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Art of Mapping Gold Standard Medical Treatment of Epilepsy with Minimal Withdrawal and hepatotoxicity affects

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ABSTRACT

Objectives: To investigate effectiveness of newer drug regime in treatment of epilepsy with minimal risk factor for developing hepatotoxicity and withdrawal affects

Methodology: A descriptive case study was conducted at Mediks international Hospital and Research center from June 2016 to September 2017. A total of 100 epileptic patients with (generalized or focal epilepsy) aged between 10 to 50 years fulfilling inclusion criterion, with 50 cases who received new drug regime of (gabapentin, lamotrigine, tiagabine, topiramate and vigabatrin) and 50 active controls who received standard drug treatment of (carbamazepine, phenytoin, phenobarbital, primidone, and valproate) were enrolled in the study after signing informed consent. In order to assess frequency of drug induced hepatotoxicity LFT's were performed after every 3 months and liver biopsy was done at the end of 1 year period to view histological findings. A specially designed structured questionnaire was used to evaluate the reduction of epileptic symptoms in both groups. Chi-square test was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant.

Results: 100 participants aged between 10 to 50 years with mean age of 30.11 were enrolled in the study, out of them, in case group 70% were male participants and 30% were females whereas in control group 56% were male participants and 44% were females. VPA induce disorders observed in control participants were hepatotoxicity 50%, encephalopathy in 10%, acquired von willebrand's disease in 4% and thrombocytopenia in 20% cases whereas 16% didn't develop any complication after valproate administration. Raised ALT was observed in (40% controls versus 16% cases), raised AST in (20% versus 10 %) and raised bilirubin in (24% versus 4%) whereas normal LFT findings were seen in (16% versus 70%). Normal liver histological findings were observed in 16% controls versus 90% cases. Marked reduction in epileptic symptoms and least withdrawal affect was seen case group. P-value ranging between 0.000-0.005 suggested significant findings.

Conclusion: Drug regime consisting of (gabapentin, lamotrigine, tiagabine, topiramate and vigabatrin) is highly effective in management of epilepsy with minimal risk factor for developing hepatotoxicity and withdrawal affects.

Key words: Seizures, Petitmal Epilepsy, Grandmal Epilepsy, Valporate Toxicity, Gabapentin

INTRODUCTION

Epilepsy is a neurological disorder characterized by uncontrolled and repetitive seizure activity (1, 2) resulting from an abnormal area of foci responsible for eliciting paroxysmal electrical discharges. These abnormal electrical impulses are commonly seen in individuals due to either over excitation of neuron or loss of their inhibitory signals (3). Clinically epilepsy can be manifested in terms of recurrent and unpredictable periods of seizures followed by muscular rigidity and loss of consciousness. The two commonly reported types of epilepsy are generalized and focal epilepsy or in some cases both of these appear in an individual (4, 5). Generalized motor or (grandmal) epilepsy is executed in terms of seizures that aren't controllable by the patient, it includes tonic, myoclonic and clonic seizures (4,6,7). Generalized non-motor or (petitmal) seizures are absent seizures as the individual can have control over the movement but is totally unaware of surroundings and is lost somewhere else (8, 9). In Focal epilepsy an abnormal area of altered electrical activity appears in the brain resulting in partial seizures. It is further categorized into simple and complex focal seizures (10, 11). Epilepsy can be diagnosed on the basis of the findings reported by Electroencephalogram and brain MRI (12, 13). EEG findings associated with epilepsy are variant in different types as in generalized or partial seizures sharp waves are followed by periods of spike waves, in tonic clonic seizures spike waves lasting for greater than 80 m/s are observed, in typical absence seizures spike waves are seen at frequency of 3 Hz and in atypical cases

spike waves are reported at a frequency of <2 Hz (14, 15, 16). Multiple treatment protocols and medications have been introduced in the western world for treatment of epilepsy. Previously commonly used drug regime for partial and secondarily generalized seizure consisted of phenytoin carbamazepine, phenobarbital and valproate (17, 18). In case primary generalized seizures ethosuximide or valproate were administered to patients. The biggest dilemma associated with these drugs was of immensely reported side effects and hepatotoxicity specially observed with valproate administration. In order to minimize these worsening side effects new antiepileptic drugs such as gabapentin, lamotrigine, tiagabine, topiramate and vigabatrin were introduced owing minimal after effects. In addition to this these drugs can be used in monotherapy or in adjunct to other drugs as well depending upon needs of the patient (19). VPA has been associated with acute, but rarely fatal, hepatotoxicity. In the late 1980s the incidence was estimated to be 1 in 40,000 adults, 1 in 5000 children and ≤ 1 in 500 in the high-risk population Previous research concluded that young children (< 2 years of age) receiving treatment with other anticonvulsant drugs such as phenytoin, carbamazepine or phenobarbital were at risk for developing fulminate liver failure. VPA-associated hepatotoxicity is classified into two basic types, Type I is dose dependent and is depicted in terms of raised serum liver enzymes which fall back to normal levels after discontinuation of the drug (20). Type II is highly lethal and is reported rarely, it usually results from irreversible

idiosyncratic reaction. In the patients with VPA, histological findings reveal micro-vesicular steatosis, sometimes accompanied by liver cell necrosis (16, 17). Mechanisms responsible for inducing VPA- associated hepatopathy are inhibition of β -oxidation and oxidative phosphorylation, gluconeogenesis and urea synthesis. In

addition to hepatotoxicity, encephalopathy, acquired von Willebrand's disease, Factor XIII deficiency and thrombocytopenia also results by VPA therapy.

The sole purpose of this study is to highlight a gold standard treatment protocol for curing epilepsy with minimal side effects and least risk of developing hepatotoxicity.

PATIENTS AND METHODS

A descriptive case study was conducted at Mediks international Hospital and Research center from June 2016 to September 2017. A total of 100 epileptic patients with (generalized or focal epilepsy) aged between 10 to 50 years fulfilling inclusion criterion (no associated co-morbidity, no previous history of surgery, trauma or drug abuse) with 50 cases who received new drug regime of (gabapentin, lamotrigine, tiagabine, topiramate and vigabatrin) and 50 active controls who received standard drug treatment of (carbamazepine, phenytoin, phenobarbital, primidone, and valproate) were enrolled in the study after signing informed consent. In order to assess

frequency of drug induced hepatotoxicity LFT's were performed after every 3 months and liver biopsy was done at the end of 1 year period to view histological findings. A specially designed structured questionnaire was used to evaluate the reduction of epileptic symptoms in both groups.

Data was analyzed via SPSS version 25 (Statistical package for social sciences) software. Continuous variables had mean and Standard deviation calculated whereas frequency/percentage was calculated for categorical variables. Chi square was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant.

RESULTS

Figure 1: Bar chart showing frequency of

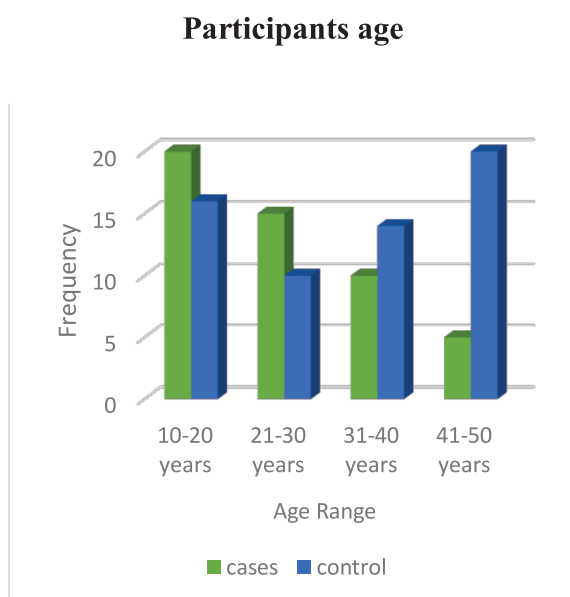


Figure 1 shows that all the participants were divided into four equal categories of age percentiles ranging from 10 to 50 years. In case group 10-20 years subjects were (N=20, 40%), 21-30 years were (N=15, 30%), 31-40 years were (N=10, 20%) and 41-50 years were (N=5, 10%). In control group 10-20 years subjects were (N=16, 32%), 21-30 years were (N=10, 20%), 31-40 years were (N=14, 28%) and 41-50 years were (N=20, 40%).

Figure 2: Bar chart showing frequency of Participants gender

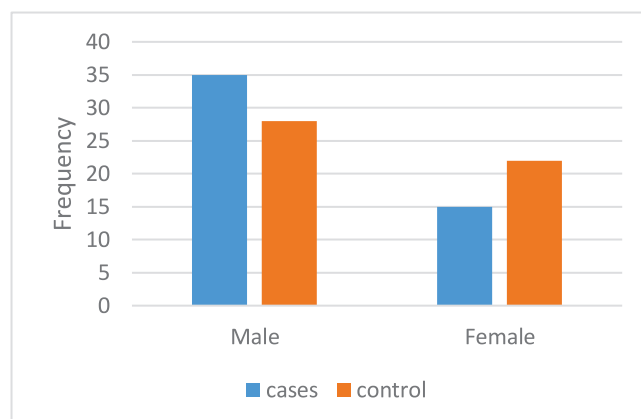


Figure 2 shows that in case group (N=35, 70%) were male participants and (N=15, 30%) were females whereas in control group (N=28, 56%) were male participants and (N=22, 44%) were females.

Figure 3: VPA induced disorders in control group.

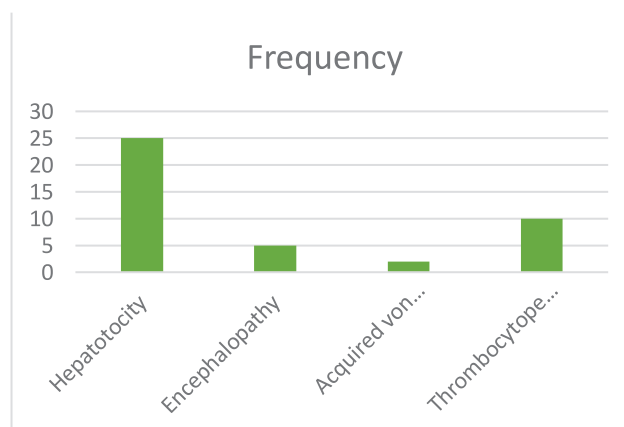


Figure 3 shows that out of 50 control participants hepatotoxicity was seen in N=25,50%, encephalopathy in N=5,10%, acquired von willebrand's disease in N=2,4% and thrombocytopenia in N=10,20% whereas N=8, 16% didn't develop any complication after valproate administration.

