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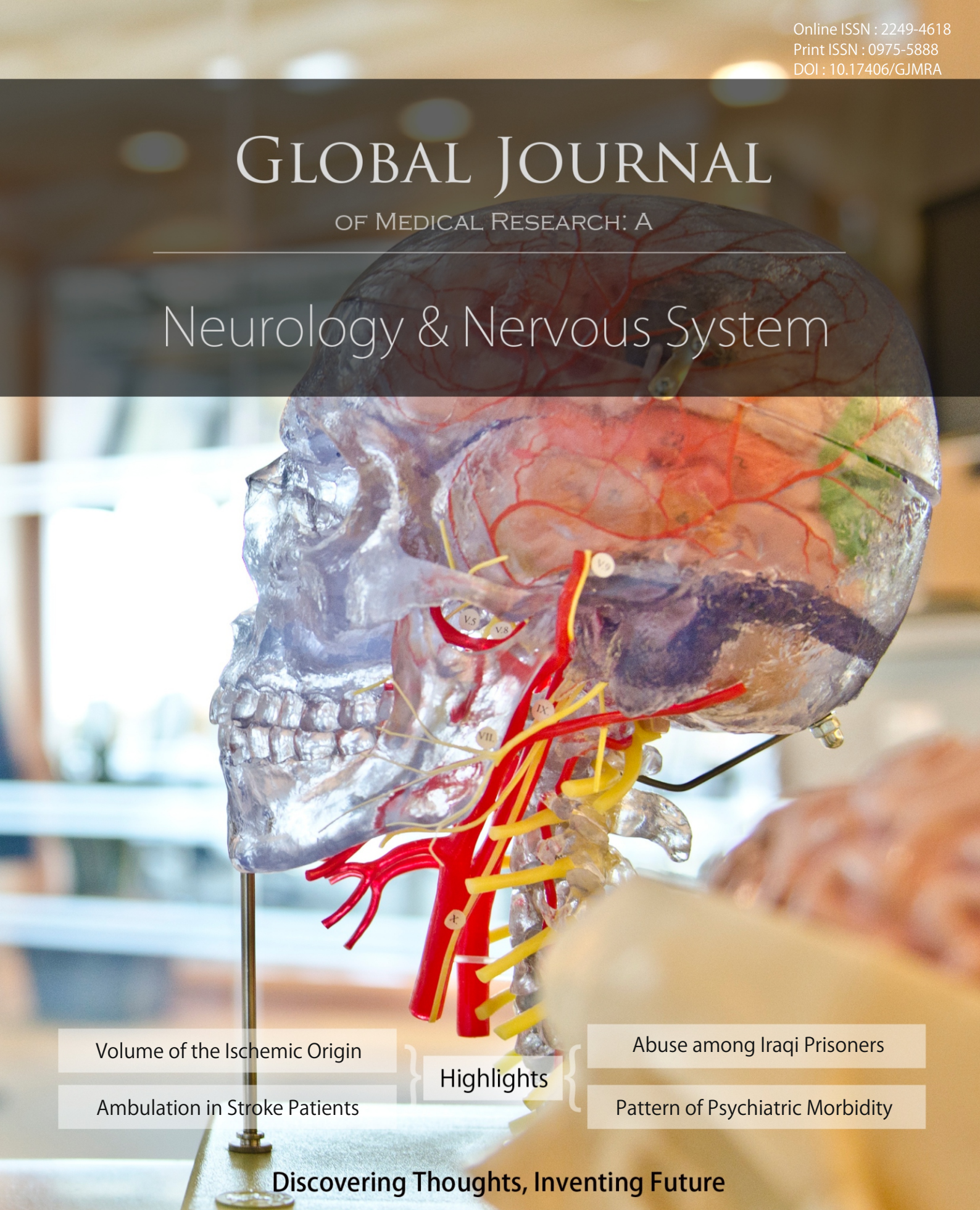

Volume of the Ischemic Origin

Ambulation in Stroke Patients

Highlights

Abuse among Iraqi Prisoners

Pattern of Psychiatric Morbidity

Discovering Thoughts, Inventing Future

VOLUME 19 ISSUE 1 VERSION 1.0

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Influence of the Volume of the Ischemic Origin on Clinical Outcomes of the Brain Stroke

By Z. A. Akbarkhodjaeva & G. S. Rakhimbaeva
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Abstract- In this article authors discussed about the influence of volume of the ischemic origin on clinical outcomes in patients with stroke. Cerebral ischemic stroke is one of the main cause of death among cardiovascular and brain diseases. The study is dedicated to learn the relationship of the dynamics of the volume of the ischemic focus with clinical outcome of stroke. For this study, 125 patients were examined and analyzed. MRI of the brain in acute period of ischemic stroke in 78% of patients were assessed that foci of ischemia of small (less than 10 cm^3), medium (10-50 cm^3) and large size (more than 50 cm^3). Lacunar strokes, as well as the size of the penumbra, affecting the ability to restore impaired brain functions, can be identified only by magnetic resonance imaging of the brain.

Keywords: ischemic stroke; cerebral disease; ischemic origin; MRI; heart attack.

GJMR-A Classification: NLMC Code: WL 348

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Influence of the Volume of the Ischemic Origin on Clinical Outcomes of the Brain Stroke

Z. A. Akbarkhodjaeva [α] & G. S. Rakhimbaeva [σ]

Abstract- In this article authors discussed about the influence of volume of the ischemic origin on clinical outcomes in patients with stroke. Cerebral ischemic stroke is one of the main cause of death among cardiovascular and brain diseases. The study is dedicated to learn the relationship of the dynamics of the volume of the ischemic focus with clinical outcome of stroke. For this study, 125 patients were examined and analyzed. MRI of the brain in acute period of ischemic stroke in 78% of patients were assessed that foci of ischemia of small (less than 10 cm^3), medium (10-50 cm^3) and large size (more than 50 cm^3). Lacunar strokes, as well as the size of the penumbra, affecting the ability to restore impaired brain functions, can be identified only by magnetic resonance imaging of the brain.

Keywords: ischemic stroke; cerebral disease; ischemic origin; MRI; heart attack.

I. Introduction

Cerebral ischemic strokes, leading to severe clinical, expert and social consequences, occupy a special place in terms of their significance among cerebral vascular diseases [2, 4]. At the present stage of development of technical capabilities of medicine, it is advisable to determine prognostic criteria using a combination of clinical and instrumental methods of research [1, 3].

A large role is also played by the size, localization of the lesion, the presence or absence of perifocal edema [4, 5]. There is practically no data in the literature on the possible relationship between the size of the focus of a stroke and the outcomes in the course of long-term follow-up, especially in terms of restoring impaired functions. At the same time, such data will make it possible to realistically predict the possibilities of rehabilitation over a relatively long period, which is very important not only from a clinical, but also from an economic point of view.

The purpose of the study is to determine the relationship of the dynamics of the volume of the ischemic focus with the clinical outcome of cerebral stroke.

II. Materials and Methods

125 patients undergoing cerebral ischemic stroke (IS) was examined, studied and analyzed. Age grading ranged from 40 to 90 years. Among all surveyed women, there were 40% (50 patients), men did not significantly prevail and amounted to 60% (75 patients).

Taking into account the design of the examination, all 125 patients in the acute period of stroke (2-9th day from the onset of the disease) underwent magnetic resonance imaging (MRI) of the brain and also from 28 days to 6 months from the onset of the disease re-performed MRI of the brain the brain.

III. Results

In most cases, the left middle cerebral artery was affected (50%), then the vertebrobasilar basin (27%) and the right middle cerebral artery (23%).

The volume of a large focus was more than 50 cm^3, the middle focus was from 10 to 50 cm3, and small ones were related to foci with a volume of up to 10 cm3. The category of small ones included heart attacks in the vertebrobasilar basin and the lacunar strokes identified by us. In most cases, the hemodynamic stroke subtype was found (47.2%). Lacunar stroke against arterial hypertension was registered in 22.4% of cases.

Among the subtypes of heart attacks, the following were verified: extensive heart attack (9), deep stem (11), cortical and subcortical heart attack (4), small cortical (4), lacunary heart attack (29).

According to the data obtained, patients with verified extensive cerebral infarction also had the most severe degree of neurological deficit. According to all assessment scales, these patients were associated with severe neurological deficit, which corresponded to a pronounced and constant dependence of patients on the nearest social environment.

After a course of inpatient treatment, these patients only slightly improved their manifestations of the disease.

Patients who had a stem, but not extensive heart attack, were also characterized by the presence of a pronounced neurological deficit, corresponding to severe and moderate severity according to the estimated scales. After the course of inpatient treatment, there was no significant increase in scores and the transition on the scales to the category of less severe motor disorders, but there was a decrease in the degree of dependence on others according to the Barthel scale at $P < 0.01$.

Similar data on the dynamics of recovery were obtained in groups of patients who had a lesion of medium and small size in the subcortical structures of

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the brain. Patients from these groups within the same subsection of the assessment of the degree of neurological deficit improved their performance, without going into the group with a less severe degree of motor impairment. At discharge from the hospital, patients from these groups had only a moderate, approaching mild, degree of dependence on the nearest social environment.

Note that in our study, the hyposensitive lesion included not only the core of ischemia, but also penumbra. In this regard, in the acute period of AI, a quantitative assessment of the neurological deficit included neurological disorders, caused in general by a hypo-intensive focus. In part, this can also explain the much better and larger amount of recovery of impaired functions in case of AI in the acute period of inpatient treatment for large lesions, compared with small lesions.

Thus, the quantitative indices of the neurological deficit in the acute period of AI depended on the volume of the primary lesion (with penumbra), the vascular basin, and the type of stroke.

In the acute period with different volumes of ischemia and stroke types, the recovery period from the acute and 22-24 days was characterized by an increase in self-service functions in the range of 20-30 points according to the Barthel index and regression of focal symptoms 2-5 points on the NIHSS scale.

