to benefit from enrollment that patients in the other arm.<sup>10</sup> This reasoning prevailed in the case of the outbreak of Ebola disease, six years ago, when WHO made an important statement concerning the necessity of RCTs before starting treatments. This crisis is so acute, WHO declared, that it is ethical to offer interventions with potential benefits but

unknown efficacy and side effects, though every effort should be made to evaluate benefits and risks and share all data generated.<sup>11</sup>

In my opinion, a similar approach should be adopted for the use of melatonin as a preventive and curative agent in the management of COVID-19. Concerning the above WHO declaration, melatonin lacks notable secondary effects, even at relatively high doses, is unexpensive and immediately available, and has several properties suggesting that it may be able to prevent the development of COVID-19 symptoms, decrease the severity of already present symptoms, and reduce the immunopathology of COVID-19 after the active phase of the infection is over, with particular regard to pulmonary fibrosis.<sup>12</sup> Adhering to the "First Do Not Harm" principle, it also has to be stressed that not only is melatonin harmless to human health, but it is beneficial, regardless of its highly probable, though not definitively proven, anti-COVID-19 action, namely as a potent antioxidant and modulator of cell signaling pathways controlling the development of different types of tumors, such as breast cancer, prostate cancer, gastric cancer, and colorectal cancer.<sup>13</sup>

### V. Conclusions

Given the above considerations, the treatment of critical patients by intravenous administration of highdose melatonin (up to 100 mg daily) may not only save their lives but also accelerate their discharge from ICUs, thus alleviating the current ICU overcharge. In cases of milder or asymptomatic COVID-19 infections, or as a preventive measure in persons at risk, oral administration of lower melatonin doses (5-10 mg) may attenuate the evolution of the disease and thus reduce the entry of new patients into ICUs. In countries in which the COVID-19 pandemic is still on the rise, the use of melatonin as a preventive measure and therapeutic agent against COVID-19 should be taken seriously into consideration, even before the availability of RCT outcomes to confirm its benefits. In particular, it should be considered as a preventive measure to protect older adults, pregnant women, health personnel, and other professionally exposed individuals.

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## Results of the Sweet Taste Cognitive Threshold Test of 38 Peoples Who Participated in the Sweet Teste Test using Teste-Disks at the University Festival

By Mayumi Hirabayashi, Akemi Ito & Naomi Katayama

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*Abstract-* Although sugar intake did not directly lead to diabetes, the results will vary depending on age, sex, individual differences, and the nature of sugar ingested. However, the change in blood glucose level and the accumulation of fat in the body cannot neglected about the sugar intake. Also, if the sweetness recognition threshold increases, the intake of sugar may increase. Therefore, the purpose of this study was to conduct a sweetness cognitive threshold test to understand the sensitivity of the general public to sweetness. The acceptable range (sugar concentration of 2.5% or less) was 25 out of 38 participants who recognized sweetness, 65.8% of the total. Two of the 14 male participants were unrecognizable even at the sweetest concentration of 80.0%. Females had better sweetness perception threshold results than males. In the future, we think it would be good to use a questionnaire to investigate the usual eating habits and compare it with the wetness cognitive threshold test results.

Keywords: sweetness test, cognition, threshold, test-disk, university festival.

GJMR-K Classification: NLMC Code: WD 200

# RESULTS OF THE SWEET TASTECOGNITIVE THRESHOLD TEST OF 38 PEOPLES WHO PARTIC IPATED IN THE SWEET TEST ETEST USING TESTED ISKS AT THE UNIVERSITY FEST IVAL

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# Results of the Sweet Taste Cognitive Threshold Test of 38 Peoples Who Participated in the Sweet Teste Test using Teste-Disks at the University Festival

Mayumi Hirabayashi <sup>a</sup>, Akemi Ito <sup>a</sup> & Naomi Katayama <sup>p</sup>

Abstract- Although sugar intake did not directly lead to diabetes, the results will vary depending on age, sex, individual differences, and the nature of sugar ingested. However, the change in blood glucose level and the accumulation of fat in the body cannot neglected about the sugar intake. Also, if the sweetness recognition threshold increases, the intake of sugar may increase. Therefore, the purpose of this study was to conduct a sweetness cognitive threshold test to understand the sensitivity of the general public to sweetness. The acceptable range (sugar concentration of 2.5% or less) was 25 out of 38 participants who recognized sweetness, 65.8% of the total. Two of the 14 male participants were unrecognizable even at the sweetest concentration of 80.0%. Females had better sweetness perception threshold results than males. In the future, we think it would be good to use a questionnaire to investigate the usual eating habits and compare it with the wetness cognitive threshold test results.

*Keywords:* sweetness test, cognition, threshold, testdisk, university festival.

### I. INTRODUCTION

he number of patients with diabetes is increasing year by year. Since the number of diabetic patients with complications is increasing, kidney dysfunction, advanced symptoms, and the number of patients requiring dialysis is increasing. As the national health burden in Japan has increased, maintaining national health insurance has become difficult. Therefore, in this study, we conducted a sweetness cognitive threshold test using a taste-disk on neighboring residents who participated in the university festival. Understanding this result can be used as data for future sweetness perception threshold tests. A sweetness cognitive threshold test performed on 38 people who participated in the university festival using TASTE-DISC.

### II. MATERIALS AND METHODS

#### a) Participants

Participants were 14 males and 24 females. Table 1 shows the distribution of the participant's gender and age.

