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Comprehensive epilepsy care model [CECM] for post stroke complications

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Background and aims

Issues: People having post stroke complications like epilepsy needs price-discounted-drugs & proper-nursing-care in Asian region. Appropriate public-health-program for supportive-care needed in rural/tribal areas of Asia. Description: treatment-cost of post stroke complications like epilepsy is very high for rural/tribal population. Over 82% patients in rural-asia cannot afford therapies. Since 2016 community-initiatives implemented to reduce epilepsy therapy-cost. NGO's need to facilitate development of sound/sustainable nursing-care-programs in marginalised asian communities. There is need to Establish Uniform public-health-policy to develop of sound/sustainable health care-programs.

Methods

this is policy paper on advocacy. Community participation of NGO in administration of nursing-care very effective in for cost-management, better-compliance. Community mass-intervention & low-cost drug-supply-projects has proven useful in rural communities of resource poor-nations. Participants can collaborate with NGO-activist to address this burning allied-health-issue. Uniform govt public-health-policy needed to implement supportive –care-services.

Results

long-term therapy of post stroke complications like epilepsy out of reach for >90% indian-patients. Rehabilitation/palliative care plans non-existent. Concrete proposals done only by 3 NGOs, 8 such projects currently running in asia. Of these none supported by WHO, 3 NGOs, 1 government & 4 private entities (38%) & 1 corporate/Pharma sector initiatives. Nursing care in rural/tribal areas is abysmal.

Conclusions

Promoting dialogue between health-services & nurses accelerates health-care-results. Nurses participation increases more Rx-compliance and improves treatment outcomes. Nurses have direct-communication with patients. Hence nurses must be involved in such Public-health-policy issues. This would reduce difficulties faced by patients from resource-poor-southern-countries. Via this policy-paper, we advocate, WHO/WCN should form common-guideline-manual on this issue affecting developing-countries.

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A randomised controlled trial on the effect of viewing the event on psychological outcome in patients with psychogenic non epileptic events (EVEPOP Trial)

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Background and aims

BACKROUND Psychogenic Non Epileptic Event is a sensitive diagnosis, which when delivered along with one's own event leads to a better understanding of the illness. This study aims to look at the effect of viewing one's own event on psychological status in PNEE.

Methods

This is a single centre prospective randomised controlled trial where patients diagnosed with PNEE in our epilepsy monitoring unit were randomised into intervention and control arm. Both the groups were given standard psychotherapy while the recorded event was shown to intervention arm alone. Event frequency and baseline psychological status using standard questionnaires (HADS and QOLIE - 31) was recorded at baseline and compared during followup at 12 weeks. Paired *t*-test was used to compare the results. The trial is registered with CTRI/2021/04/033220.

Results

A total of 65 patients (31 intervention / 34 control) were included in the study with similar baseline characteristics. The mean baseline per-week event frequency was 9.93 (16.7) and 11.78 (25.3) in intervention and control group respectively, which had fallen to 2.58 (4.65), $p = 0.731$ and 1.58 (3.04), $p = 0.313$ during 12 week followup. HADS scores improved significantly in both the groups while among QOLIE 31 components, seizure worry ($p = 0.008$), overall quality of life ($p < 0.001$) and emotional well being ($p < 0.003$) improved in intervention arm as compared to control arm.

Conclusions

Psychotherapy in addition to event viewing improves psychological status in PNEE especially with regard to seizure worry and emotional well being perhaps by improving self - acceptance of the diagnosis and increasing the engagement and adherence to psychotherapy.

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Daytime sleep-wakefulness cycle disturbances are effectively reversed with pitolisant in pentylenetetrazol-kindled rats

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Background and aims

Chronic brain eptisation induces sleep-wakefulness (SW) disturbances. The work aimed to investigate SW cycle in pentylenetetrazole (PTZ)-kindled rats under combined treatment with the histamine H_3 inverse agonist pitolisant, which is effective in narcolepsy.

Methods

Kindling was produced in 18 Wistar male rats by administration of three-week PTZ (Sigma Aldrich, 35.0 mg/kg, i.p.). Pitolisant (Selleck, 5.0 mg/kg, i.p.) was administered for ten days. SW data were collected over four hours starting from 8.00 AM via behavior, EEG, and EMG registration.

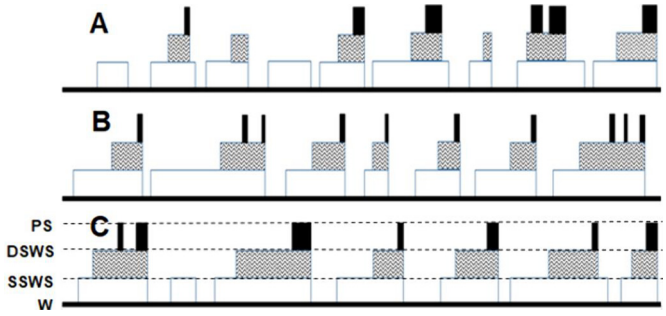

Fig.1. Time-course of sleep-wakefulness cycles registration in control (A), kindled rat (B) and kindled rat treated with pitolisant (C) registration. Data is presented during the third hour from the moment registration starts. DSWS – deep SWS, and SSWS – superficial slow wave sleep.