Table 1: LFT Findings in case and control group

LFT Findings	Controls (n=50)		Cases (n=50)		P value
	Number	Percentage (%)	Number	Percentage (%)	
Raised ALT	20	40	8	16	0.000
Raised AST	10	20	5	10	0.002
Raised Bilirubin	12	24	2	4	0.000
Normal Findings	8	16	35	70	0.000

Table 1 shows frequency and percentage of raised liver enzymes in controls versus cases, as per the findings Raised ALT was observed in (40% controls versus 16% cases), raised AST in (20% controls versus 10 % cases) and raised bilirubin in (24% controls versus 4% cases) whereas normal LFT findings were seen in (16% controls versus 70% cases)

Table 2: Histological Findings in Case and Control group

Histological Findings	Controls (n=50)		Cases (n=50)		P value
	Number	Percentage (%)	Number	Percentage (%)	
Micro-vesicular steatosis and ductular reaction	8	16	2	4	0.000
Lobular disarray & rosette formation	4	8	2	4	0.002
Liver cell fibrosis	20	40	1	2	0.004

Table 2 shows frequency and percentage of variant histological findings of liver tissue after biopsy in controls versus cases, as per the findings Micro-vesicular steatosis and ductular reaction was seen in (16% controls versus 4% cases), Lobular disarray & rosette formation in (8% controls versus 4% cases), Liver cell fibrosis in (40% controls versus 2% cases) and Liver cell necrosis in (20% controls versus 0% cases) whereas normal liver histological findings were

observed in (16% controls versus 90% cases). P_ value of less than 0.005 suggests findings are significant.

Table 3: Frequency of epileptic symptoms in Case and Control Group

Epileptic symptoms	Case (n=50)		Control (n=50)		P value
	Number	Percentage (%)	Number	Percentage (%)	
Uncontrolled seizure attacks	30	60	8	16	0.000
Temporary Confusion	15	30	5	10	0.002
Staring spell	10	20	2	4	0.004
Muscular rigidity	20	40	10	20	0.000
Uncontrolled jerky body movements	40	80	15	30	0.000
unconsciousness	20	40	10	20	0.000
Tongue biting	30	70	10	20	0.002
Headache	25	50	5	10	0.004
Nausea/vomiting	10	20	5	10	0.001

Table 2 shows frequency and percentage of epileptic symptoms in controls versus cases, as per the findings uncontrolled seizure attacks were seen in (60% controls versus 16% cases), temporary confusion in (30% controls versus 10% cases), Staring spell in (20% controls versus 4% cases), muscular rigidity in (40% controls versus 20% cases), uncontrolled jerky body movements in (80% controls versus 30% cases), unconsciousness in (40% controls versus 20% cases).

Tongue biting in (70% controls versus 20% cases), headache in (50% controls versus 10% cases) and nausea/vomiting in (20% controls versus 10% cases). P_ value of less than 0.005 suggests findings are significant.

Above mentioned results conclude that newer drug therapy including administration of (gabapentin, lamotrigine, tiagabine, topiramate and vigabatrin) has least side effects and minimal risk of developing hepatotoxicity in patients.

DISCUSSION

Epilepsy is known as an advancing and progressing neurological disorder manifested by abnormal and repetitive seizure activity resulting from an area of altered electrical foci responsible for generating recurrent electrical discharges and enhanced neuronal firing at neuromuscular junctions (2, 3). Schmidt D studied effects of variant anti-epileptic drugs

and concluded that valporic acid and its derivatives serve to be the sole cause of hepatotoxicity, coagulation disorders and encephalopathy leading towards liver failure in the end (1). In the current study VPA caused hepatotoxicity in 50%, encephalopathy in 10%, acquired von willebrand's disease in 4% and thrombocytopenia in 20% participants of control group. Hauser WA et al. studied generalized causes and symptoms of

epilepsy, as per his study the cardinal symptoms reported in epileptic cases was uncontrolled seizures, tongue biting and repetitive movements of hand and legs, in present study uncontrolled seizure attacks were seen in 60% controls versus 16% cases, Tongue biting in 70% versus 20% cases and uncontrolled jerky body movements in 80% controls versus 30% cases. Recent findings are in correlation with the previous evidence. Mattson RH observed effects of gabapentin in comparison to valporic acid and phenobarbital, he concluded that gabapentin derivatives cause least side-effects and minimal or harm to liver. Present findings suggest the same (7, 8). In previous researches raised liver enzymes i.e. ALT & AST were considered as markers suggesting liver damage in patients who were on valporic acid treatment, in present study raised liver enzymes/ abnormal LFT findings were observed in normal 16%

controls versus 70% cases. A clinical trial was conducted by Turnbull DM et al. to view the histological changes caused by VPA in patients and he found liver cell necrosis, micro-vesicular steatosis and liver fibrosis as per the finding of liver biopsy (9). In present study Micro-vesicular steatosis and ductular reaction was seen in (16% controls versus 4% cases), liver cell fibrosis in (40% versus 2%) and liver cell necrosis in (20% versus 0%) whereas normal liver histological findings were observed in (16% controls versus 90% cases). P_ value of less than 0.005 suggested findings were significant.

Abovementioned findings conclude that epileptic patients receiving gabapentin, tiagabine and viagabatin have least chances of developing hepatotoxicity and withdrawal affects in comparison to those who receive valporic acid, phenobarbital and phenytoin.

CONCLUSION

Drug regime consisting of (gabapentin, lamotrigine, tiagabine, topiramate and vigabatrin) is highly effective in management of epilepsy with minimal risk factor for developing hepatotoxicity and withdrawal affects in contrast to valporic acid, phenobarbital and phenytoin.

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Physicians must stop administration of VPA as it owes massive harmful effects and take into consideration, administration of drug regime having least side effects.

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Dilemma of Restless Leg Syndrome

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ABSTRACT

Objectives: To investigate the frequency, symptoms, causes, genetic predisposition, gender distribution and treatment methods for RLS in our community.

Methodology: A descriptive cross-sectional study was conducted at Mediks international Hospital and Research center from January 2015 to December 2016. A total of 200 patients with (restless leg syndrome) aged between 20 to 60 years fulfilling inclusion criterion were enrolled in the study after signing informed consent. A self-structured questionnaire consisting of 4 domains regarding frequency, gender distribution, genetic predisposition and commonly used treatment method was specially designed for assessment. Pain intensity of the patients was assessed by using Numeric pain rating scale. Data was analyzed via SPSS version 25. Chi square was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant.

Results: 200 patients with RLS were enrolled in the study for a period of one year and were assessed for causes and symptoms of RLS. In our study 67.5% were females, 30% participants were between 41 to 50 years of ages and 23% were above 50 years showing predominance of RLS in geriatric population and female gender. Findings of NPRS suggest that (N=75, 37%) had moderate, (N=65, 30%) had severe and (N=60, 33%) had very severe pain intensity. In 32.5% participants RLS was reported due to familial predisposition and in 20% during pregnancy serving to be the two major causes of RLS in participants. 35% reported reduction in pain with application of hot packs and leg massage, 42.5% with administration of narcotics & benzodiazepines and 22.5% with administration of dopaminergic drugs. P-value of less than 0.005 suggests findings are significant.

Conclusion: Restless syndrome is a sleep disorder that causes an irresistible urge to move legs as it reduces pain and uncomfortable sensation felt by the patients. It runs in families and is more common in females. It is completely curable provided that it is timely diagnosed by the physicians.

Key Words: Sleep disorder, Restlessness, RLS, Pin and Needles, Formication

INTRODUCTION

Restless leg syndrome is a complex neurological disorder resulting in irresistible urge to move legs while sitting or lying down especially in evening or during night hours (1). An uncomfortable unpleasant and agonizing sensation is usually felt by the patients that is alleviated via moving or shaking legs (2, 3). This particular nervous system disorder interferes and disturbs normal sleep cycle, due to this fact it is often taken as a sleep disorder (4, 5). Highly irritating sensation of pins and needles, itching and sometimes ant crawling i.e. formication disturbs the sleep pattern and causes sudden and continuous urge to move legs until these sensations vanish (6). RLS affects both genders equally but previous evidence suggests that it is more common in women and geriatric population is at more risk of developing RLS. Severity of the symptoms ranges from mild to highly intolerable levels. These symptoms worsen with periods of rest and alleviates with activity or movement of legs, resulting in a restless condition and poor sleep duration that impairs quality of life (7, 8). It is usually misdiagnosed but once it is diagnosed properly, it can be successfully treated. Variant factors result in RLS, in most of the cases it appears either due to an idiopathic cause or it runs in the family, RLS has genetic predisposition as well (9, 10). Other medical conditions that lead towards development of RLS are peripheral

neuropathies (11), iron deficiency, renal failure and diabetic neuropathy. Abuse of anti-depressants, anti-psychotics and anti-histamines results in further worsening of the symptoms (12). Some studies suggest that almost 70-80% of the females suffer from RLS during pregnancy as increased size of the uterus compresses nerves of the pelvic girdle and lower limb, in addition to this generalized swelling and edema resulting from hormonal change causes engorgement and distension of vein impairing venous return that further worsens edematous changes promoting more nerve compression (13, 14, 15). There are no specific tests to rule out RLS, it is usually diagnosed on the basis of previous family and medical history of the patients or on the basis of uncomforted symptoms reported by patients (16). It is curable and multiple treatment options are used to treat this condition such as application of hot packs, vibrating massager or general leg massage can decrease the intensity of symptoms. In contrast to these therapeutic methods, dopaminergic drugs especially in patients of Parkinson's, benzodiazepines to improve daytime sleep, narcotics to alleviate pain and anti-convulsants can also be administered. RLS is highly understudied topic in our community, the purpose of this article is to highlight the frequency, genetic predisposition and treatment methods for RLS.