	10's	20's	30's	40's	50's	60's	70's	80's
Male (n=14)	7	0	2	4	0	1	0	0
Female (n=24)	5	10	0	5	1	2	1	0
Total (n=38)	12	10	2	9	1	3	1	0

Table 1: Participants gender and age composition (number of participants)

#### b) Assessment of sweet taste identification

Participants were subjected to a sweet cognitive threshold test using TASTE-DISC (manufactured by Sanwa Chemical Laboratory Co., LTD). The sweetness test started from a light taste and tried a strong taste in order. The sweetness test starts form 0.3%, 2.5%, 10.0%, 20.0%, 80.0%. Participants put a filter paper impregnated with sweet in their mouth to check the taste and then answered to the inspector what the teste was. The inspector recorded the answers of the participants.

We also conducted a questionnaire survey on dietary habits. There are four questions, 1) Saliva secretion, 2) Taste perception, 3) Use of restaurants and commercial food, 4) Favorite salt taste of food (Table 2).

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	Question1	Question2	Question3	Question4
	Saliva secretion	Fee of the taste	Rrequency of purchase of restaurants and commercial products	The taste of the meal you usuallyu eat
1	Well secreted	Well feel	Almost every day	Strong taste
2	secreted	feel	4-5 times a week	Slightly dtrong taste
3	not secreted	not feel	2-3 times a week	Slightly light taste
4	so not know		once a week	Light taste
5			2-3 a month	
6			Hardly used	

Table 2: Questionnaire about subjective teste (Circle to applicable answer items)

#### c) Ethical review board

This study conducted with the approval of the Ethics Committee (Nagoya women's university 'hito wo mochiita kennkyuu ni kansuru iinnkai'). The approval number is 30-14.

### III. Results

#### a) Sweetness recognition test result

The age distribution of the participants was seven males in their'10S, two in their '30s, four in their '40s, one in their '60s, for a total of fourteen participants. The age distribution of the participants was five females in their 10s, ten in their '20s, five in their '40s, one in their '50s, two in their '60s, one in their '70s, for a total of 24 participants.

The cognitive threshold test result for saltiness was 0.3%, the lowest concentration, and fourteen (zero male and fourteen female) participants recognized saltiness. The cognitive threshold test result for saltiness was 2.5%, the second-lowest concentration, and eleven (six male and five female) participants recognized saltiness. The cognitive threshold test result for saltiness was 10.0%, the third-lowest concentration, and eleven (six male and five female) participants recognized saltiness (see Table 3).

Table 3: Sweetness perception threshold test (TASTE DISC) results (number of participants)

	0.30%	2.50%	10.00%	20.00%	80.00%	80.0%以上
Male (n=14)	0	6	6	0	0	2
Female (n=24)	14	5	5	0	0	0
Total (n=38)	14	11	11	0	0	2

The acceptable range (we call normal range) was 25 participants, 65.8% of the total. Only two participants could not feel the sweetness or feel only the

strong taste, 5.3% of the total (to see Table 4 and Table 5).

Table 4: Sweetness recognition threshold test (TASTE DISC) results judgment (number of participants)

	Normal	Observation	Consultation
	0.3%-2.5%	10.0%-20.0%	80.0%以上
Male (n=14)	6	6	2
Female (n=24)	19	5	0
Total (n=38)	25	11	2

Table 5: Sweetness recognition threshold test (TASTE DISC) t results judgment (%)

	Normal	Observation	Consultation
	0.3%-2.5%	10.0%-20.0%	80.0%以上
Male (n=11)	42.90%	42.90%	14.30%
Female (n=24)	79.20%	20.80%	0.00%
Total (n=35)	65.80%	28.90%	5.30%

As a result, 13 participants could not perceive the light sweetness. The age ranged from the teens to the seventies. Two participants could not recognize the sweetness at all (see Table 6).

Table 6: Breakdown of people whose salt cognition threshold test (TASTE DISC) results are outside the norma
range

Observa	Observation		ultation
10.00%	20.00%	80.00%	80.0%以上
Male 19			Male 45
Male 19			Male 45
Male 19			
Male 19			
Female 19			
Male 38			
Male 38			
Female 49			
Female 50			
Female 68			
Female 75			

### b) Questionnaire results

When asked about salivary secretion, 33 (11 males and 22 females) participants (86.8%) answered that saliva secreted well. When asked about the perception of teste, 24 (nine males and 15 females) participants (63.2%) answered that they knew the taste well. When asked about the frequency of eating out, most participants answered that they would use it 2-3

times a week. Two male participants said they were eating out every day. On the contrary, two participants answered that females rarely eat out. It turns out that males eat out more often than females. In response to questions about the usual seasoning of meals, 23 (seven males and 16 females) participants (60.5%) replied that they were eating rather heavily seasoned meals.

Table 7: Questionnaire survey items Question 1 (Saliva secretion)

	Very well	Well	Not good	Do not know	No a	nswer
Male (n=14)	11	0	0	0		3
Female (n=24	) 22	1	1	0		0
Table 8: Questionnaire survey items Question 2 (Taste perception)						
	Ver	y well	Well	Not good N	lo answe	er
Male (n	=14)	9	3	0	2	
Female (I	n=24)	15	9	0	0	
Table 9: Questionnaire survey items Question 3 (Use of restaurants and commercial food)						
every day	four or five times a week	two or three time	s a week once a weel	two or three times a month	Hardly used	No answer
Male (n=14) 2	4	6	0	0	0	2
Female (n=24) 0	0	12	4	6	2	0

*Table 10*: Questionnaire survey items Question 4 (Favourite food taste)

	Strong taste	rather strong teste	rather light teste	light taste	No answer
Male (n=14)	2	7	3	0	2
Female (n=24)	0	16	5	1	2