Results

In control rats, the wake (W) state occupied 27.4% of the total time of observation, while paradoxal sleep (PS) – was 12.5%, and slow wave sleep (SWS) – was 60.1% (Fig.1, A). The number of full SW cycles was 12.33 ± 3.56. In kindled rats, W state occupied 21.8% ($P > 0.05$), PS – 7.1% ($P < 0.05$), and SWS – 71.1% ($P > 0.05$) (Fig.1, C). The number of full SW cycles exceeded that one in control by 39.7% ($P < 0.05$). In kindled rats treated with pitolisant W state occupied 29.0% ($P > 0.05$), PS – 11.6% ($P > 0.05$), and SWS – 71.0% ($P > 0.05$). The number of cycles exceeded the control data by 17.2% ($P > 0.05$).

Conclusions

PTZ kindled SW disturbances – shortage of PS and its fragmentation are blocked with the pitolisant. **Financial support:** Ministry of Health Care of Ukraine (N0121U114510).

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Comparative effectiveness of niacin-oxietilyden-di-phosphonste germanat (MIGU-4) and diazepam upon neuronal loss in the retina of rats with pentylenetetrazol (PTZ)

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Background and aims

Epilepsy is accompanied by neuronal loss, which is observed in the retina as well. **The work aimed** to study the density of neurons in retina layers of rats with pentylenetetrazol (PTZ)-kindled seizures and compare neuroprotective effects of niacin-oxyethylene-di-phosphonate-germanate (MIGU-4) with diazepam.

Methods

The fully kindled seizures were induced in Wistar rats by administration of PTZ at a dose of 35.0 mg/kg, i.p., for three weeks. Fully kindled rats were administered with MIGU-4 (25.0 mg/kg, i.p.), and diazepam (1.5 mg/kg, i.p.) for four weeks. After euthanasia, the morphology of the retina was examined.

Results

Gained data revealed that the cell density in the ganglion layer in kindled rats was 2.14 times lower ($P < 0.05$). It was 41.0% and 19.0% lower in the inner and outer nuclear layers, respectively ($P < 0.05$) compared to the control. Under conditions of MIGU-4 treatment ganglion layer neurons, density exceeded the control value by 38.0% ($P < 0.05$), while in diazepam-treated rats, density was higher by 29.5% ($P < 0.05$). The density of cells in MIGU-4 treated rats in the inner nuclear layer exceeded that in control by 30.5% ($P < 0.05$). Diazepam administration was also characterized by an increased density of neurons by 22.7% ($P < 0.05$). In the outer nuclear layer density of neurons in kindled rats was not differ from the control group ($P > 0.05$).

Conclusions

The level of the neuroprotective effect of four weeks of administration of niacin-oxyethylene-di-phosphonate-germanate (MIGU-4) in a dosage of 25.0 mg/kg corresponds to such one induced with diazepam in a dosage of 1.5 mg/kg.

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Synergy of antiseizure and anxiolytic action of rapamycin and histamine H_3 inverse agonist pitolisant on the PTZ-kindled seizures

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Background and aims

Neuroinflammatory contribution is principal for developing chronic epileptic seizures. The work aimed to investigate chronic seizures and anxious behavior in pentylenetetrazole (PTZ)-kindled rats under combined treatment with the histamine H_3 blocker pitolisant and mTOR blocker rapamycin.

Methods

Kindling was produced in Wistar male rats by administration of three-week PTZ (Sigma Aldrich, 35.0 mg/kg, i.p.). Rats with generalized seizures were chosen for observation. Treatment with rapamycin (Pfizer, 0.5 mg/kg, i.p.) and pitolisant (Selleck, 5.0 mg/kg, i.p.) was performed for ten days in fully kindled rats. Anxiety was investigated in the open field test.

Results

Combined administration of rapamycin and pitolisant prevented generalized seizures in 7 out of 8 rats ($P < 0.025$), while separate administrations failed to reduce seizures. The number of crossed central squares of the kindled animals was 4.1 times less, pertained to control ($P < 0.01$). Combined treatment abolished the reduction, which did not differ from control ($P > 0.05$), while under the condition of separate drug administration, the decline was 2.2 times for rapamycin ($P < 0.01$) and 2.7 for pitolisant ($P < 0.01$). The number of rearings was reduced in the kindled rats by 3.0 times compared to the control ($P < 0.001$). The number of rearings remained less compared with the control by 2.2