PATIENTS AND METHODS

A descriptive cross-sectional study was conducted at Mediks international Hospital and Research center from January 2015 to December 2016. A total of 200 patients with (restless leg syndrome) aged between 20 to 60 years fulfilling inclusion criterion (no associated co-morbidity, no previous history of surgery, trauma or drug abuse) were enrolled in the study after signing informed consent. A self-structured questionnaire consisting of 4 domains regarding frequency, gender distribution, genetic predisposition and commonly used treatment

method was specially designed for assessment. Pain intensity of the patients was assessed by using Numeric pain rating scale.

Data was analyzed via SPSS version 25 (Statistical package for social sciences) software. Continuous variables had mean and Standard deviation calculated whereas frequency/percentage was calculated for categorical variables. Chi square was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant.

RESULTS

The aim of this study was to highlight the frequency, genetic predisposition, gender distribution and treatment methods for RLS in our community.

Figure 1: Bar chart showing frequency of Participants age

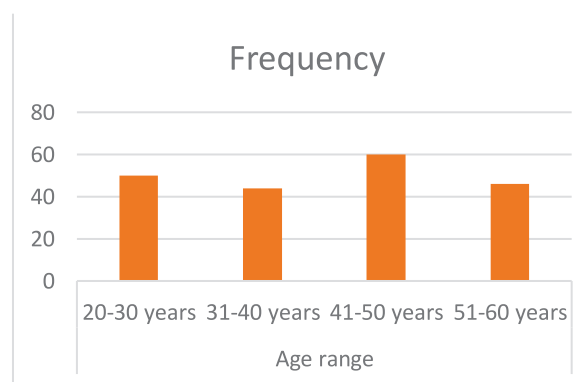


Figure 1 shows that all the participants were divided into four equal categories of age percentiles ranging from 20 to 60 years. In case group 20-30 years subjects were (N=50, 25%), 31-40 years were (N=44, 22%), 41-50 years were (N=60, 30%) and 51-60 years subjects were (N=46, 23%).

Figure 2: Bar chart showing frequency of Participants gender

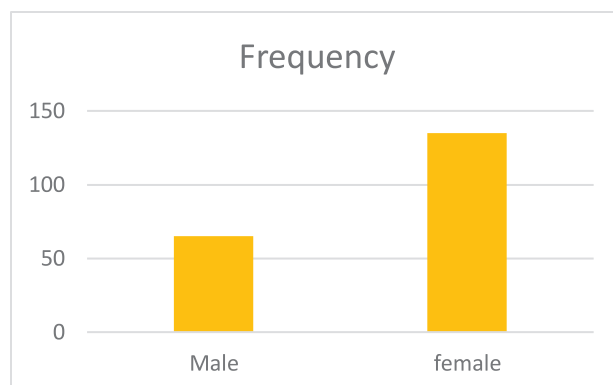


Figure 2 shows that (N=65, 32.5%) were male participants and (N=135, 67.5%) were females

Figure 3: Pie chart showing frequency of pain intensity at NPRS

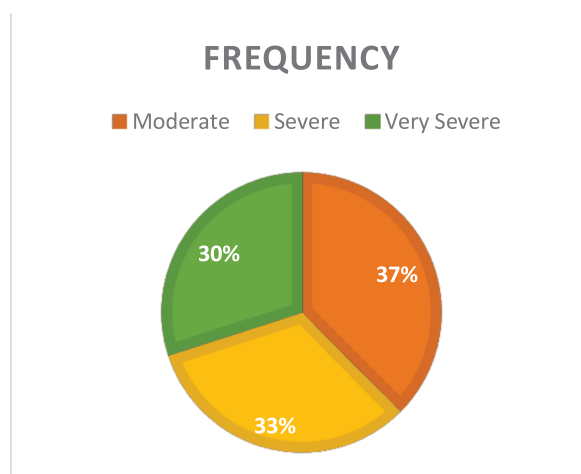


Figure three shows frequency of pain intensity at NPRS among 200 participants, as per the findings (N=75, 37%) had moderate, (N=65, 30%) had severe and (N=60, 33%) had very severe pain intensity.

Table 1: Frequency table showing causes of RLS in N=200 participants

Variables	Frequency/percentage	P-value
Familial predisposition	N=65, 32.5%	0.000
Pregnancy	N=40, 20%	0.000
Over use of anti-depressants/anti-psychotic & anti-histamines	N=35, 17.5%	0.001
Peripheral & diabetic neuropathies	N=35, 17.5%	0.002
Iron deficiency	N=25, 12.5%	0.000

Table 1 shows frequency and percentages of causes of RLS in N=200 participants, N=65, 32.5% showed familial predisposition i.e. RLS runs in families, N=40, 20% reported that RLS develops during pregnancy, N=35, 17.5% had RLS due to drug abuse, N=35, 17.5% reported Peripheral & diabetic neuropathies and N=25, 12.5% had Iron deficiency. P-value less than 0.005 suggest findings are significant.

Table 1: Frequency table showing symptoms of RLS in N=200 participants

Variables	Frequency/percentage	P-value
Poor/impaired sleep	N=95, 47.5%	0.000
Pins and needles sensation	N=40, 20%	0.000
Muscular discomfort	N=35, 17.5%	0.001
Itching	N=15, 7.5%	0.002
Ant crawling sensation/ Formication	N=15, 7.5%	0.000

Table 2 shows frequency and percentages of symptom of RLS in N=200 participants, N=95, 47.5% showed Poor/impaired sleep, N=40, 20% reported Pins and needles sensation, N=35, 17.5% had Muscular discomfort, N=15, 7.5% had itching and N=15, 7.5% had Ant crawling sensation/ Formication. P-value less than 0.005 suggest findings are significant.

Table 3: Effectiveness of treatment protocols in reduction of symptoms and pain intensity in (N=200 participants)

Variables	Frequency/percentage	P-value
Hot packs/ leg massage	N=70, 35%	0.000
Administration of narcotics & benzodiazepines	N=85, 42.5%	0.000
Administration of dopaminergic drugs	N=45, 22.5%	0.001

Table 3 shows frequency of effectiveness of various treatment protocols in reduction of pain and symptoms of discomfort, as per the findings out of 200 participants N=70, 35% reported reduction in pain with application of hot packs and leg massage, N=85, 42.5% with administration of narcotics & benzodiazepines and N=45, 22.5% with administration of dopaminergic drugs. P-value less than 0.005 suggest findings are significant.

DISCUSSION

Restless leg syndrome is generally characterized by irresistible and uncontrollable urge to move legs due to highly uncomfortable and unpleasant sensations of pins and needles, itching and heaviness (3, 4). Previous studies suggest that RLS is a neurological disorder that badly affects sleep duration and sleep pattern of an individual, in present research almost half of the participants reported poor and impaired sleep due to RLS (2, 3).

Walters AS et al. studied causes and effects of RLS in geriatric population and concluded that majority of the people gets affected with RLS after crossing 50 years and it is more prevalent in females as compare to male participants (10), in latest 30% were in between 41-50 years of age 23% were between 51-60 years of age whereas 67% participants were females. Previous evidence states that RLS has genetic predisposition and its runs in

families, in our study N=65, 32.5% showed familial predisposition (21, 22). Hening W et al. studied disorders associated with pregnancy and concluded that restless leg syndrome is commonly seen in pregnant women due to pressure exerted by enlarged uterus on nerves of lower limb (4), in current study N=40, 20% females reporting RLS were pregnant at the time of being enrolled in the study. A clinical survey conducted to evaluate causes of RLS reported that it result from neuropathies most commonly peripheral ad diabetic (17, 18), in our study N=35, 17.5% participants had neuropathies that served to be the cause of RLS. Previous researches conclude that patients who had prolonged intake of anti-psychotics, anti-histamines and anti-depressants developed RLS, in present research study N=35, 17.5% had RLS due to drug abuse. In previous researches various treatment methods have been taken into consideration such as administration of dopaminergic drugs (19), narcotics & benzodiazepines (20), application of electrical massagers and hot packs along with taking preventive measures, in current study these therapeutic protocols were used and they were found to be effective in

reducing pain intensity and symptoms of discomfort.

CONCLUSION

Restless syndrome is a sleep disorder that causes an irresistible urge to move legs as it reduces pain and uncomfortable sensation felt by the patients. It runs in families and is more common in females. Sometimes it is reported in pregnant females or in patients with diabetic and peripheral neuropathies. It is completely curable provided that it is timely diagnosed by the physicians. It is part of the physicians to make a proper diagnosis and give adequate treatment guideline to the patients.

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Opium Derivatives as Dependable hope for Cutting Short Pain Management in Terminal Cancerous Patients.

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ABSTRACT

Objectives: To evaluate effectiveness of opium derivatives in pain management of terminal cancerous patients

Methodology: A descriptive case study was conducted at Mediks international Hospital and Research center from July 2016 to September 2017. A total 200 cancer patients (3rd or 4th stage) fulfilling inclusion criterion, aged between 20-60 years were enrolled in the study after signing informed consent. An effective dose of specially designed regime of opium derivatives was administered to all the participants in adjunct to other oral analgesics for a period of one year. Reduction in pain intensity was assessed by using Numeric pain rating scale. A specially designed structured questionnaire was used to evaluate the frequency of symptoms associated with opioid administration.

Results: 200 cancer patients at terminal stage were enrolled in the study for a period of one year and were administered with opium derivatives. In our study 67.5% were female participants having breast cancer in major predominance i.e. 43% of overall sample. Findings of NPRS concluded that pain intensity of the participants fall on to a maximum score 4 from score 9/10 showing major reduction ,with maximum participants having score 3 at NPRS i.e. 90% of overall sample and 10% participants reported scored 1 showing minimal or no pain at all.

Conclusion: Opium derivatives can be massively helpful in reducing pain intensity among cancer patients of terminal stage.

Key words: Opium Alkaloids, Cancer, Pain Management, Analgesic Effect.