### IV. DISCUSSION

Participants ranged from 10s to 80s. Two male participants could not understand unless they had a high concentration of sweetness. It has reported that sweetness susceptibility changes in older <sup>1)</sup>, and stressed conditions<sup>2)</sup>. It also reported that sweets may be eaten too much during pregnancy 3) and quit smoking <sup>4,5)</sup>. It also reported that the threshold for sweetness may increase by eating a lot of sweets during childhood when the taste is created 6,7,8). From the results of this study, it was also found that males eat foods with a strong taste daily, because males use eating out more frequently than females. From these results, it found that a detailed questionnaire survey on dietary habits needed in the future. We would like to ask the participants in more detail about the sweetness of their everyday meals. Preventing diabetes will prevent many other related diseases. We would like to continue to educate people on low-sugar diets that can prevent postprandial hyperglycemia. In the future, we would like to continue to provide menus and recipes that have low sweetness, low sugar content, or high dietary fiber that moderates digestion and absorption.

### V. Conclusions

A sweetness cognitive threshold test performed on 38 people who participated in the university festival using TASTE-DISC. Females perceived sweetness at a lower threshold than males. Two of the 14 male participants were unrecognizable even at the sweetest concentration of 80.0%. In the future, we think it would be good to use a questionnaire to investigate the usual eating habits and compare it with the wetness cognitive threshold test results.

### Acknowledgements

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# Ethical Principles in the Face of the Main Chromosomal Pathologies

By Z. Boucif- Debab, F.Z. Elkebir, T. Sahraoui & A. Idder

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*Summary-* Belonging to a health profession requires an understanding of the ethical problems faced by its members. Chromosomal pathologies are very rare among live births; which does not give them priority for public health in developing countries, however these pathologies exist and can affect any family. The present study first describes patients with chromosomal pathologies in the population of western Algeria. The second step proposes to think about applying ethical principles to the practice of cytogenetics. We carried out a study by a triangulation of the sources of information: The study of files, the prospection in the international bioethical literature and the research in the authorized texts as well as the international instruments. This type of approach makes it possible to reflect on the border between ethics and law. Ethical reflection on this subject therefore appears essential to attract attention to these patients in order to give them a better place in our society.

Keywords: ethics, chromosome anomalies, chromosome pathologies, cytogenetics.

GJMR-K Classification: NLMC Code: QS 677



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# Ethical Principles in the Face of the Main Chromosomal Pathologies

Principes Éthiques Face Aux Principales Pathologies Chromosomiques

Z. Boucif- Debab °, F.Z. Elkebir °, T. Sahraoui ° & A. Idder  $^{\omega}$ 

Résumé- Appartenir à une profession de santé suppose une compréhension des problems éthiques auxquels sont confrontés ses membres. Les pathologies chromosomiques sont très rares parmi les naissances vivantes, ce qui ne leur donne pas la priorité de santé publique dans les pays en voie de développement, cependant ces pathologies existent et peuvent toucher n'importe quelle famille. La présente étude décrit dans le premier temps les patients attaints de pathologies chromosomiques dans la population de l'ouest algérien. Le second temps propose de réfléchir à appliquer les principes éthiques à la pratique de la cytogénétique. Nous avons procédé à une étude par une triangulation des sources d'information: L'étude de dossiers, la prospection dans la littérature bioéthique internationale et la recherche dans les textes réglementaires ainsi que les instruments internationaux. Ce type d'approche permet de mener une réflexion à la frontière de l'éthique et du droit. La réflexion éthique sur ce sujet paraît donc essentielle pour attirer le regard sur ces patients afin de leur donner une meilleure place dans notre société.

Summary- Belonging to a health profession requires an understanding of the ethical problems faced by its members. Chromosomal pathologies are very rare among live births; which does not give them priority for public health in developing countries, however these pathologies exist and can affect any family. The present study first describes patients with chromosomal pathologies in the population of western Algeria. The second step proposes to think about applying ethical principles to the practice of cytogenetics. We carried out a study by a triangulation of the sources of information: The study of files, the prospection in the international bioethical literature and the research in the authorized texts as well as the international instruments. This type of approach makes it possible to reflect on the border between ethics and law. Ethical reflection on this subject therefore appears essential to attract attention to these patients in order to give them a better place in our society.

*Mots clés: ethique, anomalies chromosomiques, pathologies chromosomiques, cytogénétique.* 

*Keywords:* ethics, chromosome anomalies, chromosome pathologies, cytogenetics.

### I. INTRODUCTION

'éthique se veut l'adaptation permanente des valeurs morales aux besoins d'une société permettant à celle-ci de garder son humanité notamment vis-à-vis des plus fragiles et des plus vulnérables [1]. L'Ethique clinique est centrée d'abord sur le patient; elle tient compte de sa situation médicale, de ses souffrances, de son histoire personnelle et familiale et de ses volontés. Elle s'occupe aussi des souffrances des soignants et des malaises institutionnels et elle tient également compte des principes et des valeurs sociales en cause afin d'éclairer la situation [2]. L'adhésion à autonomie de la personne, même si c'est un jeune enfant, bienfaisance et nonmalfaisance donnent à la décision médicale sa dimension éthique. Si le praticien de soins ressent de facon harmonieuse le respect de l'autonomie, la compassion bienfaisante et la crainte de malfaisance dans les gestes de diagnostic, son attitude est à la hauteur de l'impératif de justice qui est au fondement de l'éthique [3].

