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May 22-23, 2019 London, UK

Video Presentation

30 YEARS OF EXCELLENCE IN MEDICAL PUBLISHING

J Neurol Clin Neurosci, Volume 3

Natural combinations to decrease aluminum neurotoxicity and toxic body burden

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Aluminum exists as the 3rd most abundant element in the biosphere and is the most abundant metal in the earth's crust. Unfortunately, this non-essential metal accumulates in the human body cumulatively over the entire lifespan and is well documented to be a physiological pro- oxidant and neurotoxin. Total body burden has derogatory effects on body systems especially of liver and brain, it disrupts cellular metabolism and generation of the energy molecule ATP (Adenosine Triphosphate) with concomitant mitochondrial dysfunction, and it favors neuronal accumulation with mimicking and/or inducing degenerative neurological diseases. Extreme overload is recommended to undergo chelation therapy which can impact other essential cationic metals. The best approach is a lifelong adaptation of lifestyle to incorporate nutritional strategies that support body biochemistry which promotes its excretion and prevents its accumulation.

Synergistic cumulative effects of several natural agents and dietary choices can be utilized to decrease total body burden and improve risk of its neurological deficits.

Biography

Jen Gantzer is an American Doctor of Chiropractic (DC) and board-certified Nutritionist (DACBN) with a passion for biochemistry and neuroscience, is a masters student of nutrition enrolled at the University of Bridgeport, with plans to enroll in the masters of aging and neuroscience at the University of South Florida in fall of 2019 when she returns to the USA. She is a practicing chiropractor currently living and working in The Hague, Netherlands; and was a sole practitioner working between 2 offices in St. Petersburg and Tampa, Florida.

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Poster

30 YEARS OF EXCELLENCE IN MEDICAL PUBLISHING

Intensity-dependent immune-modulatory effects of exercise training in experimental multiple sclerosis

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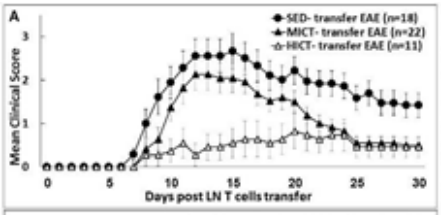
Background: Exercise training (ET) has beneficial effects on multiple sclerosis (MS) and its animal model experimental autoimmune encephalomyelitis (EAE). However, the intensity-dependent effects of ET on the systemic immune system in EAE remain undefined.

Objective: (1) To compare the systemic immune-modulatory effects of moderate vs. high intensity ET protocols in EAE; (2) To investigate whether ET affects autoimmunity selectively, or causes general immunosuppression.

Methods: Healthy mice were subjected to moderate or high intensity treadmill running programs. Proteolipid protein (PLP) -induced transfer EAE was utilized to examine ET effects specifically on the systemic immune system. To examine effects of ET on systemic autoimmunity, lymph-node (LN)-T cells from trained- vs. sedentary donor mice were transferred to naïve recipients and EAE severity was assessed. LN-T cells derived from donor trained vs. sedentary PLP-immunized mice were analyzed in vitro for proliferation assays and cytokine and chemokine receptor genes expression. T cell-dependent immune responses of trained- vs. sedentary mice to the non-autoantigen ovalbumin and susceptibility to Escherichia coli - induced acute peritonitis were examined.

Results: High intensity training in donor mice induced stronger inhibitory effect than moderate intensity training on disease development and PLP-reactivity of LN- T cells derived from PLP- immunized mice. High intensity training also inhibited LN- T cell proliferation in response to ovalbumin immunization. E-coli bacteria counts and dissemination were similar in trained and sedentary mice. Conclusion: High intensity training possesses superior modulatory effects on autoimmunity in EAE, while also inhibiting T cell responses to ovalbumin, but sustains immune defenses against E-coli bacteria.