The best recovery of impaired functions was observed with medium sizes of the ischemic focus, and the smallest - with small lesions of ischemia.

Comparison of the rates of recovery of neurological disorders in dynamics showed that in the acute period of AI, the regression of the neurological deficit occurred at least 2 times more actively.

The initiation of treatment during the "therapeutic window" was also of great importance in restoring lost functions and shaping the size of the ischemic focus.

73 people from 125 patients, inpatient treatment was started in the first 6 hours after the onset of AI. The later dates for the start of inpatient treatment worsened the effectiveness of remedial measures. Thus, out of 49 patients with 42% of patients with primary or secondary, high-volume ischemia, 42 patients started treatment later than 6 hours after the onset of stroke.

Thus, there is no doubt that the intensity of the recovery period in the acute stage of cerebral stroke is influenced (along with other factors) by the size of the lesion and the localization of the infarction of the brain, proximity to the motor vehicle is especially important.

However, comparison of the clinical picture in the acute phase of stroke with the localization and size of the lesion does not reveal a direct correlative connection, in particular, central hemiplegia and hemianesthesia occur with extensive foci of ischemia, and with limited lacunar infarctions in the deep.

We analyzed the group of patients (65 people) who had positive dynamics of the disease after 2 years from the moment of stroke, to assess the factors that determine a positive outcome, namely the severity of the patients' condition in the early period, the age of the patients at the time of the disease, the size and the location of the lesion, if any, according to the MRI data, was provided, the mood for treatment of e and adherence to secondary prevention by the main factors.

All patients from this group had a mild or minimal neurological deficit at the time of admission to the hospital, a fairly young age (45–49 years old - 22 people, 50–59 years old - 43 people), when surveyed 49 people out of 65 had a positive attitude towards treatment and punctual secondary prevention.

A positive result was obtained in those subjects who did not have a severe neurological deficit at the onset of the disease, had a commitment to the secondary prevention of recurrent strokes and had no signs of depression.

When analyzing the indicators in this group examined after 3 years, there was an increase in the number of recurrent strokes, a decrease in the number of patients with positive dynamics due to an increase in the severity of somatic pathology (GB, CHD, atherosclerosis, diabetes), ignoring the rules for secondary prevention of strokes, and weighting of neurological deficit in patients with extensive primary lesion of the brain.

To determine the indicators that affect the recovery process, both in the immediate and in the long-term period, a correlation analysis was made of the factors identified in the early recovery period of cerebral stroke with remote outcomes after 1-3 years (Table 1).

Table 1: Factors affecting the long-term outcomes of rehabilitation treatment for strokes and their correlation

Factors to be considered	Correlation indicator	
	After 2 years	After 3 years
Weight	-0,59	-0,36
Age	-0,32	-0,38
Volume of hearth	-0,49	-0,51
Blood Pressure	-0,16	-0,20
Diabetes	0,26	-0,31
Gender	0,09	0,06

Taking into account our analysis after 2 years, the relationship is maintained with such factors as age, localization of the lesion, the state of the emotional sphere. After 3 years, the effect of somatic pathology weighting in the form of coronary heart disease and diabetes mellitus increases.

Thus, the prediction of recovery of impaired functions is not affected by the factor of gender. Such factors as stabilization of concomitant pathology improve the prognosis while observing the rules of secondary prophylaxis and adherence to the recommended therapy; positive emotional mood, struggle with anxiety and depression, good physical activity before the onset of the disease and regular, targeted physical therapy exercises after a stroke.

The prognosis is worsened by the extensiveness of the primary focus of the brain and its location in the older age groups at the time of stroke. Of course, the size of the primary focus is not always correlated with the outcome of the disease, but among other factors, this relationship is most obvious. However, working with positive factors to some extent can help the patient cope with the disease, despite the vastness of the primary focus.

IV. Findings

1. Using MRI of the brain in the acute period of cerebral stroke in 78% of patients revealed foci of ischemia of small (less than 10 cm3), medium (10-50 cm3) and large size (more than 50 cm3). Lacunar strokes, as well as the size of the penumbra, affecting the ability to restore impaired brain functions, can be identified only by magnetic resonance imaging of the brain.
2. The size of the lesion during ischemic cerebral stroke plays an important, but not the only role in taking into account the restoration of impaired functions. In 46% of patients with cerebral strokes, a direct correlation was found between the magnitude of the focus of the stroke and its clinical and functional manifestations.
3. When performing neuroimaging in the acute period of ischemic cerebral stroke, it is advisable to determine the size of the primary lesion and the state of the penumbra, which makes it more likely to predict the recovery dynamics of impaired functions.

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A Study on the Effect of Lower Extremity Proprioceptive Neuromuscular Facilitation Patterns on Stair Ambulation in Stroke Patients

By Dr. Shristi Shakya$_{MPT}$ & Dr. Prem Kumar B. N.$_{MPT}$

Abstract- *Purpose:* To investigate the effectiveness of lower extremity Proprioceptive Neuromuscular Facilitation patterns on stair ambulation in stroke patients.

Subjects and Methods: In this study, 30 subjects were recruited based on the inclusion criteriae. The therapist performed Proprioceptive Neuromuscular Facilitation patterns i.e. 10 repetitions of each pattern of 3 sets, 3 days per week for 4 weeks, total of 12 sessions. The patient's ability to walk for 6 minutes was analysed via 6-minute walk test. The impact of stroke in individual's health and life was analysed using Stroke Impact Scale and ability to ambulate the stairs efficiently was analysed by Timed Up and Down Stairs test before and after the intervention.

Results: In this study the improvement in Stroke Impact Scale was pretest value of 33.64±8.66 and posttest value of 57.80±6.66 i.e. 76.7% improvement. The improvement in Timed Up and Down Stairs test was pretest value of 96.60±20.73 and post intervention, posttest value was 80.50±19.22 i.e. 50% improvement.

Keywords: *stroke, stair ambulation, proprioceptive neuromuscular facilitation patterns, stroke impact scale and timed up and down stairs test.*

GJMR-A Classification: *NLMC Code: WL 356*

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Conclusion: Proprioceptive Neuromuscular Facilitation patterns had a positive effect on stair ambulation in stroke patients

Keywords: stroke, stair ambulation, proprioceptive neuromuscular facilitation patterns, stroke impact scale and timed up and down stairs test.

I. Introduction

A stroke or Cerebrovascular accident (CVA) is defined as an abrupt onset of a neurologic deficit that is attributed to a focal vascular cause.[1] A stroke or Cerebrovascular accident (CVA) is defined as an abrupt onset of a neurologic deficit that is attributed to a focal vascular cause.[2] A stroke or Cerebrovascular accident (CVA) is defined as an abrupt onset of a neurologic deficit that is attributed to a focal vascular cause.[3] Stroke can cause the loss of control over an arm and a leg, people's abilities to care for themselves in simple ways like washing or getting dressed and to undertake taken for granted daily activities like preparing a meal, cleaning or going to the shops are often affected. Even the simplest tasks like brushing teeth, shaving or getting toilet roll out of a dispenser became seemingly unmanageable.[4] Hemiplegia, a paralysis of one side of the body, is the classic sign of neurovascular disease of the brain. It is one of many manifestations of neurovascular disease, and it occurs with strokes involving the cerebral hemisphere or brain stem. A stroke, or cerebrovascular accident (CVA), results in a sudden, specific neurological deficit.[5] Clinically, a variety of focal deficits are possible, including changes in the level of consciousness and impairments of sensory, motor, cognitive, perceptual, and language functions. Motor deficits are characterized by hemiplegia or hemiparesis, typically on the side of the body opposite the side of the lesion. The location and extent of brain injury, the amount of collateral blood flow, and early acute care management determine the severity of neurological deficits in an individual patient. Impairments may resolve spontaneously as the brain swelling subsides, generally within 3 weeks. Residual neurological impairments are those that persist longer than 3 weeks and may lead to lasting disability.[6]

The large vessel diseases such as: Coronary diseases, Cerebrovascular Diseases and Peripheral Vascular Diseases are the major causes and hypertension, diabetes, smoking, hyperlipidemia are the most common risk factors for Ischemic stroke. Stroke appears to be a preventable disease to a large extent, change in lifestyle is supposed as the major primary prevention strategy.[7]

Stroke patients usually presents with a history of a sudden or rapid onset of focal neurological symptoms. Some patients may have a stepwise or gradual worsening or waxing and waning of symptoms. Most patients are alert, although patients with major hemispheric infarctions, basilar occlusion or cerebellar strokes with oedema causing brain stem compression can have a decreased level of consciousness. Headache occurs in approximately 25% of the cases. Nausea and vomiting can occur with stroke in the brain stem or cerebellum.[8]

Most typical symptom of stroke is hemiparesis or hemiplegia which ranges from weakness to full paralysis of the body opposite to the side of the lesion in the brain.[9]

Majority of stroke patients complain of activity limitations and participation restrictions.[10] Activity limitation consists of limitations in walking, limitations in self-care activities, and limitations in domestic life

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activities, such as inability to walk independently, dependence on bathing, eating and dressing, as well as in housework activities such as washing, cooking, cleaning, food preparation, shopping, and public transport use. Whereas, participation restrictions include inability to return to previous occupation, decreased social interactions, and inability to participate in religious activities.[11]

Walking is the most basic means of human transport in daily life.[12] Because stair climbing is a common activity of daily living, the ability to do it efficiently is important to an individual's quality of life. More demanding than level walking, stair ambulation is performed with ease by healthy individuals; however, it is more difficult to perform for those with decrements in motor function, balance problems, or reduced lower-limb function.[13]

Independent living requires physical mobility beyond walking. Stair negotiation is an important determinant of discharge destination and independence, surpassing walking speed as the single best predictor of community ambulation. Despite this, little is known about the physical demands of stair negotiation in rehabilitation populations such as stroke.[14]