Dans le domaine de la génétique médicale, les pathologies chromosomiques sont diagnostiquées grâce aux études cytogénétiques qui permettent d'associer un certain nombre d'états pathologiques à une modification du caryotype [4]. Elles sont responsables d'une large proportion de maladies et constituent la principale cause des échecs de fécondation [5 - 6]. Elles sont également la première cause connue à la fois d'avortement spontané avec un taux de 50% au cours du premier trimestre de la grossesse et 20% pendant le deuxième trimestre. Après la naissance, elles affectent approximativement une naissance vivante sur 150 [7].

Bien que ces anomalies chromosomiques constitutionnelles soient fréquentes à la conception, leur rareté parmi les naissances vivantes ne donne pas la priorité de santé publique dans les pays en voie de développement. Les praticiens sont confrontés aux problèmes éthiques liés aux patients ainsi que leurs familles.

En Algérie, depuis son indépendance en 1962, à travers un engagement soutenu à la politique de santé publique, a fait des réalisations considérables dans l'amélioration de la situation de la santé dans le pays,

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l'article 54 de la constitution, reconnait à tous les citoyens ledroit à la protection de la santé [8]. Les mesures médicales relatives à la protection de santé ont été également établies [9]. La réglementation actuelle en matière de tests génétiques porte essentiellement sur les tests de filiation et les empreintes génétiques [10 - 11].

Nos objectifs dans la présente étude sont de décrire dans le premier temps les patients atteints de certaines pathologies chromosomiques dans la population de l'ouest algérien et le second temps de proposer de réfléchir à appliquer les principes éthiques à la pratique de la cytogénétique.

### II. Matériel et Méthodes

Nous avons fait une étude par une triangulation des sources d'information: L'étude de dossiers, la prospection dans la littérature bioéthique internationale [2–12] et la recherche dans les textes réglementaires algériens [9-13] et instruments internationaux [14-15]. Ce type d'approche permet de mener une réflexion sur les principales pathologies chromosomiques à la frontière de l'éthique et du droit.

Les étapes:

L'étude de dossiers: La première étape est une étude rétrospective de 2013 à 2015 sur les dossiers. Elle a été réalisée au laboratoire de recherche en génétique médicale appliquée à l'ophtalmologie, centre de référence spécialisé en cytogénétique conventionnelle post natale situé dans la wilava d'Oran. Nous avons répertorié tous les patients issus de la région de l'ouest algérien référés par les médecins exerçant dans les secteurs publics ou libéraux. Les paramètres étudiés ont été les principales anomalies chromosomiques et les principales pathologies. L'analyse des données a été effectuée grâce à Excel. L'investigation cytogénétique a été effectuée sur des cultures lymphocytaires de sang périphériques utilisant les techniques standards du caryotype et les formules chromosomiques ont été rédigées selon la nomenclature internationale An International System for human Cytogenetic Nomenclature 2013 (ISCN). Ont été exclus de cette étude les cas présentant une anomalie chromosomique acquise. Les procédures concernant la confidentialité ont été respectées selon les règles en vigueur en Algérie [16-17] et les règles d'Éthique et Santé qui engagent chaque membre de la communauté scientifique retrouvées dans la charte d'éthique et de déontologie universitaires (Avril 2010) et la charte éthique de l'Agence thématique de recherches en sciences de la santé (ATRSS) (février 2018). Ces modalités sont en sont en conformité avec le contexte international [18].

- La prospection dans la littérature bioéthique internationale: Les quatre principles formels applicables en médecine notamment le respect de l'autonomie des personnes, la bienfaisance, la nonmalfaisance et la justice ont constitué notre cadre méthodologique [2-12].
- La recherche dans les textes réglementaires algériens et instruments internationaux En matière de législation nationale algérienne, nous nous sommes référés à la nouvelle loi relative à la santé [9] et le code de déontologie médicale [13] ainsi que les instruments internationaux [14-15].

### III. Résultats et Discussion

Au cours de la période de notre étude, un total de 294 dossiers de patients issus de la région de l'ouest algérien a été répertorié. Parmi eux, 122 cas (41.49%) avaient un caryotype en faveur d'une une anomalie chromosomique. Ce résultat se rapproche de celui de Mokhtar au Maroc qui trouvait un taux de 38,7 % [19]. D'autres études [20-21] retrouvaient respectivement 32,2% et 28,9%. Les variabilités observées dans le taux d'une étude à une autre pourraient s'expliquer par les critères d'inclusion propres à chaque étude, le nombre de patients inclus et les méthodes cytogénétiques utilisées. La fréquence élevée dans notre etude pourrait également s'expliquer par le fait que les patients n'ont pas bénéficié d'un diagnostic anténatal vu l'absence de loi en Algérie autorisant l'interruption thérapeutique de grossesse en cas de mise en évidence d'une anomalie chromosomique en anténatal.

Le tableau I montre la fréquence des principales anomalies chromosomiques à l'origine des pathologies. Parmi les 122 cas présentant une anomalie chromosomique, 119 (40.47%) avaient une anomalie de nombre, 2 cas (0.68%) une anomalie de structure dont un patient présentant le syndrome de Down par translocation robertsonienne et le second, le syndrome de cri de chat. Nous avons également noté une grande fréquence d'anomalies des autosomes par rapport aux anomalies des gonosomes, cela pourrait s'expliquer par le fait que les anomalies des autosomes ont un retentissement phénotypique plus grave que les anomalies des gonosomes [7].

Le tableau II résume les principaux aspects cytogénétiques à l'origine des pathologies chromosomiques. Le syndrome de Down a été la pathologie chromosomique la plus fréquente avec 105 cas (35,71%), le syndrome d'Edwards a été observé chez un patient (0,34%) et lesyndrome de Turner a été confirmé chez 11 patientes (3,74) tandis que le syndrome de klinefelter a été mis en évidence chez seulement deux patients (0.68%). Ces résultats sont en accord avec les données de la littérature [7-22-23]. Le taux élevé de la trisomie 21 pourrait être attribué à la facilité des son diagnostic clinique, le taux faible de la trisomie 18 peut être expliqué par le fait que la plupart des foetus atteints sont avortés spontanément et aussi les nouveaux nés sont rarement viables à long terme, au maximum 1 à 2 mois en postnatal [24].