B	SED- transfer EAE (n=18)	MICT- transfer EAE (n=22)	HICT- transfer EAE (n=11)
Day Of Onset	8.7 ± 0.4	11.3 ± 0.7 *	13.0 ± 1.9 *
Maximal Clinical Score	2.9 ± 0.4	2.8 ± 0.3	1.2 ± 0.5 *
Burden of Disease	45.3 ± 6.8	29.7 ± 4.0 *	12.0 ± 6.0 **

Figure 1: Superior inhibitory effect of high intensity training on the encephalitogenicity of lymph node (LN) T cell-derived from proteolipid (PLP) - immunized mice in transfer model of experimental autoimmune encephalomyelitis (EAE).
Clinical course (A) and clinical parameters (B) of transfer EAE in mice that received PLP- reactive LN T cells from moderate intensity continuous trained (MICT- transfer EAE, n=22), high intensity continuous trained (HICT- transfer EAE, n=11) or sedentary (SED- transfer EAE, n=18) mice. The severity of EAE was scored on a 0–6 scale. Transfer of LN- T cells derived from HICT, PLP-immunized mice to naïve recipients induced the most significant attenuation of EAE development. Data are mean ± SE. *p<0.05, **p<0.01, as compared to SED- transfer EAE.

Biography

Prof. Einstein's area of specialization is neuro-immunology and neuro-regeneration in neurodegenerative diseases, specifically on animal models of human Multiple Sclerosis (MS). Her major studies concern on the neurobiology of neural stem cells and cell therapy in neurodegenerative diseases. Her work published in 2003 was the first to show that transplanted neural stem cells have anti-inflammatory effects on the rodent brain. This finding was a breakthrough for further research of her group, as well as other research groups around the world. Her current research focuses mainly on neuro-immunological, neuro-protective and neuro-regenerative effects of exercise training on neurodegenerative diseases, particularly on experimental autoimmune encephalomyelitis (EAE) the animal model of MS. The studies involve animal training, clinical evaluations, histopathological analyses, cell cultures and molecular biology techniques.

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Accepted Abstracts

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J Neurol Clin Neurosci, Volume 3

Empowerment of primary health care to bridge the childhood epilepsy treatment gap in an outreach financially-constrained district in Pakistan

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Introduction: There is huge childhood epilepsy treatment gap (CETG) in developing countries because of nonadherence to antiepileptic drugs (AEDs), and this can adversely affect the course of childhood epilepsy (CE). There is a dearth of data in such countries on the effectiveness-assessment of community interventions regarding treatment improvement for the children with epilepsy (CWE).

Study type: Case control interventional study.

Objectives: This study was designed to determine the effectiveness of interventions through free community childhood epilepsy center by combining outreach monthly free pediatric neurology camps and Telepaedsneurology aiming at bridging the huge treatment among CWE.

Methods: After integration and implementing childhood epilepsy (CE) into primary care for last two years, in a case control interventional study, 240 CWE (160 being treated and followed in the free community childhood epilepsy center and 80 as control, not being treated at this center). The age ranged from4months to 18years, in whom treatment initiated with antiepileptic drugs (AEDs) for the past 3 months prior to the data collection date were evaluated. Data was collected by a questionnaire divided into three parts 1) demographical information about patients, 2) information about childhood epilepsy treatment and AED(s) medication adherence profile using the Morisky Medication Adherence Scale-8 (MMAS-8) and 3) data on intervention-effectiveness of the community childhood epilepsy center (CCEC) on bridging the treatment gap in comparison with cohort not being intervened by this center. Ethical approval was obtained from the institutional ethics committee.

Results: Male to female ratio was 1.26:1.After two years of intervention by Top-Down-Bottom-up-Childhood-Epilepsy-Program –Center (TDBUCEPC), childhood epilepsy treatment gap (CETG) dropped to 20% (was 90% in 2014), however the treatment gap was 82.5% among the cohort not being intervened at this center. Adherence to antiepileptic drugs by self-report was 85% (was 42% in 2014 without community intervention) among the children being treated, provided free AEDs with consultations and followed at the epilepsy center, whereas, currently adherence was 37.5% among the children not being intervened at this center.