Stairs are used frequently in daily life, and differences between stair gaits and at flat surface gaits have been reported. In stair gaits, each step starts from the toes or the sole rather than the heel. Force is required to push the body upward and forward, and control of the body against falls is required when descending stairs. More dynamic effort is required in stair gaits than at surface gaits because an awareness of body balance and lower extremity force is necessary.[12] Stair gait training is an essential element for independent activities of daily living and performing stair gait training may achieve qualitative improvements in independent and social life activities, and is the most important movement training program among treatment processes for hemiplegic patients who are recovering their lower limb functions.[15]

Proprioceptive Neuromuscular Facilitation (PNF) is a method of facilitating the response of neuromuscular mechanism through the stimulation of proprioceptors. The Proprioceptive Neuromuscular Facilitation (PNF) procedures help the patients to gain efficient motor function in stroke.[16] Proprioceptive Neuromuscular Facilitation (PNF) is a method of facilitating the response of neuromuscular mechanism through the stimulation of proprioceptors. The Proprioceptive Neuromuscular Facilitation (PNF) procedures help the patients to gain efficient motor function in stroke. Proprioceptor Neuromuscular Facilitation is an intervention method that standardizes body and limb movements into patterns that can immediately improve stroke patients' gait speed.[17]

Proprioceptive senses are important for the treatment and evaluation of patients with damage to their nervous systems, and declines in proprioceptive senses lead to declines in postural control, protective reactions, joint motions, balance ability, and gait ability.[18]

Proprioceptive Neuromuscular Facilitation (PNF) is an approach to exercise therapy that uses specific movement patterns in diagonal and spiral directions together with specific techniques that facilitate the increase in strength and muscle function.[19]

Proprioceptive neuromuscular facilitation (PNF) treatment is a very effective therapeutic exercise for the improvement of muscle thickness, dynamic balance, and gait, and widely used in clinical settings to improve the physical functioning of stroke patients.[20]

II. Methods and Procedures

Ethical approval was given. All the participants in the study gave their informed consent after the research purpose and procedures had been explained to them.

III. Participants

30 subjects, male and female post-stroke individuals (mean age 54.00±12.97) were recruited for the study. These individuals all met the inclusion criterion of ability to perform the 6 min walk test, were Brunnstrom recovery stage 2 criteria and MMSE score was more than 23. The presence of musculoskeletal or other cardiovascular problems apart from known and controlled hypertension excluded an individual from the study.

IV. Dosage

Bilateral Lower Extremities Proprioceptive Neuromuscular Facilitation patterns.

Each session consisted of D1 and D2 patterns with 10 repetitions x 3 sets of each patterns, which was performed 3 times a week for 4 weeks which is total of 12 sessions.

V. Data Analysis

a) Statistical software

The Statistical software namely SPSS 18.0, and R environment ver.3.2.2 were used for the analysis of the data, and Microsoft word and Excel have been used to generate graphs and tables.

- To assess the effectiveness of lower extremity proprioceptive neuromuscular facilitation pattern on stair ambulation in stroke patients, which is analyzed by paired proportion test.
- To assess the effectiveness of pre and post-test of lower extremity proprioceptive neuromuscular facilitation pattern on stair ambulation in stroke patients, which is analyzed by Student t test (Two tailed, Dependent).

b) Study design

An observational single group clinical assessment study.

VI. Result

In this study, 30 subjects were recruited, wherein 5 subjects were between the age group of 31-40, which was 16.7% of the entire age category. 9 subjects were between the age group of 41-50, which was 30% of the entire age category. 5 subjects were between the age group of 51-60, which was 16.7% of the entire age category. 9 subjects were between the age group of 61-70, which was 30% of the entire age category and 2 subjects were more than 70 years of age, which was 6.7% of the entire age category. (Table 1, Fig. 1)

Table 1: Age distribution of patients

Age in years	No. of patients	%
31-40	5	16.7
41-50	9	30
51-60	5	16.7
61-70	9	30
>70	2	6.7
Total	30	100

Mean ± SD: 54.00±12.97

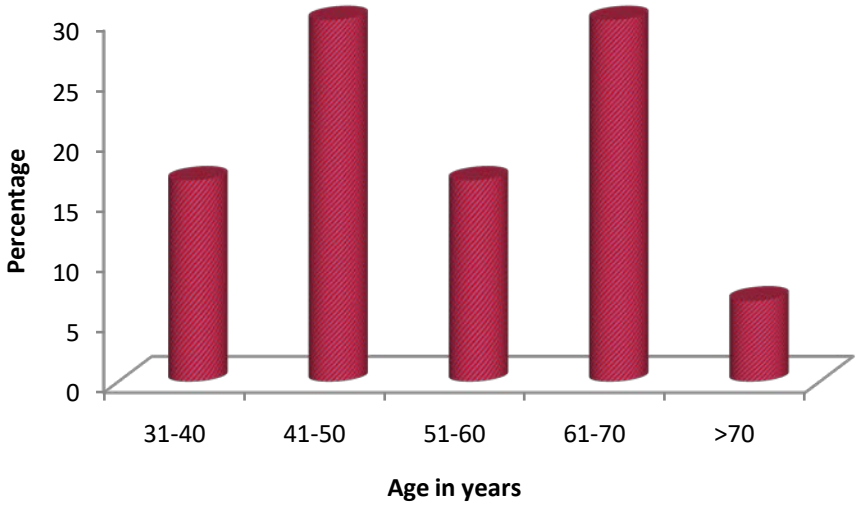

Fig. 1: Graphical Representation of Distribution of patients according to age

In this study, among 30 subjects, 8 were female which was 26.7% of the entire gender category and 22 were male, which was 73.3% of the entire gender category. (Table 2; Fig. 2)

Table 2: Gender distribution of patients

Gender	No. of patients	%
Female	8	26.7
Male	22	73.3
Total	30	100

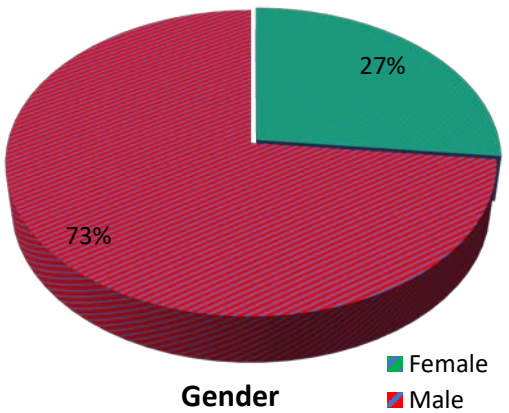

Fig. 2: Graphical Representation of Distribution of patients according to their gender

Pre and post test scores of Stroke Impact Scale was evaluated and is shown in Table 3, Fig. 3. In Stroke Impact Scale, there was only 1 subject who scored between 1-20% of the total subject size, which was 3.3% in the pretest score, and no subjects scored between 1-20% in the post test score of Stroke Impact Scale, with the % difference of -3.3%. 22 subjects scored between 21-40% i.e. 73.3% of the total subject size and there was no subject scoring between 21-40% in the post test score of Stroke Impact Scale, with the % difference of -73.3%. 7 subjects scored between 41-60% in the pretest score which was 23.3% of the total subject size and following the intervention, 20 subjects scored between 41-60% in the post test score which was 66.7% of the total subject size, with the % difference of 43.4%. No subjects scored between 61-80% in the pretest score whereas 10 subjects scored between 61-80% in the post test score following the intervention, which was 33.3% of the total subject size, with the % difference of 33.3%. No subjects scored between 81-100% in the pre and post test scores of Stroke Impact Scale.

The pre and post test scores were evaluated by applying "paired proportional test", where the p value obtained was $P<0.001$, which proves that the intervention was statistically significant.

Table 3: An Evaluation of Stroke Impact Scale (%)

Stroke Impact Scale %	Pre Test	Post Test	% difference
1-20	1(3.3%)	0(0%)	-3.3%
21-40	22(73.3%)	0(0%)	-73.3%
41-60	7(23.3%)	20(66.7%)	43.4%
61-80	0(0%)	10(33.3%)	33.3%
81-100	0(0%)	0(0%)	0.0%
Total	30(100%)	30(100%)	-

P<0.001**, Significant, Paired Proportion test, 76.7% Improvement

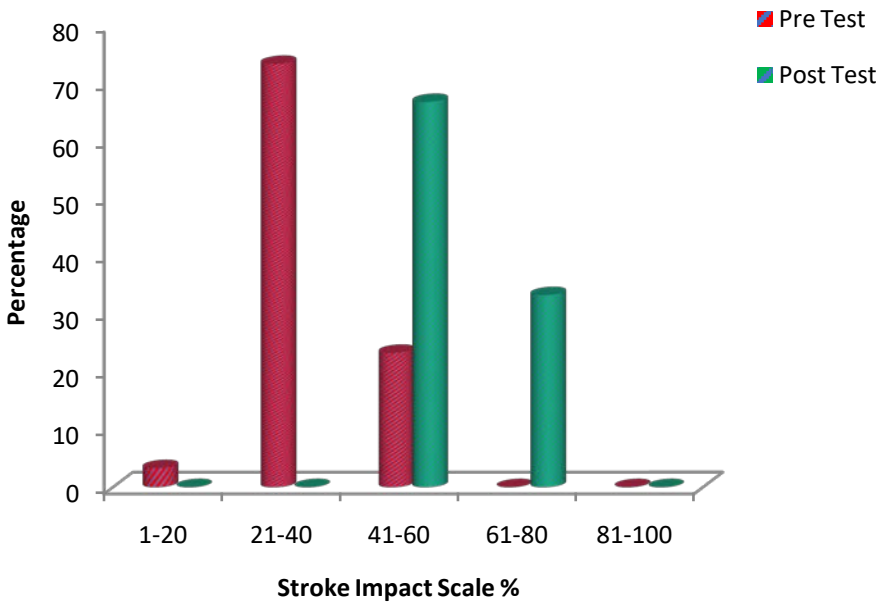

Fig. 3: Graphical Representation of comparison of Stroke Impact Scale

Pre and post test scores of Timed Up and Down Stairs test was evaluated and is shown in Table 4, Fig. 4. In Timed Up and Down Stairs test, there were no subjects who could ambulate stairs within 1-20 seconds in both pre and post test scores of Timed Up and Down Stairs test. No subject scored between 21-40 sec in the pretest score of Timed Up and Down Stairs test, whereas, following the intervention, 1 subject could ambulate the stair between 21-40 secs in the post test score of Timed Up and Down Stairs test, which is 3.3% of the total subject size, with the % difference of 3.3%. 2 subjects could ambulate the stairs within 41-60 secs in the pretest score of Timed Up and Down Stairs test, which was 6.7% of the total sample size, and following the intervention, 4 subjects could ambulate the stairs within 41-60 secs in the post test score of Timed Up and Down Stairs test, which was 13.3% of the total subject size, with the % difference of 6.6%. 5 subjects could ambulate the stairs within 61-80 secs in the pretest score of Timed Up and Down Stairs test which was