Tableau 1: Anomalies chromosomiques à l'origine des principales pathologies des patients de l'étude.

Type d'anomalie chromosomique et Pathologie	Nombre de cas	(%)
Anomalie de nombre	119	(40,47)
Anomalie de nombre des autosomes Syndrome de Down Syndrome d'Edwards	<b>105</b> 104 1	<b>(35,71)</b> (35,37) (0,34)
Anomalie de nombre des gonosomes Syndrome de Turner Syndrome de klinefelter Syndrome du triple X	<b>14</b> 11 2 1	(4,76) (3,74) (0,68) (0,34)
Anomalie de structure	2	(0,68)
Anomalie de structure des autosomes Syndrome de Down Syndrome de cri de chat Anomalie de structure des gonosomes	2 1 1	<b>(0,68)</b> (0,34) (0,34) -
Anomalie de nombre et de structure	1	(0,34)
Chromosomes marqueurs surnuméraires	1	(0,34)

Tableau 2: Aspects cytogénétiques des principales pathologies chromosomiques dans la population étudiée.

Pathologie chromosomique	Formule chromosomique	Nombre de cas	%
Syndrome de Down	47, XY, +21 47, XX, +21 46, XY,der (D;21) (q10;q10), +21	57 47 1	(19,38) (15,98) (0,34)
Syndrome d'Edwards	47, XY, +18	1	(0,34)
Syndrome de cri de chat	46, XX, 5p-	1	(0,34)
Syndrome de Turner	45, X 46, XX/45, X	6 5	(2,04) (1,70)
Syndrome de klinefelter	47, XXY	2	(0,68)
Syndrome du triple X	47, XXX	1	(0,34)
Chromosomes marqueurs surnuméraires	47, XX, + mar	1	(0,34)

Notre point de départ est donc la connaissance de la forme cytogénétique de la pathologie qui est indispensable pour le conseil génétique.

Le principe de l' « *autonomie* » met en évidence le droit à l'information précise du sujet, la garantie de son libre choix et le recueil de son consentement éclairé. Ainsi, le devoir d'information dans la pratique de soin est stipulé dans l'article 43 du code de déontologie médicale algérien [13] et l'article 23 de la loi relative à la santé [9] conformément au context international [25-26]. Dans le cadre des pathologies chromosomiques, le conseil génétique est indispensable pour protéger l'autonomie des couples et respecter leur droit à une information complète concernant la pathologie, le risque de récurrence dans la fratrie ainsi que les solutions possibles pour leur prise en charge. Le conseil génétique doit être nondirectif, culturellement adapté et conforme à l'intérêt supérieur de la personne concernée [27].

Le principe de la *«bienfaisance»* a trait à un objectif de la médecine, qui est d'améliorer la santé des populations avec la coopération volontaire de ces dernières. En Algérie, les measures visant à protéger la santé sont prévues dans le chapitre premier du titre II de la loi relative à la santé [9]. Le diagnostic d'une maladie chromosomique n'est effectué qu'en période post natale, ce diagnostic représente la première étape essentielle des soins à fournir aux patients, il permet d'une part de mettre fin à l'errance et d'autre part à envisager la possibilité d'une prise en charge adaptée. Identifier l'altération génétique représente un «impératif éthique» et une réponse à la revendication légitime des parents dans leur démarche d'accompagnement d'un enfant malade [28].

Le principe de la «Non-malfaisance», il est à l'origine du principe traditionnel en medicine qui est de « ne pas nuire», c'est-à-dire que le professionnel de santé a pour devoir de prévenir tout effet nocif ou, s'il ne peut l'éviter, le réduire au minimum [12]. En pathologies chromosomiques cette situation s'applique aux cas d'anomalies de structures héritées. Les membres d'une même famille partagent les mêmes gènes. L'éthique de la communication d'un risque génétique commence avec le devoir familial d'avertir et de protéger les members de la famille de tout mal. Lorsqu'il est demandé aux patients d'informer leur famille élargie, le professionnel doit se souvenir du droit des membres de la famille à la confidentialité et du droit de l'individu à la même confidentialité. Ces droits trouvent leurs fondements dans l'article 24 de la loi relative à la santé et les articles 36, 37, 38 et 39 du code de déontologie médicale [9-13] en accord l'article 7 de la Déclaration Universelle sur le Génome Humain et les droits de l'homme et l'article 14 de la déclaration internationale sur les données génétiques humaines [14-15]. L'article 9 de la déclaration universelle sur le génome humain et les droits de l'homme [14], stipule que « des limitations aux principes du consentement et de la confidentialité ne peuvent être apportées que par la loi, pour des raisons impérieuses et dans les limites du droit international public et du droit international des droits de l'homme ».

Le conseil génétique offre le choix de ne pas entreprendre une grossesse. Pour le professionnel de la santé, les enjeux majeurs sont la confidentialité ou le devoir d'information des membres de la famille présentant un risque génétique. Le prestataire est partagé entre le devoir de respecter le secret médical, qui le lie à la personne venue en consultation génétique et le devoir d'assistance vis-à-vis de ses apparentés. Plusieurs questions se posent: Qu'elles sont les conséquences sociales et psychologiques? Dans ce cas, si une prévention est possible, que faire? Le « conseil non directif » est- il approprié ?