INTRODUCTION

Cancer is a disease that has known to be a havoc for mankind due to its extremely deteriorating symptoms. Cancerous cells can affect every type of body tissue leading to formation of benign or malignant tumors (1, 2). Cancer manifests itself in terms of deteriorating, physical, psychological, social and mental health of an individual. Constant and unchanging pain pattern that even keeps an individual up in the night is cardinal sign for tumor (2,3,4). Depending upon the extent of metastasis involvement of lymph node, size & site of the tumor, treatment protocols are opted. In general benign tumors are treated with chemotherapy and radiotherapy whereas in metastatic cases surgical resection of the tumor is followed by prolonged periods of chemotherapy and radiotherapy. Chemotherapy owes various side-effects such as weight loss, nutritional deficiencies, diarrhea/constipation, nausea/vomiting, neuropathies, reduced immunity, arthralgia's and myalgia's, constant fatigue and body ache (4, 5). These side-effects make chemotherapy highly uncomfortable for the patient. In past decade a lot of work has been done to evaluate the

efficacy of herbal products i.e. opium alkaloids (opium poppy) such as morphine, codeine, noscapine, narceine and papaverine in inducing cytotoxic effect on cancerous cells and reducing pain intensity in patients(6,7,8). These opium derivatives are least toxic and have minimal side effects as compared to other drugs used in the treatment of cancer. In addition to abovementioned benefits these opioids are associated with few side-effects as well that sometimes seems to be obnoxious for the patient such as (delirium (9), confusion, myoclonus, nausea, emesis) To overcome opioid induced toxicity Methadone is used as an alternative to morphine. Current treatments include chemotherapy (10, 11), radiotherapy and chemically derived drugs. Treatments such as chemotherapy can put patients under a lot of strain and further damage their health (12, 13). Therefore, there is a focus on using alternative treatments and therapies against cancer. The purpose of this study is to highlight the apoptotic and cytotoxic effects of opium alkaloids i.e. noscapine, narceine and papaverine on cancerous cells

PATIENTS AND METHODS

A descriptive case study was conducted at Mediks international Hospital and Research center from July 2016 to September 2017. A total 200 cancer patients (3rd or 4th stage) fulfilling inclusion criterion (osteosarcoma,

hepatocellular carcinoma, gastric carcinoma and breast cancer undergoing chemotherapy and radiotherapy, having pain intensity of 9 or 10 at NPRS) aged between 20-60 years were enrolled in the study after signing informed consent. An effective dose of specially designed regime of (morphine,

codeine noscapine, narceine and papaverine) was administered to all the participants to view its efficacy in adjunct to other oral analgesics for a period of one year. Reduction in pain intensity was assessed by using Numeric pain rating scale. A specially designed structured questionnaire was used to evaluate the frequency of symptoms associated with opioid administration.

Data was analyzed via SPSS version 25 (Statistical package for social sciences) software. Continuous variables had mean and Standard deviation calculated whereas frequency/percentage was calculated for categorical variables. Chi square was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant.

RESULTS

Figure 1: Bar chart showing frequency of Participants age

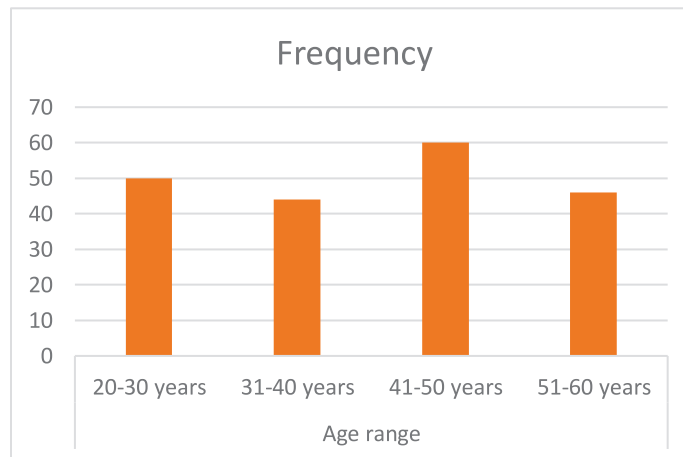


Figure 1 shows that all the participants were divided into four equal categories of age percentiles ranging from 20 to 60 years. In case group 20-30 years subjects were (N=50, 25%), 31-40 years were (N=44, 22%), 31-40 years were (N=60, 30%), 41-50 years were (N=60, 30%) and 51-60 years subjects were (N=46, 23%).

Figure 2: Bar chart showing frequency of Participants gender

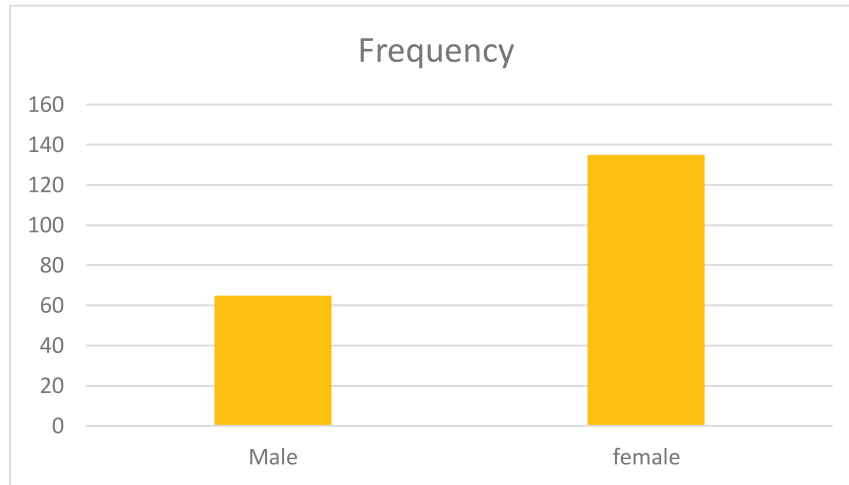


Figure 2 shows that (N=65, 32.5%) were male participants and (N=135, 67.5%) were females.

Figure 2: Pie chart showing frequency of different cancers in study participants

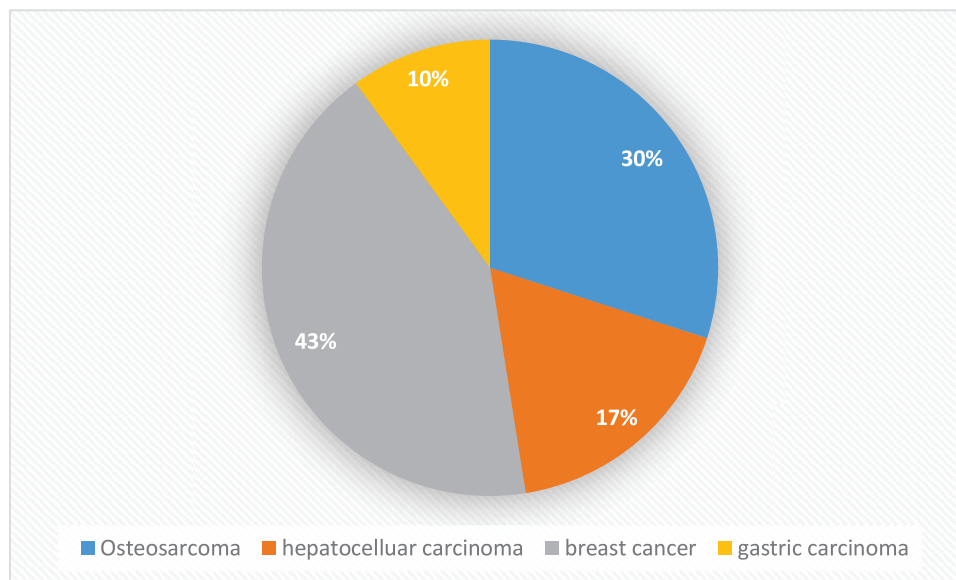


Figure 3 shows frequency and percentage of various cancers in study participants, as per the findings out of total 200 participants (N=60, 30%) had osteosarcoma, (N=65, 17%) were

diagnosed with hepatocellular carcinoma, (N=85, 43%) with breast cancer and (N=20, 10%) with gastric carcinoma.

Table 1: Frequency of pain intensity after opium derivatives therapy

Variables	Frequency/percentage	P-value
Numeric pain rating scale		
Score 4	N=50, 25%	0.002
Score 3	N=90, 45%	0.000
Score 2	N=40, 20%	0.001
Score 1	N=20, 10%	0.004

NPRS findings reported that (N=50, 25%) had pain intensity of score 4, (N=90, 45%) score 3 showing major predominance (N=40, 20%) score 2 and (N=20, 10%) score 1 showing minimum intensity of pain. P-value less than 0.05 suggests that all the findings are significant.

Table 2: Frequency of radiotherapy, chemotherapy and surgical resection in participants.

Variables	Frequency/percentage	P-value
Surgical resection	N=50, 25%	0.002
Chemotherapy	N=115, 57.5%	0.000
Radiotherapy	N=35, 17.5%	0.001

Table 2 shows frequency and percentage of surgical resection, radiotherapy and chemotherapy in total 200 participants. N=50, 25% has surgical resection of their tumor, N=115, 57.5% had sessions of chemotherapy and N=35, 17.5% underwent radiotherapy.

Abovementioned findings of NPRS suggest that opium derivatives massively reduce pain intensity in cancer patients. P-value less than 0.05 suggests that all the findings are significant.

DISCUSSION

Cancer by every mean is highly obnoxious and painful disease not only because of its clinical manifestations but due to its immensely prolonged and painful treatment protocol starting with surgical resections and ending at chemo and radiotherapy (14, 15), that leaves behind a bunch of dreadful side-effects. Previous researches suggest that pain management is the most difficult part of cancer treatment as the pain intensity isn't tolerable for patients who are already suffering from deteriorating physical, emotional and psychological health (16,17,18). In order to reduce pain intensity and frustration among cancer patients, variants analgesics have been understudy for last two decades. Chougule M et al. studied efficacy of opium derivatives such as morphine and noscapine in pain reduction, he concluded that opium derivatives are highly effective in reducing pain among chronic cancer patients (15,19,20), current study concluded that opium derived agents are the only drugs capable of managing pain in cancer patients . Solowey E studied anti-cancer and analgesic effect of medicinal

plants and herbs i.e. opium poppy (13,21,22), NPRS was used in this study to evaluate the pain intensity of patients, in recent research NPRS was used as well and the findings concluded major reduction in pain score with 90% of the participants reporting score 3 at NPRS.

Abovementioned findings and correlation of the recent study with previous researched conclude that opium derivatives are the only possible left for the physicians and oncologists for managing pain in cancer patients at terminal stage.