16.7% of the entire subject size and following the intervention, 10 subjects ambulated the stairs within 61-80 secs in the post test score of Timed Up and Down Stairs test, which was 33.3% of the entire subject size, with the % difference of 16.6%. 6 subjects ambulated the stairs within 81-100 secs in the pretest score of Timed Up and Down Stairs test which was 20% of the total subject size and following the intervention, 13 subjects could ambulate the stairs within 81-100 secs in the post test score which was 43.3% of the total subject size, with the % difference of 23.3%. 17 subjects ambulated the stairs within 101-120 sec in the pretest score which was 56.7% of the total subject size and following the intervention, 2 subjects could ambulate the stairs within 101-120 secs in the post test score which was 6.7% of the total subject size, with the % difference of -50.0%. The pre and post test scores were evaluated by applying "paired proportional test", where the p value obtained was $P<0.001$, which proves that the intervention was statistically significant.

Table 4: Evaluation of Timed Up and Down Stairs Test (sec)

Timed Up and Down Stairs Test (sec)	Pre Test	Post Test	% difference
1-20	0(0%)	0(0%)	0.0%
21-40	0(0%)	1(3.3%)	3.3%
41-60	2(6.7%)	4(13.3%)	6.6%
61-80	5(16.7%)	10(33.3%)	16.6%
81-100	6(20%)	13(43.3%)	23.3%
101-120	17(56.7%)	2(6.7%)	-50.0%
Total	30(100%)	30(100%)	-

P<0.001**, Significant, Paired Proportion test, 50.0% Improvement

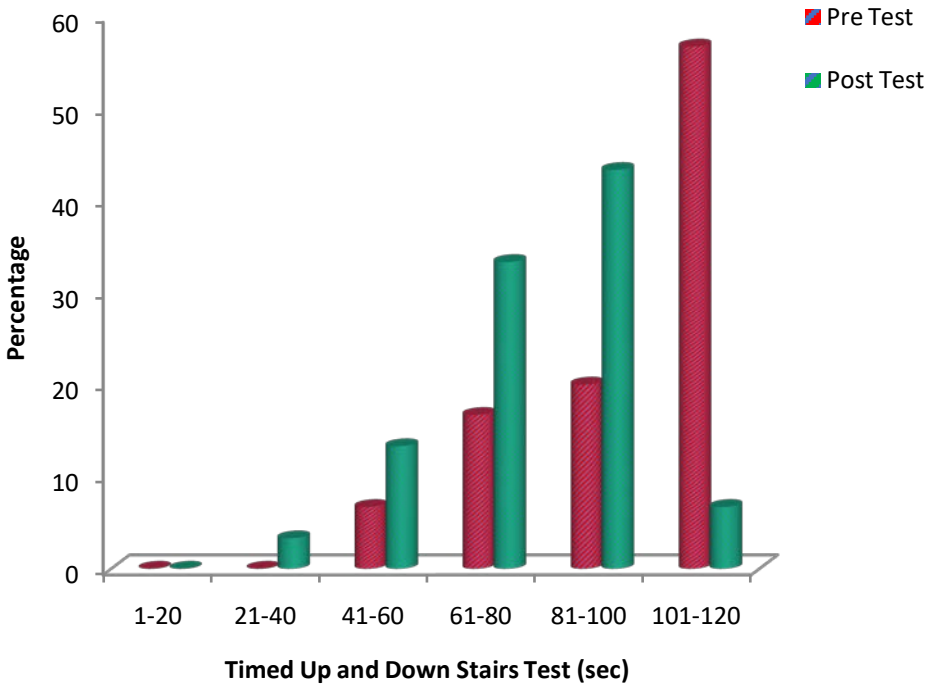

Fig. 4: Graphical representation of comparison of Timed Up and Down Stairs test

Table 5, Fig. 5 and 6 shows the evaluation of clinical outcome variables of baseline scores and post test scores of Stroke Impact Scale and Timed Up and Down Stairs test. The evaluation of all variables are done by Student t test (Two tailed, Dependent) considering the p-value of <0.001 to be statistically significant. Stroke Impact Scale showed a mean pretest score of 33.64±8.66, and post test score of 57.80±6.66 following the intervention, with p-value <0.001, t value -16.115 and % difference of -24.158. Timed Up and Down Stairs test showed a mean pretest score of 96.60±20.73, and following the intervention, the post test score was 80.50±19.22 with p value <0.001, t value 13.332 and % difference of 16.100.

Hence, these results depict that all the outcomes had shown significant improvement post intervention.

Table 5: Assessment of Stroke Impact Scale and Timed Up and Down Stairs test at pretest and posttest

	Pre Test	Post Test	difference	t value	P value
Stroke Impact Scale %	33.64±8.66	57.80±6.66	-24.158	-16.115	<0.001**
Timed Up and Down Stairs Test (sec)	96.60±20.73	80.50±19.22	16.100	13.332	<0.001**

Student t test (Two tailed, dependent)

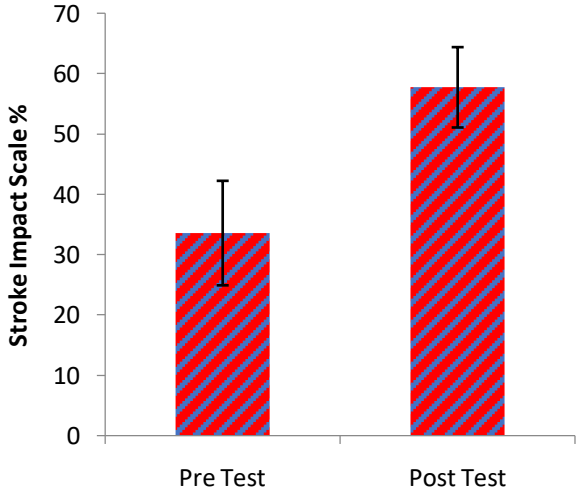

Fig. 5: Graphical representation of comparison of Stroke Impact Scale pre and post test

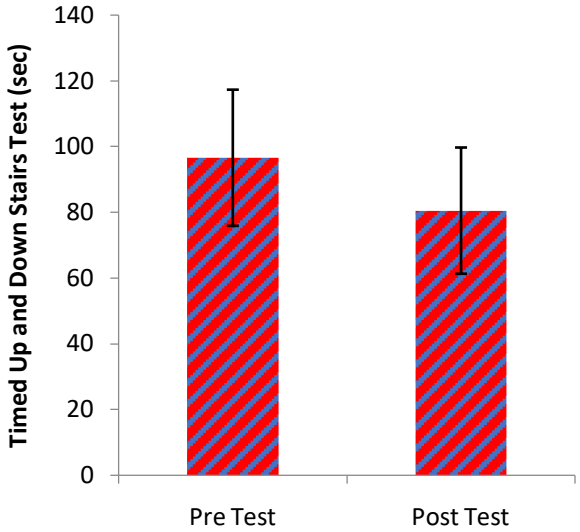

Fig. 6: Graphical representation of comparison of Timed Up and Down Stairs pre and post test

VII. Discussion

A stroke or Cerebrovascular accident (CVA) is defined as an abrupt onset of a neurologic deficit that is attributed to a focal vascular cause.

The purpose of the study was to analyze the effect of lower extremity proprioceptive neuromuscular facilitation patterns on stair ambulation in stroke patients.

Subjects with stroke may experience a variety of deficits, including impairment of motor, sensory, cognitive, perceptual and language functions. They also suffer severe disability to maintain posture and balance within the base of support, which reduces the ability to weight bear on the paretic side during walking and dynamic stability. Stair ambulation is important for independent mobility in Activity of Daily Living. Hence, it is important in stroke rehabilitation to improve the lower extremity activity essential for gait and stair ambulation to increase their Quality of Life (QOL).

Walking is the most basic means of human transport in daily life. Because stair climbing is a common activity of daily living, the ability to do it

efficiently is important to an individual's quality of life. More demanding than level walking, stair ambulation is performed with difficulty by the subjects who has decrements in motor function, balance problems, or reduced lower-limb function and rehabilitation population, such as: stroke.

Stair ambulation is one of the most common activity of daily living (ADL). Stroke patients frequently use stairs in their daily life. Stairs are increasingly being used as both an assessment tool and as part of exercise programs. Stairs make an excellent functional assessment measure because they are relevant to people's Activity of Daily Living (ADL)s and have been related to independence and community participation. Of further benefit is the fact that stairs are readily available, convenient, and cheap to use.

Proprioceptive neuromuscular facilitation (PNF) is an intervention method that standardizes body and limb movements into patterns that can immediately improve stroke patients' gait speed and functional ability.