Le principe de la «Justice», il correspond au devoir de traiter tous et chacun justement et équitablement il fait également appel à la notion de vertu et d'équité [12]. Ce principe est prévu dans l'article 21 de la loi relative à la santé [9]. Cependant, le principe de la justice exige que les services de diagnostic génétique soient disponibles. Un système de soins de santé national qui fournit des soins essentiels à tous, indépendamment du lieu d'habitat constitue une approche éthique.

### IV. Conclusion

Une personne particulièrement handicapée ne peut laisser personne indifférent quels que soient les priorités ou encore les circonstances. Les patients de la population de l'ouest algérien atteints de pathologies chromosomiques existent même s'ils ne sont pas importants en termes de nombre, ils demeurent des personnes vulnérables qui méritent une attention et une protection particulières en vertu de la loi et des principes éthique. L'application des principes éthiques aux services de génétique permet d'aider les personnes souffrant de ces pathologies à faire des choix éclairés et prendre de décisions dans le cadre de la famille.

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# The Impact of Fast Food on Our Life: A Study on Food Habits of Bangladeshi People

By Major Md Serazul Islam, psc

Abstract- Food is the basic need for human beings which, provides energy to the body and protects from diseases. Today, in our diet fast food is common. Fast food is such a type of food that is prepared and served very quickly, but fast food is less nutritious as compared to traditional foods. Fast foods are immensely popular among the younger generation due to commonly available, low cost and easy to carry, but fast food has a much adverse effect on human health. The present paper discusses the reasons for popularising fast food, disadvantages, and effect on human health. The studies showed that fast food contains a high concentration of saturated fat, high calories, and high content of sodium, which leads to overweight, cardiovascular diseases, heart stroke, and diabetic Mellitus. We should keep of the public (children and adolescents) about discouragement of fast food to minimize the life style disorders. This paper represents the prevalence of fast food consumption and identifies the causes of fast food habits along with its impacts on our health.

Keywords: health, junk food, consumption, lifestyle, fast food, obesity.

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# The Impact of Fast Food on Our Life: A Study on Food Habits of Bangladeshi People

Major Md Serazul Islam, psc

Abstract- Food is the basic need for human beings which, provides energy to the body and protects from diseases. Today, in our diet fast food is common. Fast food is such a type of food that is prepared and served very quickly, but fast food is less nutritious as compared to traditional foods. Fast foods are immensely popular among the younger generation due to commonly available, low cost and easy to carry, but fast food has a much adverse effect on human health. The present paper discusses the reasons for popularising fast food, disadvantages, and effect on human health. The studies showed that fast food contains a high concentration of saturated fat, high calories, and high content of sodium, which leads to overweight, cardiovascular diseases, heart stroke, and diabetic Mellitus. We should keep the public (children and adolescents) of about discouragement of fast food to minimize the life style disorders. This paper represents the prevalence of fast food consumption and identifies the causes of fast food habits along with its impacts on our health.

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### I. INTRODUCTION

ating food is essential for every person; it continues us alive and additionally gives us leisure at the same time. Food habit has been shifting over the historical periods. The phenomenon of fast food is growing in a fast pace. Fast food is any food quickly prepared and dished up, often at chain restaurants, and typically related to less expensive and less nutritious items. This food is a sort of massproduced food designed for commercial purposes. Fast food or junk meals is described as meals which contain a lot of fat and sugars, oils, salt, excessive-calories however, it has low nutritional value and quality. The common fast foods are chicken nuggets, burgers, and fried potato cutter, canned chips, pies, pizza, tender liquids, etc. At the outset, it is called fast food because it is easy to make and consume. Those ingredients are smooth to prepare and devour. Fast food is famous due to their simplicity of manufacture, gobble, their taste, etc., but fast food influences our lives in many aspects negatively.

The ingredients in fast food are low in nutritional value and have the best laying flat on it, inflicting an effect on the fitness of the person. Fast food incorporates an excessive degree of refined sugar, white flour, trans fat, and so on. Many people like fast food as it has a delicious flavor. Fast food has unique tastes as it lets in a solid bunch of spices that make it tasty. Furthermore, due to the fact many restaurants provide transport services, the food will become easier to get at any time. Since our life becoming busy day by day, so we are going for easily made food like fast food. As the swift way of life has come to be very busy, this now controls us at paintings and home at the identical time. Economic objective play a prime position in eating fast food. There are numerous motives why human beings eat fast food while they knew approximately its dreadful outcomes on their health and family. When people consume junk foods frequently, it precedes a person to an increased risk of obesity, cardiovascular disease, and many other chronic health conditions.

Fast food has many harmful effects having long term and quick terms. The contents of the fat have an excessive cholesterol level. Excessive-calorie content material with sugar can lead to weight problems. Cholesterol and salt can increase blood pressure, stroke, and heart disorder in the chain. Excessive salt can impair the functioning of the kidney too. Junk foods pose detrimental effect to health and deteriorate the health condition if taken regularly without providing any health benefits. We should avoid eating junk foods to enjoy full health and happy life all through life.

*Objectives of the Research:* The present research is undertaken with a view to

- Reflecting on the current practices on taking fast foods among the Bangladeshi people
- Identifying the common reasons for having fast foods
- Finding out the impacts of junk foods on health systems

#### a) Reasons for Fast Food's Popularity

Life Style The main cause of spreading fast food is the way of life which differs between the beyond and the current in lots of exceptional factors consisting of the rhythm of lifestyles which are divided into major styles: the frenzy styles and the sedentary style. The primary fashion is the rush style, which shows how people are busy and holds their time and manner of lifestyles as a consequence. In modern life every moment is considered valuable and important. As a result, everybody look for extra time to work, recreation, or

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family. One of the time-saving methods is to use fast food services, which offer lower prices than traditional cafes and restaurants.