CONCLUSION

Opium derivatives can be massively helpful in reducing pain intensity among cancer patients of terminal stage. It is at end of the physicians and oncologists to promote viable use of opium derivatives with adequate counselling regarding their side-effects and abuse.

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Success of Modern Medical Practice has Dependable Base on Good Counselling, Availability, resources & Follow up.

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ABSTRACT

Objectives: To evaluate effectiveness of adequate counselling, prompt availability of resources and regular Follow ups in success of modern medical practice.

Methodology: A descriptive case study was conducted at Mediks international Hospital and Research center from July 2016 to September 2017. A total of 600 participants reporting in medical OPD fulfilling inclusion criterion, aged between 20-60 years were enrolled in the study after signing informed consent. A specially designed questionnaire consisting of four domains regarding effectiveness of counselling, prompt availability of medicines, lab and radiological investigations along with adherence of patients to regular follow ups was used to assess improvement in quality of treatment and success of modern medical practice. Data was analyzed using statistical package for social sciences (SPSS) version 25. Chi-square test was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant.

Results: 600 participants aged between 20 to 60 years with mean age of 35.11 were enrolled in the study, out of them, 54% were males and 46% were females. As per the medical practitioners 37% success in modern medical practice is dependent upon effective counselling, 25% on availability of resources and 38% depends upon regular follow ups and adherence to treatment protocols. 25.6% participants considered good counselling by the doctors, 30.1% believed availability of medicines, 33.3% considered availability of lab and radiological investigations and 10.8% considered regular Follow ups and adherence to treatment protocols to be highly effective in improving standard of treatment

Conclusion: Adequate counselling, prompt availability of resources and regular Follow ups not only improve quality of treatment, in fact these factors are serving to be the major causes of advancements and success in modern medical practice.

Key words: Counselling, Empathy, Medical Resources, Follow ups, Modern medical Practice.

INTRODUCTION

Medical professionals are known for their generous, humble and understanding attitude accompanied by highly concerning attire that is really necessary for their practice and for betterment of patients (1, 2). Medical practice is based on clinical skills, prompt diagnosis making, effective patient care management, adequate patient counselling (3) and good communication skills. In addition to general professional ethics, second thing that affects recovery of patients is fewer availability of modern lab investigations, good quality medicines, latest surgical equipment and necessary guidelines about risk factors and prevention of variable diseases that can be prevented by simply adapting a healthy lifestyle in our medical setups (4, 5). Availability of these resources ensure quick diagnosis making, provision of advanced treatment services, usage of modern and efficacious medicines followed by early recovery of patients (6). Apart from these medical services, behavior and dealing of the doctor highly affects recovery ratio of the patient, counselling and readily understandable communication skills reinforces trust of the patient into doctor's treatment protocols and administered drug regime (7, 8). In addition to this every patient expects empathy from their healer who gives them the feeling that their pain and condition deserves attention (9). Previous research evidence states that traditional medical practice in the past few decades lacked essential counselling element and least advancements were made in the field radiological and lab investigations, therefore recovery rate of the patients was

comparatively low and slow at that time (10, 11). Adherence of the patient to a particular treatment method along with regular intake of medicines as per prescribed by the physician, followed by regular follow up sessions is completely based upon the dealing of the physician and availability of the all the required treatment resources (12, 13). Unfortunately, we lacked these facilities in the past that badly affected health and quality of life in the patients. Advancements in medical practice have played vital role in improving quality of life and standards of treatment among patients (14, 15). Modern medical practice is the sole proof of the fact that clinical skills aren't the only factor that can bring success to the doctors. Success in modern medical practice is based upon adherence of the patient to the treatment protocol and concerning behavior of the doctor who knows beneficial effects of counselling and how it gains trust of the patient (16, 17). A medical professional bestowed with immense knowledge and efficient skills is highly dependent upon availability of modern treatment facilities to ensure quick and early recovery of the patients (18, 19 & 20). Absence of the former badly affects recovery ratio of the patient.

The purpose of this study is to highlight the effectiveness adequate counselling, prompt availability of resources and regular follow ups in improving quality of treatment and ensuring success of modern medical practice.

PATIENTS & METHODS

A descriptive case study was conducted at Mediks international Hospital and Research center from July 2016 to September 2017. A total of 600 participants reporting in medical OPD fulfilling inclusion criterion (patients with compliant behavior), aged between 20-60 years were enrolled in the study after signing informed consent. A specially designed questionnaire consisting of four domains regarding effectiveness of counselling, prompt availability of

medicines, lab and radiological investigations along with adherence of patients to regular follow ups was used to assess improvement in quality of treatment and success of modern medical practice. Data was analyzed using statistical package for social sciences (SPSS) version 25. Chi-square test was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant. Continuous variables had mean and Standard deviation calculated whereas frequency/percentage was calculated for categorical variables.

RESULTS

Figure 1: Bar chart showing frequency of Participants age

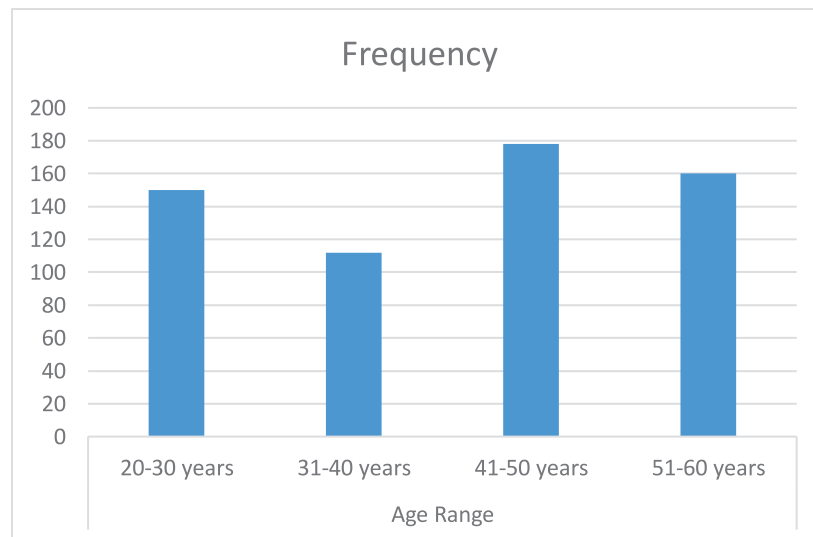


Figure 1 shows that all the participants were divided into four equal categories of age percentiles ranging from 20 to 60 years. In case group 20-30 years subjects were (N=150, 25%), 31-40 years were (N=112, 18.6%), 41-50 years were (N=178, 29.6%) and 51-60 years subjects were (N=160, 26.6%)

Figure 2: Pie chart showing frequency/ Percentage of Participants gender

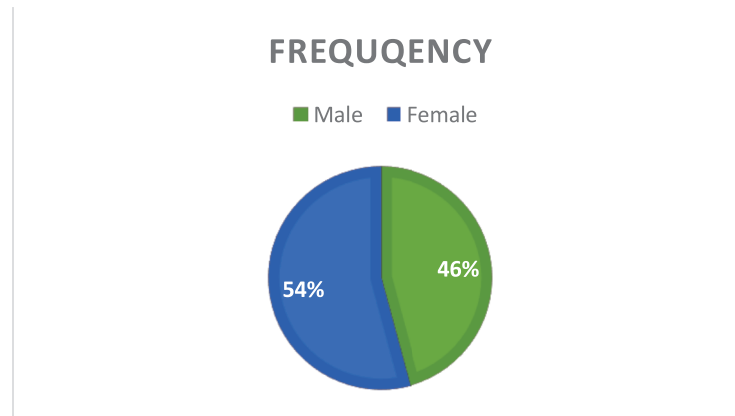


Figure 2 shows that (N=325, 54%) were male participants and (N=275, 46%) were females.

Figure 2: Pie chart showing frequency of availability of resources, counselling and follow ups in success of modern medical practice as per medical practitioners

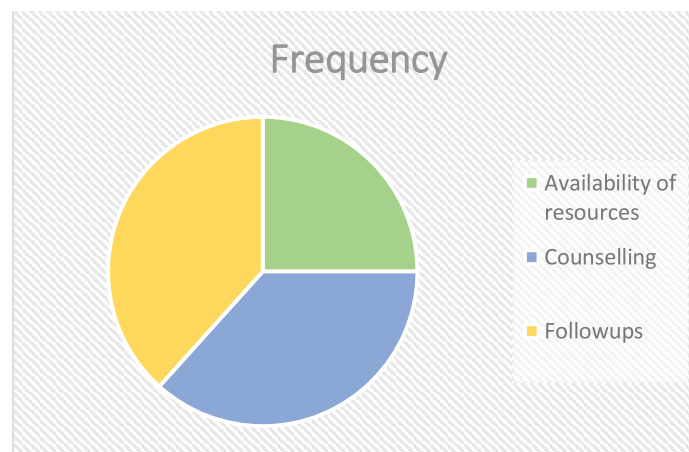


Figure 2 shows that as per the medical practitioners 37% success in modern medical practice is dependent upon effective counselling, 25% on availability of resources and 38% depends upon regular follow ups and adherence to treatment protocols.

Table 1: Frequency Table showing effectiveness of counselling, availability of resources and regular follows up in improving standard of treatment in N=600

Variable	N=600	Improves standard of treatment (Yes/NO)	P-value
Good counselling	154/25.6%	Yes	0.000
Prompt availability of medicines	181/30.1%	Yes	0.001
Availability of lab and radiological investigations	200/33.3%	Yes	0.002
Regular Follow ups	65/10.8%	Yes	0.003

Table 1 shows that out of 600 participants (N=154/25.6%) considered good counselling by the doctors to be highly effective in improving standard of treatment, (N=181/30.1%) believed availability of medicines is more effective and necessary, (N=200/33.3%) considered Availability of lab and radiological investigations to be highly effective whereas (N=65/10.8%) believed regular Follow ups and adherence to treatment protocols improves standard and quality of treatment. P-value less than 0.05 suggests that observed findings are significant.