The impact of Lower Extremity Proprioceptive Neuromuscular Facilitation patterns on stair ambulation for stroke patients for the above mentioned disability were analyzed and clinical relevant outcome measures were chosen for the same. Stroke Impact Scale is used to evaluate how stroke has impacted the individual's health and life. Timed Up and Down Stairs test is used to potentially reflect improvements in the musculoskeletal and neuromuscular systems that contribute to the control of posture.

In this study, the intervention is directed on Lower Extremity Proprioceptive Neuromuscular Facilitation Diagonal patterns which involves three components: flexion-extension, abduction-adduction, and internal-external rotation. The pattern activates muscle groups in the lengthened or stretched positions. The patterns are used to improve the patients' mobility and functional ability, which was significantly proved by the statistical analysis.

The intervention is also proven helpful in improving the subjects' Activity of Daily Living (ADL) such as: walking and self-care activities, as well as in housework activities such as shopping and public transport use.

Thus, this study shows that patients after stroke could ambulate the stairs effectively with the help of Lower Extremity Proprioceptive Neuromuscular Facilitation Patterns.

VIII. Limitations

1. The study was carried out on small sample size.
2. No long term follow-up was carried out to assess the carryover effect after 4 weeks of the intervention.
3. The patients who were aged and obese were not much cooperative for the study.

IX. Recommendations

1. Long term follow-up with larger population are warranted to see the effectiveness of the intervention and it might reveal higher statistical significance.
2. Proprioceptive Neuromuscular Facilitation patterns can be used as the functional intervention along with task oriented training.

X. Conclusion

The study conducted was a single group study for a duration of 12 months at Kempegowda Institute of Physiotherapy, Bangalore. The frequency of each session consisted of D1 pattern which was 10 repetitions of 3 sets and D2 pattern which was again 10 repetitions of 3 sets, that was conducted 3 times per week for 4 weeks with the total of 12 sessions. In this study, Proprioceptive Neuromuscular Facilitation D1 and D2 patterns of Lower Extremity is incorporated in the treatment protocol in order to know the effect on stair ambulation in stroke patients.

The impact of Lower Extremity Proprioceptive Neuromuscular Facilitation patterns on stair ambulation for stroke patients were analyzed and clinical relevant outcome measures were chosen.

The outcome measures were used for pre intervention and post intervention assessment with Stroke Impact Scale and Timed Up and Down Stairs test. Accordingly, the subjects were assessed on Day 1 and pretest scores were recorded. Following the intervention, post test scores were recorded after 12 sessions in order to evaluate the effect of Lower Extremity Proprioceptive Neuromuscular Facilitation patterns on stair ambulation.

Following statistical analysis, the comparison within the groups was analyzed using "student t test, i.e. two-tailed, dependent". There was significant improvement in Stroke Impact Scale and Timed Up and Down Stairs test.

Thus, the results observed in this study concluded that, Lower Extremity Proprioceptive Neuromuscular Facilitation patterns was effective in order to improve stair ambulation in stroke patients.

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Pattern of Psychiatric Morbidity and Substance Abuse among Iraqi Prisoners

By Shalan Joodah Rhemah Al-Abbudi & Mushtaq Talib Hashim
Baghdad University

Abstract- *Objective:* Mental disorders are one of the most frequent disorders in the world. The mental health of prisoners is a major issue of public health.

Methods: A cross-sectional study carried at three prisons in Baghdad. All prisoners, both gender were included, using stratified random sampling technique. Socio-demographic variables were collected using an information list filled during the interview. Prisoners' mental state was checked by self-reporting questionnaires scale (SRQ-20). Positive SRQ-20 test prisoners were selected for administration of the DSM-IV Structured Interview by a consultant psychiatrist.

Results: Participation rate was 70%; mean age 33.9±7.17 years, bout 50% of prisoners stay in prison between 5-10 years. The prevalence of psychiatric morbidity was 749 (73.9%); obsessive compulsive disorder 1.5%, posttraumatic stress disorder 1.6%, schizophrenia 3.2%, panic disorder 4.8%, generalized anxiety disorder 7.2%, psychosis 9.2%, personality disorder 10.5%, depression 11.9%, and substance abuse 50.1%.

Conclusion: The study shows high psychiatric morbidity among Iraqi prisoners that need further attention.

Keywords: *iraq; prisoner; psychiatric morbidity; SRQ-20.*

GJMR-A Classification: *NLMC Code: VM 140*

Strictly as per the compliance and regulations of:

Pattern of Psychiatric Morbidity and Substance Abuse among Iraqi Prisoners

Shalan Joodah Rhemah Al-Abbudi [α] & Mushtaq Talib Hashim [σ]

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Conclusion: **The study shows high psychiatric morbidity among Iraqi prisoners that need further attention.**

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I. Introduction

Mental health of prisoners is a major issue of public health[1]. Studies show that mental illnesses are high prevalence among the prisoners than the general population[2]. There are a number of important factors which could be help to explain the high rates of mental illnesses among prisoners[3]. The environment of prison and rules regulate daily life inside prison can affect the prisoners mental health[4]. Imprisonment is a significant stressful event in an individual's life[2]. Imprisonment being a form punishment produces significant changes in one's physical, psychological, and social functioning[5]. In the prison, however, basic human values are distorted, contributing to temporary or even irreversible psychological sequelae[6]. In order to survive in the prison, the inmates have to undergo extremely harsh policies and rough conditions of imprisonment. They have to adapt to these frustrations and depravations of life[7]. Prisoners have to reside for years in prison and sometimes for lifelong. It is a big issue facing the mental health workers why mental illness of prisoners deteriorated after imprisonment and they develop psychiatric disorders[8]. Mental disorders prevalence was 5-10 times higher than the general population. A review of literature in 24 countries showed prevalence of depression 10% in male and 14% in female prisoners, and about 4% of psychotic illness in both genders[9]. Severe mental illness prevalence 10-15%, while 2% among general population. Over 50% of prisoners in the United States with mental health problems: state prisoners 56%, federal prisoners 45%, and 64% in local jails[10]. According to WHO, health in prison project, done in clearly indicated that something must be done to improve healthcare in prison[11]. The current study was carried out to find the prevalence of psychiatric morbidity and substance abuse among prisoners in Iraqi.

II. Methods and Patients

a) Setting and Design

The current study is a cross-sectional study including analytic component. It was carried out in 3 prisons in Baghdad. The data was collected during the period from December, 1st, 2011 to December, 1st, 2013.

b) Sampling and Study Population

All prisoners, both awaiting trial and sentenced prisoners, both gender were included, using stratified random sampling technique.

c) Inclusion criteria

All the prisoners who entered jail during period of study, aged ≥ 18 years, of both gender, gave informed written consent and accepted to have the interview and participate in this study were included

d) Exclusion criteria

Acute medical illness, refused consent, mental retardation, language barriers, different nationality, age >18 years prisoners were excluded

e) Data collection tools

Socio-demographic variables were collected using an information list filled during interview. Prisoners' Mental status was checked by self-reporting questionnaires (SRQ-20) that was carried by the WHO and used in different countries. The cut-off point of SRQ-20 used by previous studies carried out in Iraq was seven[12]. Prisoners showed scores above cut off point of SRQ-20, were selected for administration of the DSM-IV

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Structured Interview (SCID)[13] which done by consultant psychiatrist. Information regarding substance abuse was collected through the same interview.

f) Definition of variables

Psychiatric morbidity explained by many independent variables. Independent variables were socio-demographic characteristics including; gender, age, marital status, occupation, level of education, smoking habits and duration in prisons.

g) Statistical analysis

Analysis and processing of data was conducted by version 19a statistical package for social sciences (SPSS-19). Results are represented by percentages for qualitative variables. Chi-square was used to find the relation between two qualitative variables. P values were calculated to determine associations between sociodemographic factors and mental illness. P ≤0.05 was taken as statistically significant.

h) Ethical issues

Study was carried out under the agreement of the Iraqi correctional directorate and cooperation with the prisons' health centers. Oral and written consent were taken from the prisoners. Confidentiality was assured to each prisoner.

III. Results

Present study assessed the psychiatric morbidity in Iraqi prisoners. The total number of investigated prisoners was 1447. Participation rate 70%. The age range 25–54 years. Mean age 33.9±7.17 years. About 60% of prisoners were below 35 years age, predominantly male 96.2%, married 74.2%, about 75% low education, self-employed free work 50%., majority were lived with their families 96.2%. About 50% of prisoners stay in prison between 5-10 years (Table 1)

Table 1: Sociodemographic characteristics of the prisoners participate in this study and the correlation with the duration of imprisonment

Sociodemographic characteristics of Iraqi prisoners participate in the study		Duration of Prison						Total (1013)		P
		Below 5 yrs		5 yrs - 10 yrs		More than 10 yrs				
		No.	%	No.	%	No.	%	No.	%	
Age Groups	25 yrs - 29 yrs	123	34.5	163	45.7	70	19.6	356	**35.1**	0.000
	30 yrs - 34 yrs	22	8.3	132	49.8	111	41.8	265	**26.2**	
	35 yrs - 39 yrs	9	5.7	88	55.7	61	38.6	158	15.6	
	40 yrs - 44 yrs	34	32.9	65	61.9	6	5.7	105	10.4	
	45 yrs - 49 yrs	3	2.9	57	54.8	44	42.3	104	10.2	
	50 yrs - 54 yrs	2	8	1	4	22	88	25	2.5	
Gender	Male	182	18.6	489	50.2	303	31.1	974	96.2	0.331
	Female	11	28.2	17	43.5	11	28.2	39	3.8	
Marital Status	Single	47	30.7	56	36.6	50	32.6	153	15.1	0.000
	Married	127	16.8	386	51.3	239	31.7	752	**74.2**	
	Divorced	19	17.6	64	59.2	25	23.1	108	10.7	
Occupation	Employed	30	14.0	104	48.6	80	37.3	214	21.2	0.001
	Unemployed	50	17.4	167	58.4	69	24.1	286	28.2	
	Free Work	113	22.0	235	45.8	165	32.1	513	**50.6**	
Education	Illiterate	51	32.9	59	38.06	45	29.0	155	**15.3**	0.000
	Primary	84	32.4	120	46.33	55	21.2	259	**25.6**	
	Intermediate	34	9.42	206	57.06	121	33.5	361	**35.6**	
	Secondary	14	7.9	108	61.01	55	31.0	177	17.5	
	University	10	16.4	13	21.3	38	62.2	61	6.0	
Living Circumstances	Live with family	187	18.7	498	50	312	31.2	997	**98.5**	0.095
	Live Alone	6	37.5	8	50	2	12.5	16	1.5	
Total		193	19%	506	50%	314	31%	1013	100%	

The prevalence of psychiatric morbidity was high among Iraqi prisoners with nearly three forth of the participants 749 (73.9%). Table 2 shows factors associated with mental illness. The affected participants with psychiatric morbidity were younger age groups (below 35 years) 495 (66.1%), male gender 96%, married 73%, free work occupation 52.5%, low education 77.4%, about half of them was stay in prisons 5-10 years (49.3%), was live within their families (98.5%), smokers (80.4%), substance abusers (50.1%). The age, education, duration of prison, and substance abuse were significantly associated with psychiatric morbidity.