*Time Factor* Time seems to be an dominant factor in choosing fast foods in our day to day life. The fast-food addiction is so excessive because of its simplicity. They're smooth to prepare and are very tasty. People prefer to eat them at the same time as looking television; they shape themselves many hassles and time while they're in a hurry consuming pizza and burgers as they are served at their doorstep warm and ready to ingest.

*Taste Factor* Fast food is popular because the food tastes good. The time constraint is one reason that pushes people to consume fast food, stupendous flavor additionally, to an extent that influences them to decide for on-the-spot meals. But fast ingredients get their flavor owing to regal usage of oils, salts, and sugar. Once they stuck on fast food addiction, they find it hard to reflect on consideration on the loss of nutrients because of rapid meals.

Fast Food Advertisement Advertising is a commonly applied marketing strategy to promote fast food products and to reach out to the wider public. The nature and extent of advertisement influence people for the consumption of fast food by which influence obesityrelated dietary behaviors in people. The key food marketing vehicle to reach children is television. Fastfood companies spend the bulk of their budget for publicity on it. The ad campaigns are not merely the straight type (hallway posters, free food tasting, and so on) but also involve indirect advertising (for example, including sponsors' logos on school materials).

*Transportation* Speedy food has a protracted shelf lifestyle and may not require refrigeration for most products like chips and wafer. The shipping of fast food is straightforward because of its packaging as compared to the person made meals. Ease of haulage and availability increase the recognition of prompt food each day. Fast food is getting more in a call for resulting in the growth of the fast-food industry, and significant number of people are coming to devour at eating places. Now with shipping hotline, human beings can just take the time to call their numbers, and the meals reach to their doorstep after 1/2 hour.

*Cost* Diverse kinds of fast food are available in the market, out of which the most popular, fast food or soft drinks, pizza, hamburgers, potato chips, ice-lotions, hot dogs, chow minutes, french fries, cheese chili, and many others. The price is much less as compared to healthful Food. Less value is similarly a big reason for the recognition of fast food. It's miles effortlessly handy to all instructions of the populace because of its low and appealing charge range.

A Place for Relaxation Any other crucial cause of purchasing rapid food is that restaurants are very

addictive. It will be the primary vicinity, we'll reflect on consideration on while we get hungry. It is going to be a attractive hangout region, additionally with the WiFi internet routers introduced to the locality.

### b) Reasons for Avoiding the Fast Food

*High-Fat Content* Fast food together with burgers, pizza, fried chicken, and chips will reason human beings to put on weight and overweight, being overweight is a risk to the health of the heart and causes different disease. The dark side of rapid meals is not an unknown truth. Numerous research studies have proven that quick ingredients, and processed ingredients have multiplied adolescence, weight problems, heart sickness, and diabetes and other chronic illnesses.

*High Salt Content* Junk has regularly had too much salt. There is lots of salt already in meals such as bread, breakfast cereals, and biscuits. So humans have become saltier than they need after they consume fast food, an excessive amount of salt is terrible for fitness. Feeding too much salt can damage your health. Over time, too much salt can contribute to high blood pressure, and it increases the chances of a stroke or a heart attack. A diet high in sodium is also unsafe for people with blood pressure conditions. Sodium can promote blood pressure and put stress on your heart and cardiovascular system.

Memory and Learning Problems Diets that are high in sugar and fats can suppress the hobby of a brain peptide referred to as MDNI (mind-derived neurotrophic issue) that allows with studying and reminiscence formation. Moreover, the brain carries synapses that are answerable for mastering and reminiscence. Ingesting too much energy can intervene with the Healthy manufacturing and functioning of these synapses.

*High Sugar Content* Fast food does have some precious materials that the frame needs for correct health because the body desires some salt, fat, and sugar for power to burn while we play and paintings, but too much fat, salt and, sugar is bad for health. Humans generally tend to settle their meals with the aid of consuming rapid meals to save time. By a very limited price we can fill our stomach by fast food. There are a whole lot of uses for sodium. It can be used to maintain meals, beautify its flavor, and to save you the boom of pathogens. However, sodium can motive very serious results if one consumes an excessive amount of it. It can provide us growth in blood stress and a high risk of coronary heart sicknesses.

Obesity Fast food is allied with higher body mass index, less successful weight-loss maintenance, and weight gain. Fast food reduces the quality of the diet and provides unhealthy choices, especially raising the risk of obesity. Fast food can motivate us a whole lot of horrific sicknesses like weight problems and high blood pressure. Being overweight does not most effectively decrease our shallowness; it can additionally increase the dangers of high blood pressure, heart disorder, stroke, arthritis, diabetes, and some varieties of most cancers.

Lack of Energy Lack of Energy is regarded as short term unfavorable effect as a consequence of ingesting rapid meals as fast food doesn't provide the crucial vitamins [like vitamins, protein, and fibers] even though they can be very much sufficing, peoples experience weakened. A recent scientific study proves that eating too much junk food doesn't only make you fat, it may also make you mentally slower or less motivated.

*Excessive Cholesterol* High cholesterol and heart disease are serious concerns for many people. There are many reasons for high cholesterol in our life, but fast food is one of them. It leads to cholesterol due to fast food, and diet traces liver unfavorable it finally.

*Heart Diseases* Fast food diet is a principal cause of heart diseases due to plaque formation in arteries, which demands heart to put in extra effort to pump blood on the downstream, on the upstream, there is lack of returning blood to the heart, this causes two damages to heart – heart fatigues due to continuous extra effort and it suffers in oxygen supply.