Conclusion: Integration and implementation of CE into primary health care in outreach financially-constrained districts in Pakistan is one of the best strategies to bridge the huge TGCE, by empowering the local communities to provide free treatment for CWE.

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Dream experience in the absence of vision

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As vision is the predominant sensory modality in the dreams of normally sighted people, it is reasonable to ask do blind individuals have visual dreams? Blindness, particularly when it occurs early in life, is associated with reduced visual imagery and an increased incidence of sleep disturbances including more frequent nightmares. However, the sensory and emotional dream qualities of individuals with differing blindness etiologies remain poorly studied.

The goal of the present study was to further assess the dream experiences of individuals with different times of blindness onset. We examined dream reports collected from 11 blind individuals who reported no light perception, and 11 age- and sex-matched normal-sighted controls. Of the blind individuals, 5 were born blind (congenital blind) and 6 had acquired blindness sometime after birth (late blind). Dream content and themes were examined using daily dream questionnaires collected over a period of 30 days, as well as with the Inventory of Dreams:

Experiences and Attitudes (IDEA) questionnaire and the Typical Dreams Questionnaire (TDQ).

As expected, the incidence of visual dream elements was much lower in both groups of blind individuals, while other sensory modalities were more present. Further, congenitally blind individuals, but not late blind individuals, reported more nightmares. Although dream themes were generally similar between blind and normal-sighted individuals, as well as between the congenital and late blind groups, we noted some contents that were characteristic of the blind. Particularly, they reported a greater intensity of positive emotions in their dreams, as well as a more positive attitude towards the dreaming experience.

Blindness not only results in the reduction of visual elements in dream content, but may alter their emotional quality, including a heightened frequency of nightmares among congenitally blind individuals.

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Notes:

Neurological manifestations of vitamin B12 deficiency, CNS manifestations

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Vitamin B12 (cobalamin) discovered at Merch, structural actualization by Hodgkin, Minot and Murphy's hall mark study on treatment of cobalamin deficiency. Castle's discovery on the gastric component, intrinsic factor. And this is still the subject of intense research in its role in preventing the irreversible neurological lesions.

A water-soluble vitamin involved in the metabolism of the body. A cofactor of DNA synthesis, metabolism of Amino acids and fatty acids, and vital in the normal functioning of CNS. According to current reports, cobalamin deficiency is being most seen in developing countries than developed countries.

The most frequent neurological manifestations of vitamin B12 Deficiency is sub-acute combined degeneration of spinal cord. Along With the symptoms of numbness, paresthesias, ataxia of gait, urinary incontience and urgency. Other CNS manifestations include optic neuropathy, peripheral neuropathy and Cerebral symptoms such as apathy, depression, dementia, psychosis. An historical study by Reynolds et.al in 1992 founded that the low levels of cobalamin and be related with multiple sclerosis. cobalamin deficiency can cause hyper homocysteinemia, which can be related to even stroke, MI, Premature atherosclerosis and venous thromboembolism. Laboratory diagnosis for this include serum cobalamin levels, schilling test and deoxyuridine suppression test etc.

Vitamin B12 deficiency and causes both axonal and demeylidine changes, is commonly occuring through the dietary deficiency. blood smear test and bone marrow test are useful indication for the possible vitamin B12 deficiency.

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Neuropharmacology of depression and suicide ideation among pediatric age group and appropriate prevention

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Background: Treatment-emergent suicidal ideation and behavior in the pediatric age group are current apprehensions with antidepressants, with which Selective serotonin reuptake inhibitors (SSRIs) been the most common antidepressant used to prevent depression among children and adolescent.

Objective: Suicidal ideation is common among pediatric age group with depression in the United States and depression has been reported to be the most leading cause of suicidal ideation, and this oral presentation his to narrow down and investigate the link between occipital lobe and neurobiology factor in patients with depression and successful suicidal attempt within past. Five (5) year of study.

Aim: The aim of this presentation his to determine the pathogenesis of depression and correlation with suicidal ideation and its relationship with occipital lobe as well as establishing a preventive measure for depression and suicidal ideation in children of pediatric age group as well as the adolescent.