Table 2: SRQ-20 respondents in relation to some sociodemographic variables

		SRQ responses				Total (1013)		P value
		Negative (264)		Positive (749)		No.	%	
		No.	%	No.	%			
Age Group	25 yrs - 29 yrs	75	28.4	281	**37.5**	356	35.1	0.000
	30 yrs - 34 yrs	51	19.3	214	**28.6**	265	26.2	
	35 yrs - 39 yrs	53	20.1	105	14	158	15.6	
	40 yrs - 44 yrs	39	14.8	66	8.8	105	10.4	
	45 yrs - 49 yrs	33	12.5	71	9.5	104	10.2	
	50 yrs - 54 yrs	13	4.9	12	1.6	25	2.5	
Gender	Male	255	96.6	719	**96**	974	96.2	0.665
	Female	9	3.4	30	4	39	3.8	
Marital Status	Single	36	13.6	117	15.6	153	15.1	0.310
	Married	205	77.7	547	**73.0**	752	74.2	
	Divorced	23	8.7	85	11.4	108	10.7	
Occupation	Employed	67	25.4	147	19.6	214	21.1	0.079
	Unemployed	77	29.2	209	27.9	286	28.2	
	Free Work	120	45.4	393	**52.5**	513	50.7	
Education	Illiterate	25	9.5	130	**17.4**	155	15.3	0.004
	Primary School	81	30.7	178	**23.7**	259	25.6	
	Intermediate	89	33.7	272	**36.3**	361	35.6	
	Secondary	47	17.8	130	17.4	177	17.5	
	University	22	8.3	39	5.2	61	6.	
Duration of Prison	Below 5 yrs	35	13.3	158	21.1	193	19	0.016
	5 yrs - 10 yrs	137	51.9	369	**49.3**	506	50	
	More than 10 yrs	92	34.8	222	29.6	314	31	
Living	Live with family	259	98.1	738	**98.5**	997	98.4	0.408
	Live Alone	5	1.9	11	1.5	16	1.6	
Smoking In Prison	Non Smoker	46	17.4	147	19.6	193	19	0.433
	Smoker	218	82.6	602	**80.4**	820	81	
Substance Abuse	Non abusers	264	100	374	49.9	638	63	0.000
	Abusers	0	0	375	**50.1**	375	37	
Total		264	100%	749	100%	1013	100%	

Clinical interview by consultant psychiatrist for those with positive SRQ-20 responses (749) (73.9%) of the participants, based on DSM-IV check list was done. Interview showed that; generalized anxiety disorder was 7.2% of psychiatric morbidity, obsessive compulsive disorder 1.5%, panic disorder 4.8%, substance abuse 50.1%, depression 11.9%, psychosis 9.2%, schizophrenia 3.2%, post traumatic stress disorder 1.6%, and personality disorder 10.5% of the psychiatric morbidity among Iraqi prisoners (Table 3).

Table 3: Frequency and percentages of psychiatric morbidity among Iraqi prisoners with SRQ20 positive responses, after clinical interview based on DSM-IV check list.

Psychiatric Morbidity	Total (749)	
	No.	%
GAD	54	7.2 %
PANIC	36	4.8%
PTSD	12	1.6%
OCD	11	1.5%
SUBSTANCE ABUSE	375	50.1%
DEPRESSION	89	11.9%
PSYCHOSIS	69	9.2%
SCHIZOPHRENIA	24	3.2%
PERSONALITY DISORDER	79	10.5%

Table 4 show the frequency and percentages of psychiatric morbidity from the total size of the sample, and correlation with the duration of prison. No mental illness 26.1%. Psychiatric morbidity was 73.9% of the total sample including; generalized anxiety disorder 5.3%, panic disorder 3.6%, posttraumatic stress disorder 1.2%, obsessive compulsive disorder 1.1%, substance abuse 37%, depression 8.7%, psychosis 6.8%, schizophrenia 2.4%, and personality disorder 7.8%.

Table 4: Show the frequency and percentages of psychiatric morbidity among the total sample with statistical relation with duration of imprisonment.

Frequency and percentages of psychiatric morbidity among the total sample with statistical relation with duration of imprisonment		Durations of Prison			Total (1013)		P Value
		<5 yrs	5-10yrs	>10 yrs	No.	%	
SRQ – 20 Responses	Negative	35	137	92	264	26.1%	0.016
	Positive	158	369	222	749	73.9%	
Clinical Diagnosis	No mental illness	35	137	92	264	26.1%	0.000
	GAD	13	22	19	54	5.3%	
	PANIC	7	18	11	36	3.6%	
	PTSD	0	12	0	12	1.2%	
	OCD	2	9	0	11	1.1%	
	SUBSTANCE ABUSE	87	184	104	375	37%	
	DEPRESSION	29	35	25	89	8.7%	
	PSYCHOSIS	9	25	35	69	6.8%	
	SCHIZOPHRENIA	9	14	1	24	2.4%	
	PERSONALITY DISORDER	2	50	27	79	7.8%	
Total		193 (19%)	506 (50%)	314 (31%)	1013	100%	

Table 5 shows the statistical significances of each clinical diagnosis, resulted from the DSM-IV Structured Interview for (SCID), with the sociodemographic characteristics of the Iraqi prisoners included in this study.

Table 5: Statistical correlation (P value) of the clinical diagnoses with sociodemographic characteristics of the participants of this study; P<0.05 considered for significance

	Substance Abuse	GAD	PANIC	PTSD	OCD	Depression	Psychosis	Schizophrenia	Personality Disorder
Age Group	0.000	0.000	0.022	0.000	0.001	0.000	0.000	0.000	0.000
Gender	0.022	0.000	0.222	0.486	0.505	0.048	0.085	0.321	0.064
Marital Status	0.000	0.017	0.161	0.340	0.145	0.000	0.042	0.014	0.000
Occupation	0.000	0.887	0.021	0.036	0.225	0.761	0.000	0.102	0.048
Education	0.000	0.009	0.024	0.079	0.122	0.006	0.000	0.235	0.000
Prison Duration	0.023	0.359	0.997	0.002	0.057	0.003	0.001	0.005	0.000
Living Circumstances	0.278	0.198	0.557	0.659	0.673	0.211	0.276	0.530	0.241

IV. Discussions

The psychiatric disorders prevalence among Iraqi prisoners within the current study was 73.9%. Significant statistical correlation of psychiatric disorders was found with; age (P<0.001), education (P=0.004), duration of imprisonment (P=0.016), and substance abuse (P<0.001). The prison is a correctional institute in which prisoners have restricted liberty, autonomy, and communication with family and friends. This can be devastating to some prisoners leading to disturbance in their physical, psychological and social status.

current study prevalence is higher than many studies carried out across manycountries and cultures like; Mweene MT (2016) in Zambia (29.8%)[3], Maruf (2015) in Bangladesh (57.2%)[14], Ibrahim (2015) in Ghana (50%)[15], Sepehrmanesh Z (2014) in Iran (43.4%)[1], Armiya'u (2013) in Nigeria (57%)[16], Mundt A P (2013) in Chile (26.6%)[17], Kumar V (2013) in India (33%)[18].

Current study prevalence of mental disorder is less than many studies; Ibrahim E M (2014) Egypt (92.9%)[11], Saha S K (2014) West Bengal (84%)[19], Chan L G (2013) Singapore (88.3%)[20], Goyal S K (2011) India (80.2%)[21].

The prevalence of the current study is nearly synonymous to these studies; Ayirolimeethal (2014) India (68.6%)[22], Andreoli S B (2014) Brazil (68.9%)[23], and Linda and Teplin (1997) America (75 %)[1].

Differences in prevalence rates could partly be explained by differences in sampled populations, methodological issues and classification systems. High prevalence could be due to prison circumstances and long period of isolation, and mental health requirements were recognized less by mental health workers.

This study conclude that mental health services of prisoners required more attention to enhance the level of mental health of prisoners and staff of prison, and concentrated on the role of workers in mental health including specialist psychiatrists, clinical psychologist, mental health nurses and social counselors for early detection and proper management of psychiatric illness among prisoners.

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An Encounter & Coping Up with a Rare Condition

By Rachit Shah

Introduction- This is written at a time when it's as serious, an issue as Climate Change & Impact.

Rare Health Conditions are mutely denting & penetrating our lives with approx 7000 known rare conditions & has already impacted more than 350 million people. It's an alarming estimate that by 2020, orphan drugs are set to account for 19% of global prescription sales.

As Anne Frank once said '' If I haven't any talent for writing books or newspaper articles, well, then I can always write for myself'', I thought of penning down a lot from my personal experience, hoping to help others suffering from *'Isaac's Syndrome, A Rare Neurological Condition'*.