DISCUSSION

Success of every profession depends on excellence of professional ethics (1). Professionalism is depicted through attire, behavior, handling, honest, compassion, knowledge and skills of an individual (2, 4). Medical Professional are highly respectable in any society due to the nobleness of their job i.e. serving humanity, healing the ones who are in pain and saving lives (5,7 &8). Previous evidence states that a good medical professional is equipped with efficient and effective skills and owns a concerning attitude capable of showing sufficient empathy to its patients (2). In current study patients were asked regarding behavior of the doctor and its impact on the progress of their healing and recovery, 25.6 % participants reported that good counselling by the doctor is the

only thing that refrains them from many harmful acts and keep them adhered to their treatment protocols. Robinson KA et al. observed impact of availability of resources i.e. modern lab and radiological investigations visiting government hospitals of USA, he concluded that almost 60% of the patients recovered earlier due to adequate availability of resources and added more success to modern medical practice that ensures provision of latest investigations and medicines to every other patient visiting to the hospital (6), in present study 30.1% reported that availability of medicines resulted in their early recovery and 33.3% reported that availability of lab and radiological became the sole source of prompt diagnosis of their disorder that led to proper treatment within short duration of time. Elaine W concluded that provision of

adequate counselling sessions and regular follow ups secures success in modern medical practice, in our study 37% medical practitioners reported success in modern medical practice is dependent upon effective counselling, 25% on availability of resources and 38% depends upon regular follow ups and adherence to treatment protocols.

CONCLUSION

Adequate counselling, prompt availability of resources and regular Follow ups not only

improve quality of treatment, in fact these factors are serving to be the major causes of advancements and success in modern medical practice. Further researches must be conducted on this subject involving larger part of community.

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The Art of Sympathy/ Deep sighted Counselling Soft spoken speech/ Attention has Healing effect on all Grades of Depression.

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ABSTRACT

Objectives: To evaluate effectiveness of adequate counselling, sympathy, humble attitude and due attention of medical practitioner in reducing all grades of depression.

Methodology: A descriptive case study was conducted at Mediks international Hospital and Research center from July 2016 to September 2017. Initially purposive sampling was done through designated questionnaires and scales. 400 participants reporting with psychological issues were screened, 200 out of 400 participants had positive score for depression. A total of 200 patients diagnosed with depression fulfilling inclusion criterion, aged between 20-60 years were enrolled in the study after signing informed consent. DASS-D was used to assess reduction in depression after periods of adequate counselling and a specially designed questionnaire was used to assess improvement in mood swings and quality of life in participants. Data was analyzed using statistical package for social sciences (SPSS) version 25. Chi-square test was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant.

Results: 200 participants aged between 20 to 60 years with mean age of 30.11 were enrolled in the study, out of them, 32.5% were males and 67.5% were females. 52.5% participants had unipolar and 47.5% had bipolar depression. Pre and post counselling M in unipolar D was 24.5 and 16.2 whereas Pre and post counselling M in bipolar D was 21.5 and 14.3 respectively. Among 200 participants (N=145) considered Counselling sessions, (N=25) believed humble attitude and empathy of Doctor and (N=30) considered due attention and concern of doctor to be highly effective in reducing depression. In addition to this (N=27) reported reduced mood swings, (N=30) increased appetite, (N=43) improved sleep cycle, (N=15) reduced periods of Mania, (N=22) reduced anger/rage, (N=18) reduced gloominess, (N=10) increased social interactions, (N=7) weight gain and (N=28) reduced suicidal thoughts.

Conclusion: Adequate counselling, sympathy, kind and concerning behavior of a medical practitioner can be massively helpful in reducing depression and in developing effective coping strategies in patients with all grades and types of depression.

Key words: Counselling, Empathy, Unipolar depression, Bipolar Depression, Sympathy

INTRODUCTION

Human health is an amalgam of a healthy soul, mind and body (1). Physical health of an individual is based on adequate functioning of the anatomical structures and physiological systems (1, 2). Psychological health comprises of following components i.e. mood swings, self-contentment, self-satisfaction, anxious behaviors, aggressive attitudes, emotional reactivity and depressive disorders. A dire balance between physical and psychological health is required for a contented and successful life (3, 4). Unfortunately very little attention is being paid to well-being of psychological health of an individual. In last few decades ration of suicidal attempts has been massively increased in USA due to misdiagnosed cases of depression that ultimately ends into acts of self-harms (5). Previous researches and evidence states that the sole root cause behind these horrible acts is immensely increasing depression among women and young individuals (6, 7). Variable factors responsible for development of depressive disorders such as lack of attention, self-deprivation, loss of loved one (8), emotional abuse, traumatic losses and multiple failures, apart from this natural disasters (9), post-partum periods, handicapped life and social isolation in geriatric population also promotes depression (10). Depression is further divided into unipolar and bipolar disorder, As per Statistical Manual of Mental Disorders unipolar depression comprises of only depression whereas bipolar depression characterized by depression and mania (12, 13). Unipolar means that symptoms revolve around one

pole only where individual stays gloomy and depicts introvert behavior followed by prolonged periods of sleep deprivation, social isolation and self-neglect (14, 15). In contrast to it bipolar depression has two phases where period of depression and gloominess is followed by phases of excessive euphoria, happiness, impulsivity, restlessness, agitation and aggressive responses (16, 17). Bipolar disorders have genetic and environmental causes such as peak stress or trauma. Both of these depressions are characterized by feelings of agitation, anxiousness and helplessness (18, 19), along with loss of interests in pleasurable acts, low energy and least botheration about responsibilities and work. The major difference between these two types is that in unipolar disorder patients have poor appetite, reduced sleep duration and tremendous weight loss whereas in bipolar cases patients experience elevated appetite, weight gain and increased sleep cycle duration (20, 21). Bipolar disorders have high ratio of suicidal attempts as it is a mixture of multiple factors i.e. mania, depression, anxiety and psychosis (24). Treatment options vary in both cases, Anti-psychotic and anti-depressant drugs are commonly used in both of the disorders but effective counselling is another strong domain of the treatment regime (22, 23). Bipolar disorders are treated with psychotherapy and mood stabilizers capable of reducing frequency of manic attacks (25). The sole purpose of these drugs is to reduce depressive symptoms without causing an attack of mania. The purpose of this article is to highlight the effectiveness of counselling in reducing symptoms of

depression and mania and to develop awareness regarding beneficial effects of psychotherapy in our community.

PATIENTS AND METHODS

A descriptive case study was conducted at Mediks international Hospital and Research center from July 2016 to September 2017. Initially purposive sampling was done through designated questionnaires and scales. 400 participants reporting with psychological issues were screened, 200 out of 400 participants had positive score for depression. A total of 200 patients diagnosed with depression fulfilling inclusion criterion (no associated comorbidity, no previous surgical history and no congenital anomaly), aged between

20-60 years were enrolled in the study after signing informed consent. DASS-D was used to assess reduction in depression after periods of adequate counselling and a specially designed questionnaire was used to assess improvement in mood swings and quality of life in participants. Data was analyzed using statistical package for social sciences (SPSS) version 25. Chi-square test was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant. Continuous variables had mean and Standard deviation calculated whereas frequency/percentage was calculated for categorical variables

RESULTS

Figure 1: Bar chart showing frequency of Participants age

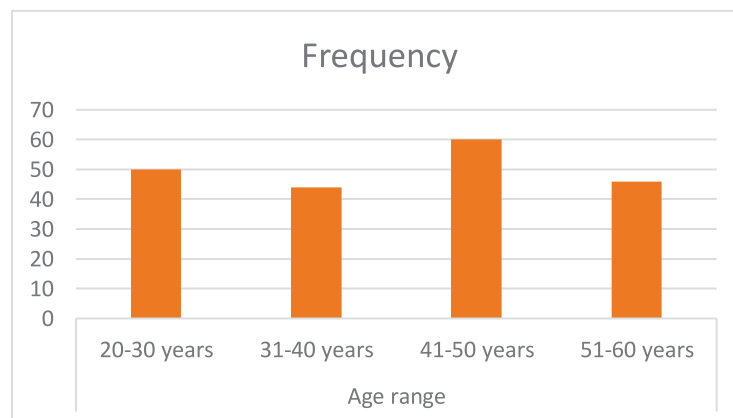


Figure 1 shows that all the participants were divided into four equal categories of age percentiles ranging from 20 to 60 years. In case group 20-30 years subjects were (N=50, 25%), 31-40 years were (N=44, 22%), 41-50 years were (N=60, 30%) and 51-60 years subjects were (N=46, 23%).

Figure 2: Bar chart showing frequency of Participants gender

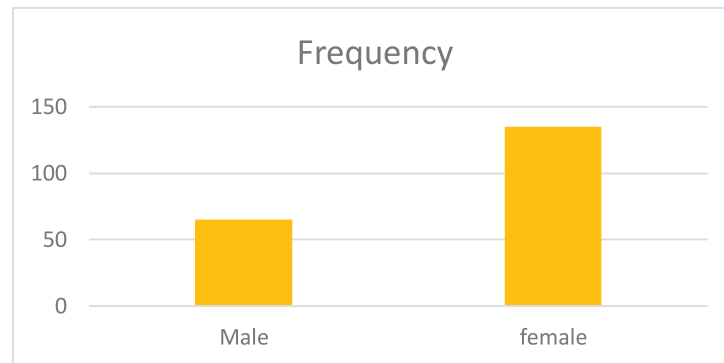


Figure 2 shows that (N=65, 32.5%) were male participants and (N=135, 67.5%) were females.

Figure 3: Bar chart showing frequency of types of Depression in (N=200)

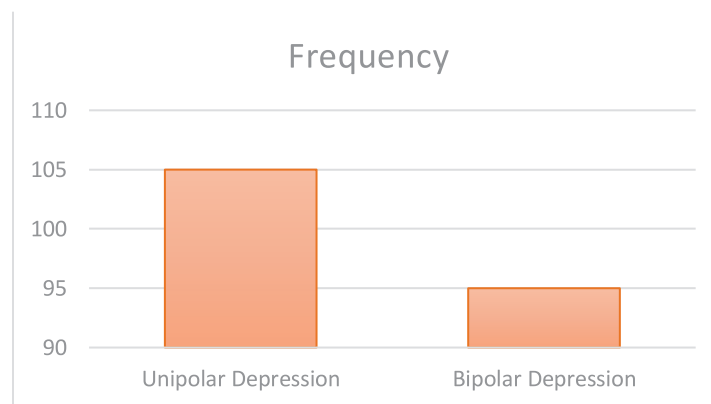


Figure 2 shows that (N=105, 52.5%) participants had unipolar depression (N=95, 47.5%) had bipolar depression.