Low Nutritional Value The nutritional value of fast food is about one on a scale of 1 to 10, which is the least. The nutritional value is lost in the process of making the fastfood so synthetic vitamins and minerals are added to compensate it, still they are not good compared to natural vitamins and minerals. Natural photochemical are not present in fast food, which soaks up the free radicals to prevent disease.

*Poor Concentration* Fast food leads to substandard concentration levels when people have a sumptuous junk meal wealthy in oil. They sense drowsy and fail to pay attention. Too much dependence on junk food eating results in low blood circulation drop due to fat accumulation, lack of vital oxygen, nutrients, and protein particularly can stale their brain cells temporarily.

*Highly Addictive* Despite best intentions, some people may repeatedly find themselves eating large amounts of unhealthy foods, knowing that it may cause them harm. The truth is that the effects of certain foods on the brain make it hard for some people to avoid them. It acknowledges the undeniable fact that fat and sugar is as addictive as opiate and cocaine. Fast foods have a lot of hidden sugar and fat to make it addictive and also enhance the taste.

High Chemical Additives Fast food has lots of chemical additives that are not useful to the body; things are like artificial coloring and preservatives. Colour additives are added to make the food fresh, which might make the food look and taste better, but it is harmful to our bodies. Fast food is rich in fat, so the accumulation of fat can take place in bronchioles, so oxygen supply tends to be reduced in the body, which can cause some respiratory disorders.

### II. Effect of Fast Food on Health

A study conducted by Shanthy A. et al. in America (2004) resulted in consumption of fast food among children in the United States seems to have an adverse effect on dietary quality and also increased the risk of obesity. Another study Heather M.et al (2006) showed that fast food consumption and breakfast skipping increased weight gain from adolescents to adulthood. According to Nitin Joseph, et al. the prevalence of diabetic Mellitus (DM) and cardiovascular diseases (CVD) are increasing in urban India. Overweight in adolescents is the marker of overweight in adult age this will be due to eating more fast food. Recent scientific studies points out that asthma and high blood pressure may associate with the consumption of fast food. Another study conducted by Christopher Robert Aloia, et al (2013)in Chandigarh showed that people from high - income group consume more fast food and eating in restaurants as compare to low- income group. When the food choices of children changed from traditional to fast food, it leads to a dietary problem and affects the health of the children. In 2001 a joint world health organization/food and agriculture organization of United Nations (WHO/FAO) expert consultation concluded that the heavy marketing of fast food and energy - dense, micronutrient foods and beverages is a probable casual factor in weight gain and obesity. According to a study by Anita Goyal and N.P Singh," increasing awareness and influence of western culture has caused a shift in food consumption patterns among urban Indian families. Since the liberalization of the Indian economy in early 1990, many foreign fast food companies have entered in Indian market, which caused a significant change in lifestyle and food preferences of Indians. A study conducted by Punjab Agricultural by Nemnuhoi Haokip and Sonika Sharma (2016) that the daily consumption of fast food was higher in college students. Burger, Manchurian noodles, pizza, patty, and samosa were the frequently consumed fast food among college students. The contribution of total energy, protein, carbohydrates was very high.

### III. Conclusion

Food is an essential source of power. Food may be an illustration of kindness and friendly relationship throughout the globe. Fast food is popular because the food is reasonably priced, convenient, and tastes good. Majority number of people nowadays consume fast food because they do not have the required time to cook for themselves, or because they do not hassle at all. The common existing notion of average people is that fast food restaurant make their life easy and uncomplicated. The popularity of this type of restaurants is growing because of speedy service. Unfortunately, the reason fast food tastes so good is often that it's loaded with fat, sodium, and sugar. Fast food restaurants spend a great deal of money marketing their meals to consumers. Some people do not have time to cook at home because they have to do many things at the same time.

Fast food tastes good and consuming it one time in a while is fine, but eating fast food too often may result in health difficulties such as obesity or diabetes. The restaurants use very cheap ingredients that make fast food contain high amounts of sodium, cholesterol, fat, and calories, which can cause certain diseases like obesity, high blood pressure, and other heart diseases. We should take utmost care of what we eat everyday because it is the fuel that drives us to become healthy. Homemade food is a better option than fast food because it has numerous advantages over fast food. These include higher organic process worth, good quality, mental satisfaction, etc. Better food enhances the lifetime with a better quality of life. Awareness of fast food facts lacks significantly in every corner of the world. Eliminating the attraction of fast food is one way to avoid it. Consciousness regarding healthy feeding may save fast food lovers from the harmful effects of fast food.

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**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.

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**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 though 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.



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### 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.
- o 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.
- o 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:

- o Report the method and not the particulars of each process that engaged the same methodology.
- o 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.
- o 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.
- o Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.

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### **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:

- o Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- o 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:

- o 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.
- o Do not present similar data more than once.
- o 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?
- o 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.

### The Administration Rules

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Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.

Segment draft and final research paper: You have to strictly follow the template of a research paper, failing which your paper may get rejected. You are expected to write each part of the paper wholly on your own. The peer reviewers need to identify your own perspective of the concepts in your own terms. Please do not extract straight from any other source, and do not rephrase someone else's analysis. Do not allow anyone else to proofread your manuscript.

*Written material:* You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.

### CRITERION FOR GRADING A RESEARCH PAPER (COMPILATION) BY GLOBAL JOURNALS

Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals.

Topics	Grades		
	А-В	C-D	E-F
Abstract	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
Introduction	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
Methods and Procedures	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
Result	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
Discussion	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
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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