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I am not, just a bed number (a real life fight against cure):

If you had told me a couple of years back, I wouldn't be writing this note, instead planning into the future. A part of me is surprised, as was all healthy & hearty, not on any peculiar medication & no known allergies except periodic diarrhea since a couple of months. There was no history of alcohol or any other substance abuse & completely believed that *true healthcare reform always starts in one's kitchen.*

As a senior executive in the Investment Banking space based out of Mumbai, my professional experience journey speaks in itself.

One of the evenings in Feb'16 during my walking session, got trapped into a severe pain in the Lumbar region & continuous cramps in right leg. The pain could be described as some sharp object stabbed at the lumbar extending till the femoral region which started alleviating & aggravating.

Next morning was tough as the pain still persisted & was accompanied with enough stiffness which made movement toilsome. Anyhow gathering all my muscle, I presented myself to a conventional Orthopedic who after a thorough investigation put me on drugs.

The post pain realization of diarrhea slowly denting the body had factored in. All of a sudden things took an evil turn & seeing my Gastroenterologist again seemed a wise decision.

My Gastroenterologist, a well known figure in Mumbai was surprised to see my CPK levels and immediately asked me to consult a Neurologist & get back to my hometown as he realized that soon a gig's world's was transforming into serious profiling.

It was inconceivable how I was bought directly to be hospitalized from the airport with no guess that my encounter with time had just started. The essential first step in managing the situation began with a detailed medical evaluation. One after the other, investigations started & the doctors decided to put me on the Steroid therapy for next 5 days as they diagnosed Polymyositis.

Polymyositis?? (A condition marked by inflammation and degeneration of skeletal muscle throughout the body).

Initially I had no idea about these medical terms and was even completely out of energy to put my head. Everything was just happening so fast……Post being in the hospital for a week I was advised to take up my further investigations in Bombay Hospital under a team of experts.

In March'16, I got under the lights with general examination, pricked everywhere in both my hands. There was presence of stiffness and excess weakness with spontaneous gross fasciculation in both the arms.

I was diagnosed with *Isaac Syndrome* even called *Neuromyotonia.* Some of the other tests showed traces of *Membranous Glomerulonephritis.*

Neuromyotonia (NMT), also known as Isaacs Syndrome, is a diverse condition with muscular hyperactivity, patients may present with muscle cramps, stiffness, myotonia-like symptoms (slow relaxation), myokymia (quivering of a muscle), fasciculations (muscle twitching), fatigue & exercise intolerance.

Membranous Glomerulonephritis is a slowly progressive disease of the kidney. It leads to changes and inflammation of the structures inside the kidney that helps filter wastes and fluids. The inflammation may lead to problems with the functionality.

The team of doctors decided on IVIg therapy injected intravenous, which is the use of a mixture of antibodies to treat a number of health conditions. Considering the tests (EMG, Pet-CT, MRI Lumber Spine, Sonography, Kidney biopsy etc...) & treatment, my stay at the hospital was almost for a month. Each passing day was a nightmare but my belief of no situation being hopeless and every circumstance in life can change if dealt with patience went stronger.

And finally the day arrived……..I was discharged from the hospital in April'16 with some

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medicines & a suggestion to consult another neurologist in Lucknow, if need be with a recommendation that there is no such thing as a fair flight & all vulnerabilities must be exploited.

I couldn't lie to myself, & started to laugh on the ambulance not realizing that feeling better was just a temporary phenomenon. Soon my health proved a tragic experience wrapped in bonkers, making me crawl through broken glass & within 3 months timeframe I was on my way to Lucknow.

As it's always said that no medicine or doctor has a strike rate of 100%, I could experience it happening in my case. The medicines denied integrating with my system. Diarrhea which was on a break for a while again took its full swing. Pain, Sugar, BP & all the other symptoms returned & my hopes of recovery showed signs of a day dream with open eyes.

Unexpectedly I was getting weaker. The situation seemed to have stagnated where I slept for almost 14 hrs daily due to weakness & pain in-spite of being on heavy medications with pain killers, immunosuppressive agents, blood pressure, intestine related medicines & steroids. The daily intake of medicines went as high as 38 with enough food restrictions due to shooting sugar levels, fluctuating blood pressure & diarrhea. I was bedridden till things stabilized when Dr. Panagariya & his team took me under their supervision in Jaipur @ Aug'16.

In Nov'16, I was again admitted for IVIg therapy, in Jaipur hospital which I did not respond to & had to be stopped midway.

I was asked to go to Mumbai again, this time to see a different set of specialists to know a little better, the difference between stories & realities. The trip came across as Phishing in my own backyard due to the suggestions varying rational expectations.

I was given some medicines with immunosuppressants & ask to continue it for some good two months.

In March'17 as my health didn't show favorable improvement, I was asked to take weekly shots of ACTH injection (It may work directly on the brain in addition to stimulating the adrenal glands. It may also be used in treatment of various other childhood seizures when other treatments have failed).

Quantum of Solace was short-lived and soon I realized that these changes don't happen in a jiffy. As treatments have limitations, it was time to see my mainstream allopath doctor who made some changes in the medicines & asked me to wait patiently for results to unwind.

Pain killers which were on sabbatical became a daily phenomenon again. I was admitted to Medanta Medicity @ Gurgaon for Plasmaferisis in Dec'17. Though I was taking the procedure light, it proved me wrong, each passing day as the central line which was inserted around the pelvic region, created issues with its inlet & was a nightmare till the last day of completion.

Post discharge it took me good 20 days to get a bit normal as there was enough weakness & usual pain at the back & thigh area, all medications being like before. The journey continuous……. I am focusing on the journey, not the destination. Therefore if you can't go back to your mother's womb, you'd better learn to be uncomfortable & fight back. To do otherwise is to settle.

➢ *My Experience, the hard way (Important section)*

1) The holy trinity between the doctor, you & the treatment becomes a dangerous Bermuda triangle when there is communication gap.
2) *Adopting to new aspects of treatment can contribute to healing:* Yoga, Meditation, Walking, Calmness of mind & body, Being positive.
3) Make proper synopsis before consulting any doctor (he needs to know it all, from medicines to various treatments to other doctors consulted to medical tests).
4) Changes in lifestyle can work wonders (eating, sleeping, drinking habits etc..).
5) Eating right is very important.
6) *Keep involved:* For mind distraction.
7) The self-management plan should be reviewed from time to time to ensure the advice remains current
8) Right body postures can help reduce pain.
9) *Avoid & try reducing dosage of pain killers from the physical longevity prerogative:* Try SRP (systematic reduction plan).
10) People on steroids & suffering from high sugar levels should maintain a *strict diet chart.*
11) *Enough water in-take with medicines*: Swallowing medicines without enough water may prevent the medicine from acting properly and may even lead to undesired side effects in some cases. One example is the class of drugs known as non-steroidal anti-inflammatory agents
12) *Eat less Sugar, you are sweet enough already:* For me the following helped in controlling my sweetness:

i. Bitter Gourd juice.
ii. Indian Gooseberry juice.
iii. Jamun fruit grounded seed – one spoon empty stomach.

13) Gluten free food might relieve symptoms.
14) *Family, a nature's masterpiece:* One of my biggest strengths & support function in this tedious war field was my Family. I never realized when it became 'Our' journey from 'My' journey.
15) *Health cover*: One of the most important aspects of my treatment as it provided me with financial security to peace of mind to coverage of specific

medication & ailments to cashless hospitalization benefits.

16) At times, being smart, is even to know when to play dumb. Whenever, I sensed the treatment could cost a bomb, I connected with genuine distributors candidly rather than being on retailer's disposal or hinged onto the hospitals to walk me through.
17) Everyone is unique, so from a macro perspective what proves a relief for one might be a cause of pain for the other.

➢ *Answers Re-invented Daily*

"*The treatments themselves do not cure the condition; they simply restore the body's self-healing ability.*" *Alternative Medicine ~ Leon Chaitow.*

➢ *Coping with Body pain, one of the major symptoms*

For pain management, I have a piece of raw garlic early morning, my homeopathic medicines, magnetic acupressure along with my mainstream medicines.

Garlic supposedly has a bouquet of medicinal qualities with scientific evidence on anti- inflammatory responses and its ability to boost our immune system. To complement alternate therapies, I even worked hard on *SRP (systematic reduction plan)* by regular monitoring and reducing my daily dosage of immunosuppressant, pain killer, insulin and medicines in consultation with my doctor (from 38 pills a day to 18 now)

➢ *Some simple but important changes*

As it's said '*a charging bull always looks at the red cape and not at the man with the sword*', I decided early to keep my eyes stagnant on this armed man therefore agreed to make small miscellaneous changes by keeping surroundings green, paying attention to body postures, inculcating a self motivating attitude, wearing surgical mask while exposed to a crowded place, taking up a sport as a therapy, wearing loose clothes and sticking to a positive attitude.

➢ *Lose clothe, Body Message, Music Therapy& Magnetic Acupressure*

Tight clothes can cause nerve compression and I realized that wearing loozies made me feel lighter and relaxed.

I was advised to have mild *body massage* often which was effective to reduce my stress levels, helped in pain management, eased stiffness and improved my flexibility.

Music Therapy (a math to convalesce), is an effective tool which helps bridge gaps between emotional, spiritual and mental needs. I initially, focused on a variety of music engagements and zeroed down on customizing some to my palate.

Acupressure, a science that stimulates and influences the acu points in the body to balance the accurate flow of energy integrating with individual organs rather than co-coordinating with the entire system to generate results. It helped me reduce high sugar levels and back pain, leveled my BP and capped excess flow of protein from urine.

I never cared whether a therapy derived from some ancient medical literature or a test tube instead the safety, durability and its effect. It is very individualistic in nature.