Figure 3: Bar chart showing Mean Difference in Depression score at DASS-D before and after counselling sessions in (N=200) Participants

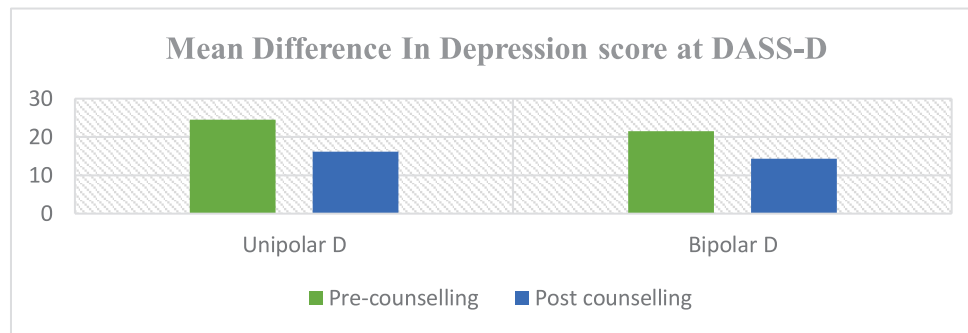


Figure 3 shows Mean values of pre and post counselling depression scores as per observed in DASS-D. Pre and post counselling M in unipolar D was 24.5 and 16.2 whereas Pre and post counselling M in bipolar D was 21.5 and 14.3 respectively.

Table 1: frequency table showing effectiveness of counselling and due attention of medical practitioner upon participants in reducing depression.

Variable	N=200	Reduction in depression (Yes/NO)	P-value
Counselling sessions	145	Yes	0.000
Humble attitude and empathy of Doctor	25	Yes	0.001
Due Attention and Concern of Doctor	30	Yes	0.002

Table 1 shows out of total 200 participants (N=145) considered Counselling sessions, (N=25) believed humble attitude and empathy of Doctor and (N=30) considered due attention and concern of doctor to be highly effective in reducing depression. P-value less than 0.05 suggests that observed findings are significant.

Table 2: frequency table showing reduction in symptoms associated with Depression in N=200

Variable	N=200	P-value
Reduced Mood swings	27	0.000
Increased Appetite	30	0.001
Improved sleep cycle	43	0.002
Reduced periods of Mania	15	0.003
Reduced anger/rage	22	0.001

Reduced gloominess	18	0.000
Increased social interactions	10	0.004
Weight gain	7	0.001
Reduced suicidal thoughts	28	0.002

Table 2 shows that out of total 200 participants, (N=27) reported reduced mood swings, (N=30) increased appetite, (N=43) improved sleep cycle, (N=15) reduced periods of Mania, (N=22) reduced anger/rage, (N=18) reduced gloominess, (N=10) increased social interactions, (N=7) weight gain and (N=28) reduced suicidal thoughts. P-value less than 0.05 suggests that observed findings are significant.

DISCUSSION

Depression isn't a disorder it's a syndrome that badly affects every perspective and aspect of one's life (1). It's not about being gloomy and feeling detachment from the world, it's all about losing contact with soul and mind along with living in a miserable and helpless conditions. Previous evidence states that factors responsible for development of depression are mainly lack of attention, self-deprivation, loss of loved one, emotional abuse, traumatic losses and multiple failures, apart from this natural disasters, post-partum periods, handicapped life and social isolation in geriatric population also promotes depression (2, 3). Previous researches reported that ratio of depression among young professionals is increasing day by day due to excessive work load and professional competition (4, 5), in our study 25% of the participants who reportedly had depression were between 20 to 30 years of age. A clinical survey conducted in USA concluded that propensity of depression is way more in women as compared to males (11), in current research 67.5% participants were females and 32.5%

were males showing major predominance of female gender. Mumford DB concluded that depression further categorized into unipolar and bipolar types. In present study 52.5% participants had unipolar 47.5% had bipolar depression. In majority of the previous researches DASS-D was used to assess the intensity of depression in participants, in present research DASS-D was used to assess reduction in severity of depression after adequate counselling sessions. Elaine W concluded that provision of counselling sessions to depressive patients reduce severity of the disorder and sometimes it completely eradicates depression from its roots (6). In present research study, (N=145) participants reported counselling sessions and (N=25) reported that humble attitude and empathy of doctor reduced intensity of depression. Paykel ES et al. concluded that adequate counselling sessions improved sleep cycle, increased appetite and reduced suicidal thoughts in majority of the patients suffering from depression (10), in our study out of total 200 participants (N=30) reported increased appetite, (N=43) improved sleep cycle, and (N=28) reduced suicidal thoughts. All abovementioned facts show that current

study is strongly supported by previous research evidences.

CONCLUSION

Adequate counselling, sympathy, kind and concerning behavior of a medical practitioner can be massively helpful in reducing depression and in developing effective coping strategies in patients with all grades and types of depression. It is solely at the end of medical practitioners to create due awareness regarding beneficial effects of counselling among people so that they can maintain a dire balance between their professional and personal life. Further researches must be conducted on this subject involving larger part of community.

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The soothing action of rejuvenation, music and calm in anxiety, neurosis & depression.

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ABSTRACT

Objectives: To evaluate effectiveness of rejuvenation, soulful music and calming environment in reducing anxiety, depression and neurosis.

Methodology: A descriptive cross-sectional study was conducted at Mediks international Hospital and Research center from July 2016 to September 2017. Initially purposive sampling was done through designated questionnaires and scales. 400 participants reporting with psychological issues were screened, 200 out of 400 participants had positive score for depression and anxiety. A total of 200 patients diagnosed with depression and anxiety fulfilling inclusion criterion, aged between 20-60 years were enrolled in the study after signing informed consent. DASS-D and DASS-A was used to assess reduction in depression and anxiety after periods of adequate rejuvenation sessions consisting of variable components and a specially designed questionnaire was used to assess improvement in work performance, reduction in anxiety and depression related symptoms along with improved quality of life in participants. Data was analyzed using statistical package for social sciences (SPSS) version 25. Chi-square test was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant.

Results: 200 participants aged between 20 to 60 years with mean age of 30.11 were enrolled in the study, out of them, 32.5% were males and 67.5% were females. Pre and post rejuvenation M in Depression was 24.5 and 10.2 whereas Pre and post rejuvenation M in anxiety was 21.5 and 14.3 respectively. (N=34) reported sitting for 2 hours a day in a calming environment, (N=47) listening soulful and soft music, (N=38) spending quality time with friends and family, (N=31) travelling to serene places and (N=50) performing yoga and progressive muscle relaxation exercises 60 minutes a day as rejuvenation session reduces depression, anxiety and neurosis. In addition to this (N=27) reported reduced mood swings, (N=30) increased appetite, (N=43) improved sleep cycle, (N=15) reduced periods of Mania, (N=22) reduced anger/rage, (N=18) reduced gloominess, (N=10) increased social interactions, (N=7) weight gain and (N=28) reduced suicidal thoughts.

Conclusion: Adequate rejuvenation sessions, soulful music and calming environment are highly effective in reducing anxiety, depression and neurosis.

Key words: Leisure, Soulful Music, Rejuvenation, Anxiety, Depression, Workload

INTRODUCTION

In past two decades plethora of modern inventions and latest advancements in field of education, technology, health, business and industries have been made, eventually enhancing work load and promoting high level competition among people (1, 2). Its rule of the nature more you explore more difficult it gets to handle and manage everything with ease and comfort. With these latest advancements man has opened multiple new dimensions and in order to keep everything in its place one has to work from dawn to dusk (3, 4). Reformatations in education have raised the bar for students and in order to excel academically they have to study really hard and sometimes at the cost of their physical and mental health (5). Human body needs a dire balance between work load and periods of rest followed by activities of leisure in order to perform with efficacy and efficiency (6). As per the evidence concluded from previous researches, excessive workload, professional competitions and increased responsibilities promote feelings of hatred and rage capable of making people highly envious (6, 7). Uncontrollable stress and work pressure makes an individual victim of anxiety, social isolation, depression and neurosis (8). Mental health is excessively affected by continuous periods of stress, therefore an individual must defined his/her work boundaries (9). To have a successful career one needs to understand the importance of rest, family time and activities full of leisure (10, 11). Every individual has a different way of rejuvenating their soul, mind and body as in some find piece in silence and isolation, some of them enjoy talking to their

loved ones and some of them like to travel and explore different places to regain their lost energies (12). In order to have a smooth life one needs to appreciate the importance of rest and leisure in daily as our overburdened schedules make daily living extremely tiring and awful (13, 14). Mindful training and focused attention can enhance work productivity and improve work performance (15). A jam packed routine without adequate rest only adds exhaustion and frustration to an individual's life (24, 25). People rejuvenate their mind and body with the activity of their own choice, no one can get due energy, rest and leisure by performing the activity somebody else finds fine (16). As per the previous researches, soft music soothes down enraging anger and bring peace to an individual (17). Sometimes sitting idle in places of silence and isolation reduces anxiety and adds serenity to one's life (18). To pursue a peaceful and successful life a combination of routine consisting of defined work and rest duration along with periods of joyful and calming activities is really necessary (19).

The purpose of this article is to highlight the effectiveness of rejuvenation, soulful music and calming environment in reducing anxiety, depression and neurosis.