Result: Memory display a substantial role in the risk of suicidal acts in the same vein, defects in cognitive inhibition has been linked with the inferior frontal gyrus, thalamus, orbitofrontal cortex and parietal cortex leading to depression and the aggravations predisposes to suicidal ideation.

Conclusion: Our finding has given us fact and hypothesizes that state-related defects may predispose to trait-like cognitive impairments to facilitates to suicidal vulnerability, which may impose various therapeutic approaches for the prevention of suicidal attempts, further brain damage as well as PTSD in pediatric age groups and adolescents.

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Primary spinal nonsacral Ewing sarcoma with the unusual presentation- A case report

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Primary malignant sarcomas of the spine are not among common types of primary bone sarcomas. There are only few cases reported on the literature about this tumor. Ewing sarcoma occurring in the spine is divided into two types: 1) sacral spine Ewing sarcoma, which is very aggressive with poor prognosis and 2) non-sacral spine Ewing sarcoma, which is an extremely rare occurrence. The patient may present neurological deficit when the tumor extends into the spinal canal causing spinal cord compression; however, a sudden progressive paraplegia also is very rare. Here, we report a case of 8 years girl with sudden weakness and tingling in both lower limbs, inability to walk, progressive neck and upper dorsal pain, and urinary retention problem. Spinal MRI shows extradural mass from T2 to C7 with severe spinal cord compression. Urgent decompressive laminectomy and GTR of the lesion was done with excellent postoperative outcome

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Notes:

Trajectory planning with the use of Image guidance System for Endoscopic third ventriculostomy and its effect in reducing complications

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Introduction: Endoscopic third ventriculostomy (ETV) is commonly being performed by neurosurgeons around the world for the management for hydrocephalus in adults and paediatric age group. Nevertheless, ETV has been associated with multiple complications, the most significant being iatrogenic injury to the fornix. In our study we aim to establish the fact that use of Image guidance while planning our trajectory can reduce the incidence of complications including forniceal injury as it significantly alters the usual approach for ETV i.e. the coronal burr hole.

Materials and Methods: This is a prospective observational study conducted in Liaquat National Hospital. A total of 43 patients were included in the study which underwent ETV for hydrocephalus. Patients with history of head trauma age more than 70 and with ETV being conducted without Image guidance were excluded from the study. Complications secondary to ETV were divided into three major groups including Arterial Hemorrhage, Venous hemorrhage and injury to neural structures including fornix and occulomotor nerve. Fornix contusions are graded structurally and data was compared with studies showing complications of ETV without usage of Image guidance.

Results: Among the 43 patients who underwent ETV with image guidance, only two patients (4.65%) had iatrogenic fornix contusions. Neither of them developed memory impairment. None of the patients (0%) encountered other major iatrogenic complications including injury to the mammilary bodies, basilar artery or occulomotor nerve.

Conclusion: Use of Image guidance can reduce the trajectory related complications including hemorrhage and iatrogenic injury to the fornix. In our study we observed that the altered trajectory was beneficial in avoiding major neurological structures while introducing endoscope through the cortex into the ventricular system.

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Notes:

Burden, risk factors and outcome of stroke among adult patients admitted to stroke unit of jimma university medical center, southwest ethiopia: prospective cohort study

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Stroke is currently observed to be one of the commonest reasons of admission in many hospitals and becoming an increasingly serious public health issue in Ethiopia, but patients are often poorly managed and there is high death rates. Despite the high burden of strokes globally, there is insufficient information on the current epidemiology, risk factors, complications and outcome of stroke in low and middle income countries including Ethiopia.