On that note would like to suggest that - Thinking of disease constantly will intensify it. Feel always 'I am healthily in body and mind'. As Charlie Chaplin once said ''to truly laugh, you must be able to take your pain, and play with it''. Easy said than done but making an initiative would help.

The fact, you read this right till the end makes me feel: HEARD.

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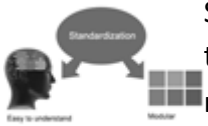

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We shall provide you intimation regarding launching of e-version of journal of your stream time to time.This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

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AUXILIARY MEMBERSHIPS

Institutional Fellow of Open Association of Research Society (USA) - OARS (USA)

Global Journals Incorporation (USA) is accredited by Open Association of Research Society, U.S.A (OARS) and in turn, affiliates research institutions as "Institutional Fellow of Open Association of Research Society" (IFOARS).

The "FARSC" is a dignified title which is accorded to a person's name viz. Dr. John E. Hall, Ph.D., FARSC or William Walldroff, M.S., FARSC.

The IFOARS institution is entitled to form a Board comprised of one Chairperson and three to five board members preferably from different streams. The Board will be recognized as "Institutional Board of Open Association of Research Society"-(IBOARS).

The Institute will be entitled to following benefits:

The IBOARS can initially review research papers of their institute and recommend them to publish with respective journal of Global Journals. It can also review the papers of other institutions after obtaining our consent. The second review will be done by peer reviewer of Global Journals Incorporation (USA) The Board is at liberty to appoint a peer reviewer with the approval of chairperson after consulting us.

The author fees of such paper may be waived off up to 40%.

The Global Journals Incorporation (USA) at its discretion can also refer double blind peer reviewed paper at their end to the board for the verification and to get recommendation for final stage of acceptance of publication.

The IBOARS can organize symposium/seminar/conference in their country on behalf of Global Journals Incorporation (USA)-OARS (USA). The terms and conditions can be discussed separately.

The Board can also play vital role by exploring and giving valuable suggestions regarding the Standards of "Open Association of Research Society, U.S.A (OARS)" so that proper amendment can take place for the benefit of entire research community. We shall provide details of particular standard only on receipt of request from the Board.

The board members can also join us as Individual Fellow with 40% discount on total fees applicable to Individual Fellow. They will be entitled to avail all the benefits as declared. Please visit Individual Fellow-sub menu of GlobalJournals.org to have more relevant details.

We shall provide you intimation regarding launching of e-version of journal of your stream time to time. This may be utilized in your library for the enrichment of knowledge of your students as well as it can also be helpful for the concerned faculty members.

After nomination of your institution as "Institutional Fellow" and constantly functioning successfully for one year, we can consider giving recognition to your institute to function as Regional/Zonal office on our behalf.
The board can also take up the additional allied activities for betterment after our consultation.

The following entitlements are applicable to individual Fellows:

Open Association of Research Society, U.S.A (OARS) By-laws states that an individual Fellow may use the designations as applicable, or the corresponding initials. The Credentials of individual Fellow and Associate designations signify that the individual has gained knowledge of the fundamental concepts. One is magnanimous and proficient in an expertise course covering the professional code of conduct, and follows recognized standards of practice.

Open Association of Research Society (US)/ Global Journals Incorporation (USA), as described in Corporate Statements, are educational, research publishing and professional membership organizations. Achieving our individual Fellow or Associate status is based mainly on meeting stated educational research requirements.

Disbursement of 40% Royalty earned through Global Journals : Researcher = 50%, Peer Reviewer = 37.50%, Institution = 12.50% E.g. Out of 40%, the 20% benefit should be passed on to researcher, 15 % benefit towards remuneration should be given to a reviewer and remaining 5% is to be retained by the institution.

We shall provide print version of 12 issues of any three journals [as per your requirement] out of our 38 journals worth $ 2376 USD.

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- The professional accredited with Fellow honor, is entitled to various benefits viz. name, fame, honor, regular flow of income, secured bright future, social status etc.

- In addition to above, if one is single author, then entitled to 40% discount on publishing research paper and can get 10%discount if one is co-author or main author among group of authors.
- The Fellow can organize symposium/seminar/conference on behalf of Global Journals Incorporation (USA) and he/she can also attend the same organized by other institutes on behalf of Global Journals.
- The Fellow can become member of Editorial Board Member after completing 3yrs.
- The Fellow can earn 60% of sales proceeds from the sale of reference/review books/literature/publishing of research paper.
- Fellow can also join as paid peer reviewer and earn 15% remuneration of author charges and can also get an opportunity to join as member of the Editorial Board of Global Journals Incorporation (USA)
- • This individual has learned the basic methods of applying those concepts and techniques to common challenging situations. This individual has further demonstrated an in–depth understanding of the application of suitable techniques to a particular area of research practice.

Note :

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- In future, if the board feels the necessity to change any board member, the same can be done with the consent of the chairperson along with anyone board member without our approval.
- In case, the chairperson needs to be replaced then consent of 2/3rd board members are required and they are also required to jointly pass the resolution copy of which should be sent to us. In such case, it will be compulsory to obtain our approval before replacement.
- In case of "Difference of Opinion [if any]" among the Board members, our decision will be final and binding to everyone.

"

Preferred Author Guidelines

We accept the manuscript submissions in any standard (generic) format.

We typeset manuscripts using advanced typesetting tools like Adobe In Design, CorelDraw, TeXnicCenter, and TeXStudio. We usually recommend authors submit their research using any standard format they are comfortable with, and let Global Journals do the rest.

Alternatively, you can download our basic template from https://globaljournals.org/Template

Authors should submit their complete paper/article, including text illustrations, graphics, conclusions, artwork, and tables. Authors who are not able to submit manuscript using the form above can email the manuscript department at submit@globaljournals.org or get in touch with chiefeditor@globaljournals.org if they wish to send the abstract before submission.

Before and during Submission

Authors must ensure the information provided during the submission of a paper is authentic. Please go through the following checklist before submitting:

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2. Authors must accept the privacy policy, terms, and conditions of Global Journals.
3. Ensure corresponding author's email address and postal address are accurate and reachable.
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- Findings
- Writings
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- Graphs
- Illustrations
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The corresponding author should mention the name and complete details of all co-authors during submission and in manuscript. We support addition, rearrangement, manipulation, and deletions in authors list till the early view publication of the journal. We expect that corresponding author will notify all co-authors of submission. We follow COPE guidelines for changes in authorship.

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Unless specified in the notification, the Editorial Board's decision on publication of the paper is final and cannot be appealed before making the major change in the manuscript.

Acknowledgments

Contributors to the research other than authors credited should be mentioned in Acknowledgments. The source of funding for the research can be included. Suppliers of resources may be mentioned along with their addresses.

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Authors can submit papers and articles in an acceptable file format: MS Word (doc, docx), LaTeX (.tex, .zip or .rar including all of your files), Adobe PDF (.pdf), rich text format (.rtf), simple text document (.txt), Open Document Text (.odt), and Apple Pages (.pages). Our professional layout editors will format the entire paper according to our official guidelines. This is one of the highlights of publishing with Global Journals—authors should not be concerned about the formatting of their paper. Global Journals accepts articles and manuscripts in every major language, be it Spanish, Chinese, Japanese, Portuguese, Russian, French, German, Dutch, Italian, Greek, or any other national language, but the title, subtitle, and abstract should be in English. This will facilitate indexing and the pre-peer review process.

The following is the official style and template developed for publication of a research paper. Authors are not required to follow this style during the submission of the paper. It is just for reference purposes.

Manuscript Style Instruction (Optional)

- Microsoft Word Document Setting Instructions.
- Font type of all text should be Swis721 Lt BT.
- Page size: 8.27" x 11'", left margin: 0.65, right margin: 0.65, bottom margin: 0.75.
- Paper title should be in one column of font size 24.
- Author name in font size of 11 in one column.
- Abstract: font size 9 with the word "Abstract" in bold italics.
- Main text: font size 10 with two justified columns.
- Two columns with equal column width of 3.38 and spacing of 0.2.
- First character must be three lines drop-capped.
- The paragraph before spacing of 1 pt and after of 0 pt.
- Line spacing of 1 pt.
- Large images must be in one column.
- The names of first main headings (Heading 1) must be in Roman font, capital letters, and font size of 10.
- The names of second main headings (Heading 2) must not include numbers and must be in italics with a font size of 10.

Structure and Format of Manuscript

The recommended size of an original research paper is under 15,000 words and review papers under 7,000 words. Research articles should be less than 10,000 words. Research papers are usually longer than review papers. Review papers are reports of significant research (typically less than 7,000 words, including tables, figures, and references)

A research paper must include:

a) A title which should be relevant to the theme of the paper.
b) A summary, known as an abstract (less than 150 words), containing the major results and conclusions.
c) Up to 10 keywords that precisely identify the paper's subject, purpose, and focus.
d) An introduction, giving fundamental background objectives.
e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition, sources of information must be given, and numerical methods must be specified by reference.
f) Results which should be presented concisely by well-designed tables and figures.
g) Suitable statistical data should also be given.
h) All data must have been gathered with attention to numerical detail in the planning stage.

Design has been recognized to be essential to experiments for a considerable time, and the editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned unrefereed.

i) Discussion should cover implications and consequences and not just recapitulate the results; conclusions should also be summarized.
j) There should be brief acknowledgments.
k) There ought to be references in the conventional format. Global Journals recommends APA format.

Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and suggestions to improve brevity.

Format Structure

It is necessary that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

All manuscripts submitted to Global Journals should include:

Title

The title page must carry an informative title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) where the work was carried out.

Author details

The full postal address of any related author(s) must be specified.

Abstract

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Keywords

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy: planning of a list of possible keywords and phrases to try.

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, “What words would a source have to include to be truly valuable in a research paper?” Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

Numerical Methods

Numerical methods used should be transparent and, where appropriate, supported by references.

Abbreviations

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

Formulas and equations

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).

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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 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.

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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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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