PATIENTS & METHODS

A descriptive cross-sectional study was conducted at Mediks international Hospital and Research center from July 2016 to September 2017. Initially purposive sampling was done through designated questionnaires and scales. 400 participants reporting with psychological issues were

screened, 200 out of 400 participants had positive score for depression and anxiety. A total of 200 patients diagnosed with depression and anxiety fulfilling inclusion criterion, aged between 20-60 years were enrolled in the study after signing informed consent. DASS-D and DASS-A was used to assess reduction in depression and anxiety after periods of adequate rejuvenation sessions consisting of variable components (sitting for 2 hours a day in a calming environment, listening soulful and soft music, defining work hours i.e. 8 to 10 hour maximum, spending quality time with friends and family, travelling to serene places, performing yoga and progressive muscle relaxation exercises 60 minutes a

day) and a specially designed questionnaire was used to assess improvement in work performance, reduction in anxiety and depression related symptoms along with improved quality of life in participants. Data was analyzed using statistical package for social sciences (SPSS) version 25. Chi-square test was applied at 5% level of significance and p-value of less than 0.05 was considered to be significant. Continuous variables had mean and Standard deviation calculated whereas frequency/percentage was calculated for categorical variables

RESULTS

Figure 1: Bar chart showing frequency of Participants age

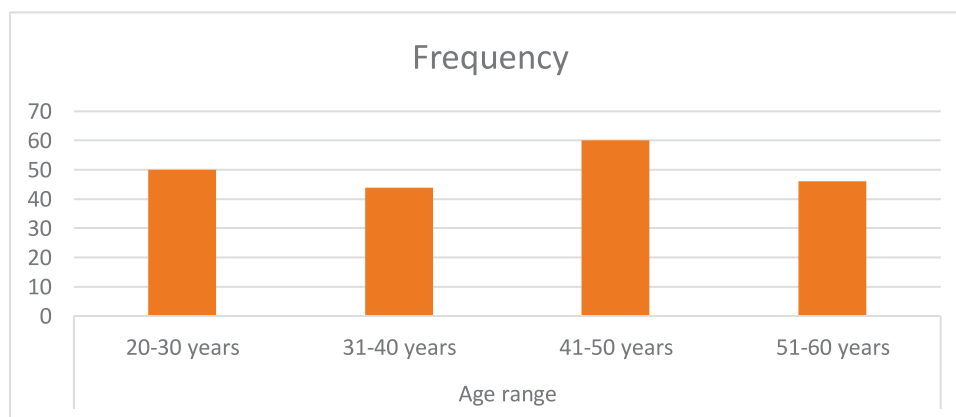


Figure 1 shows that all the participants were divided into four equal categories of age percentiles ranging from 20 to 60 years. In case group 20-30 years subjects were (N=50, 25%), 31-40 years were (N=44, 22%), 41-50 years were (N=60, 30%) and 51-60 years subjects were (N=46, 23%).

Figure 2: Bar chart showing frequency of Participants gender

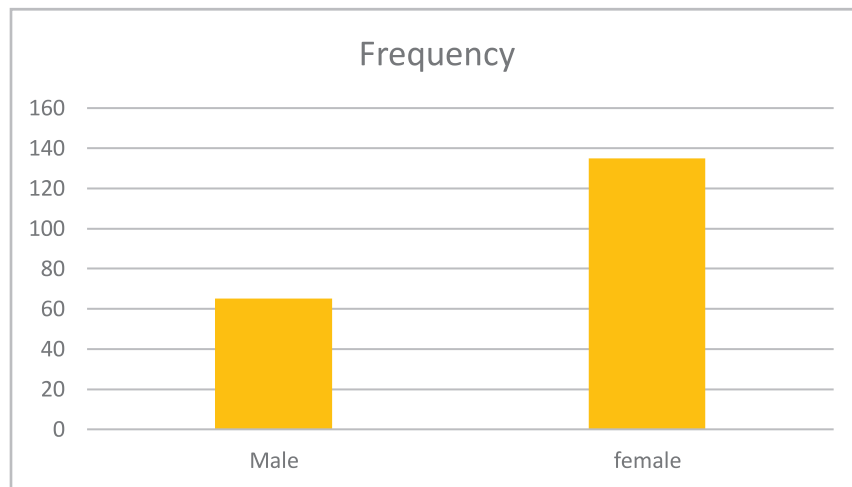


Figure 2 shows that (N=65, 32.5%) were male participants and (N=135, 67.5%) were females.

Figure 3: Bar chart showing Mean Difference in Depression & Anxiety score at (DASS-D & A) before and after Rejuvenation sessions in (N=200) Participants

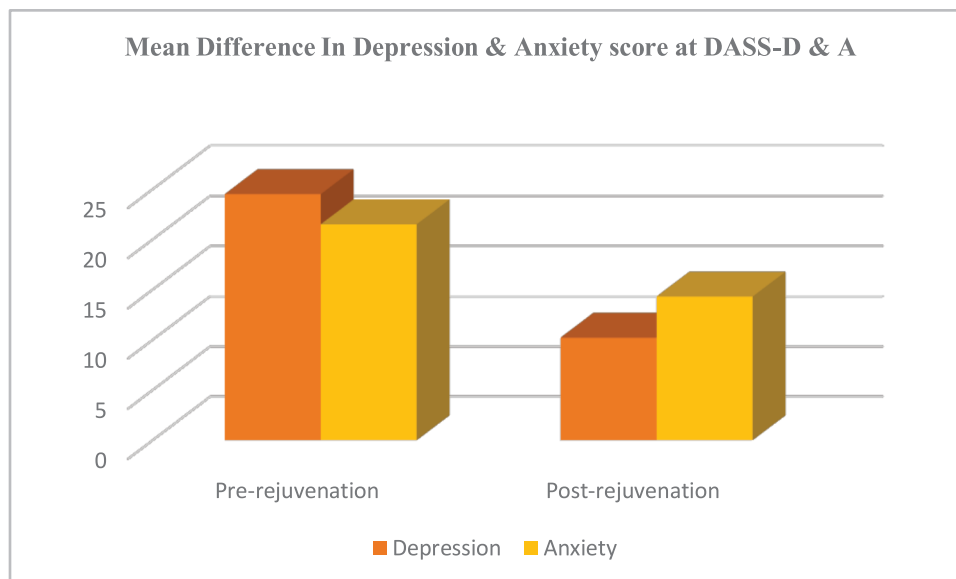


Figure 3 shows Mean values of pre and post rejuvenation depression and anxiety scores as per observed in DASS-D & A. Pre and post rejuvenation M in Depression was 24.5 and 10.2 whereas Pre and post rejuvenation M in anxiety was 21.5 and 14.3 respectively.

Table 1: Frequency Table showing effectiveness of different rejuvenation sessions in reducing Anxiety, Depression and Neurosis in N=200

Variable	N=200	Reduction in Neurosis, depression & Anxiety (Yes/NO)	P-value
Sitting for 2 hours a day in a calming environment	34	Yes	0.000
Listening soulful and soft music	47	Yes	0.001
Spending quality time with friends and family	38	Yes	0.002
Travelling to serene places	31	Yes	0.003
Performing yoga and progressive muscle relaxation exercises 60 minutes a day	50	Yes	0.002

Table 1 shows that out of 200 participants (N=34) reported sitting for 2 hours a day in a calming environment, (N=47) listening soulful and soft music, (N=38) spending quality time with friends and family, (N=31) travelling to serene places and (N=50) performing yoga and progressive muscle relaxation exercises 60 minutes a day as rejuvenation session reduces depression, anxiety and neurosis.

Table 2: frequency table showing reduction in symptoms associated with Depression in N=200

Variable	N=200	P-value
Reduced Mood swings	27	0.000
Increased Appetite	30	0.001
Improved sleep cycle	43	0.002
Reduced periods of Mania	15	0.003
Reduced anger/rage	22	0.001
Reduced gloominess	18	0.000
Increased social interactions	10	0.004
Weight gain	7	0.001
Reduced suicidal thoughts	28	0.002

Table 2 shows that out of total 200 participants, (N=27) reported reduced mood swings, (N=30) increased appetite, (N=43) improved sleep cycle, (N=15) reduced periods of Mania, (N=22) reduced anger/rage, (N=18) reduced gloominess, (N=10) increased social interactions, (N=7) weight gain and (N=28) reduced suicidal thoughts. P-value less than 0.05 suggests that observed findings are significant.

Table 3: frequency table showing reduction in symptoms associated with Anxiety in N=200

Variable	N=200	P-value
Reduced palpitations	65	0.000
Reduced panic attacks	22	0.001
Improved sleep cycle	50	0.002
Reduced periods of Mania	40	0.003
Reduced anger/rage	23	0.001

Table 3 shows that out of total 200 participants, (N=65) reported reduced palpitations, (N=22), reduced panic attacks, (N=53) improved sleep cycle, (N=40) reduced periods of Mania and (N=23) reduced anger/rage. P-value less than 0.05 suggests that observed findings are significant.

DISCUSSION

Life is an amalgam of stressors and never ending desires that forces an individual to work day and night at the cost of their personal peace and comfort (1). In order to manage work pressures and to meet living expenses in this era of immense inflation people work from dawn to dusk and in doing so most of them lose balance between their physical and psychological health (2, 3). Previous researches reported that ratio of depression among young professionals is increasing day by day due to excessive work load and professional competition (4, 5), in our study 25% of the participants who reportedly had depression were between 20 to 30 years of age. A clinical survey conducted in USA concluded that propensity

of depression is way more in women as compared to males (11), in current research 67.5% participants were females and 32.5% were males showing major predominance of female gender. Previous evidence states that in order to have a healthy mind and body that is capable of working with attention, consideration and focus one needs to rejuvenate its energy through leisure full activities (20), adapting healthy life style i.e. regular exercise and yoga, travelling and spending quality time with friends (21, 22), as per the finding of this study participants who indulged themselves into activities learned to cope up with their work pressures without getting victim of anxiety and depression (15, 16). In present study out of 200 participants (N=38) reported that spending quality time with friends and

family, (N=31) travelling to serene places and (N=50) performing yoga and progressive muscle relaxation exercises 60 minutes a day as rejuvenation session reduced depression, anxiety and neurosis. Salmon, P et al. concluded that periods regular rejuvenation sessions and physical activity improved sleep cycle, increased appetite and reduced suicidal thoughts in majority of the patients suffering from depression (8), in our study out of total 200 participants (N=30) reported increased appetite, (N=43) improved sleep cycle, and (N=28) reduced suicidal thoughts. Beasley, M et al concluded that adequate periods of rest and rejuvenation can reduce frequency of panic attack thus managing anxiety in people, in our study (N=22) reported reduced frequency of panic attacks (10). All abovementioned facts show that current study is strongly supported by previous research evidences.

CONCLUSION

Adequate rejuvenation sessions, soulful music and calming environment are highly effective in reducing anxiety, depression and neurosis. It is solely at the end of medical practitioners to create due awareness regarding beneficial effects of rejuvenation among people so that they can maintain a dire balance between their professional and personal life. Further researches must be conducted on this subject involving larger part of community.

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