Prospective cohort study was carried at stroke unit of Jimma university medical center for consecutive 4 months from March 10-July 10, 2017. All eligible consecutive stroke patients of >18 years of were selected by using convenience sampling technique. Data was collected using a standardized data extraction and interview the patients. Data abstraction tool was developed based on the previous study findings done at different sites and using the WHO step wise approach to stroke surveillance along with different modifications and incorporations. Data collection tool includes different factors affecting outcome of interest. The outcome of interest was mortality and patients were followed from hospital arrival until death/ end of study period. Data was entered to Epi data v.3.1 and analyzed using SPSS version 20. Data's were presented in tables and figures. Multivariable logistic and cox regression were used to identify the predictors of stroke and mortality at different times, respectively. Confidence interval which doesn't contain 1 and predictors with probability value less than 0.05 was considered statistically significant.

A total of 116 eligible stroke patients were followed during the study period with mean age of 55.14+14.04 years and males comprised 62.9%. Using WHO criteria 60 (51.7%) patients had ischemic while 56 (48.3%) had hemorrhagic stroke. The most common risk factor identified was hypertension (75.9%) and atrial fibrillation was the independent predictor of hemorrhagic stroke (AOR: 0.08, 95% CI: 0.01-0.68). Headache was the most clinical presentation in 75% of the patients. In hospital, at 30 day and at 60 day mortality was 21.6%, 29.3% and 39.7% respectively. Different factors predict the mortality of stroke patients. Brain edema (AHR: 6.27, 95% CI: 2.50-15.76), urine incontinence (AHR: 3.48, 95% CI: 1.48-8.17), NIHSS>13 during hospital arrival (AHR: 22.58, 95% CI: 2.95-172.56) and diagnosis of stroke clinically alone (AHR: 4.96, 95% CI: 1.96-12.54) were the independent predictors of in hospital mortality. Elevated ALT level (AHR: 3.77, 95% CI: 1.34-10.57), diagnosis of stroke clinically alone (AHR: 3.90, 95 CI: 1.49-10.26), brain edema (AHR: 4.28, 95% CI: 1.61-11.37), and having NIHSS>13 during hospital arrival (AHR: 6.49, 95% CI: 1.90-22.22) were the independent predictors of 30 day mortality. Left against medical advice on discharge (AHR: 6.40, 95% CI: 2.31-17.73) and severe mRS (4-5) at discharge (AHR: 3.64, 95% CI: 1.01-13.16) were the independent predictors of 60 day mortality. At 60 day 2 patients were lost to follow up.

The mortality of stroke in this set up is similar to other low- and middle-resource countries. As stroke is a high priority status, large-scale public health campaign should be launched focusing on public awareness on stroke risk factors and interventions.

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Resveratrol attenuates endoplasmic reticulum stress (ERS) induced cell death and results in functional improvement after traumatic brain injury

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Traumatic brain injury (TBI) is often caused by accidents that damage the brain. TBI can induce endoplasmic reticulum stress and lead to neuronal and glial cell death. Persistent overwhelming stimuli trigger ER stress to initiate apoptosis, autophagy, and cell death. Caspase-12 and CHOP signaling pathways are important players of ER stress, which is also modulated by ROS production, calcium disturbance, and inflammatory factors. In this study, we investigated the mechanism of cell death during the damage caused by TBI in vivo and in vitro, as well as the protective effect of resveratrol (RV), which is a polyphenol antioxidant found in red wine and has been shown to play a neuroprotective role. Here we report that Endoplasmic reticulum stress was activated in mice brains exposed to TBI. In the in vitro TBI model, apoptotic and neuroinflammatory cytokines were induced through the activation of BV2 microglial cell by LPS. LPS triggered activation of microglia, detected by an increase of TNF-α, and IL-1β, detected by qPCR. Treatment of RSV reduced neuroinflammation by inhibited LPS-induced TNF-α, IL-1β production in a concentration-dependent manner.

We investigated the effect of the administration of resveratrol (RSV) post-traumatic brain injury (TBI) on reducing ERS markers. TBI was induced by cortical contusion injury in mice. RSV (40 mg/kg in dimethyl sulfoxide) was administered intraperitonially at 5 min after TBI, followed by a daily dose for 3days. The expressions of GRP78, caspase-12, chop and caspase-3 were evaluated by Western blot. Neurological function was further evaluated to investigate the development of TBI. We found that post-TBI treatment with RSV could markedly inhibit the expressions of GRP78, CHOP and CASPASE-12. However, RSV treatment failed to reduce caspase-3 although neurological deficits at 72 h after TBI improved. These results indicated that RSV treatment could alleviate EBI after TBI, at least in part, via inhibition of ERS signaling pathway.

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Notes:

J Neurol Clin Neurosci, Volume 3

Effect of transcutaneous electrical nerve stimulation and conventional therapy in post-stroke dysphagic patients: A randomized controlled trial

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Background: Post stroke dysphagia (PSD) can decrease the quality of life, increase the risk of medical complications and mortality. So, it is a great concern for patients and a tough problem for clinicians.

Purpose: The current study was conducted to investigate the effect of adding TENS to the conventional therapy of treating PSD.

Methods: Thirty patients' complaint from post stroke dysphagia were participated in this study, their ages were ranged from 45 to 85 years. They were randomly divided into two equal groups. Group (A): Received 3 weeks of treatment with Transcutaneous Electrical Nerve Stimulation (TENS), frequency 80 HZ, pulse duration of 300 μsec, intensity according to the patient's tolerance ranging from 2.5 to 25 mA, duration of treatment 30 min three times/week in addition to the conventional therapy. While Group (B): Received 3 weeks of treatment with conventional therapy and placebo TENS, duration of treatment 30 min three times/ week.

Results: Both treatment protocols are effective, minimally invasive option for treatment of patients complaining of post stroke dysphagia, both groups produced subjective improvement and there is a significant increase in both The Functional Oral Intake Scale (FOIS) and The Mann Assessment of Swallowing Ability (MASA) of group A compared with that of group B post treatment.

Conclusion: There was significant increase in the MASA of group A compared with that of group B post treatment. Moreover, there was a significant increase in the median values of FOIS of group A post treatment compared with that of group B.

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Prevalence of inherited/congenital neurological disorders in Azad Jammu and Kashmir

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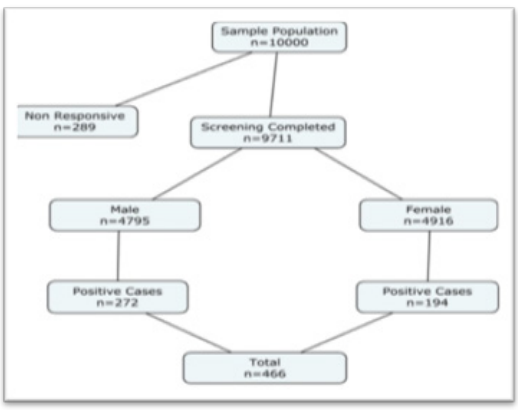
Statement of the Problem: Large scale epidemiological studies on inherited/congenital neurological diseases are rare in Pakistan and also in Azad Jammu and Kashmir. Therefore, we conducted a population based cross sectional epidemiological study on a stratified randomly selected samples from the four major districts of AJ &K to study the four major inherited/ congenital neurological disorders which includes; intellectual disability, microcephaly, neuromuscular dystrophy and Parkinson's disease.

Methodology: Families with inherited/congenital neurological disorders were randomly recruited through door to door survey. Approval for this study was obtained by board of advanced studies from University of Azad Jammu and Kashmir.

Findings: Total 10,000 individuals were selected for interview among which 9711 (97.11%) took part in the study while 289(2.89%) refuse to take part in this study. Among responsive, the total number of affected individuals with different neurological disorders was 466 (4.80%) with an age range of 1-60 years. According to this data prevalence of neurological disorders in males was more 272 (5.67%) than the females 194(3.94%). The highest prevalence was recorded in age <18 years 253 (6.40%). Among the total positive cases intellectual disability was most frequent 337 (72.31%), followed by microcephaly 64 (13.7%), neuromuscular dystrophy 51(10.90%) and Parkinson 14 (3. 00%).

Conclusion & Significance: Present data suggests that inherited intellectual disability is the most frequent among all neurological disorders so further exploration, population base studies and genetic counseling is necessary.



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