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Influence of music on EEG of critical patients (Tbilisi, Georgia)

Electro activity of brain is better outlined when the same music are being listened by patients that are in unconscious condition and by the working personal with these changes are better presented in right hemisphere

Key WEords: Influence,music,EEG,CriticalCareMedicine,Patients

Actuality: From previous scientific researches was proved that music challenges positive changes of brain blood circulation and electro activity in unconscious patients. (Z.Kheladze and other 2012 N.Mikabadze and Other 2013).Out of this proceeded scientific works are gaining importance. Cause of that that in perspective music might be used for treatment of critical care medicine patients.

Materials and methods: 21 patients were investigated. Form this 5 was women and 19 men there age range was between 28 to 89 years. Form those 10 patients was with ischemic insult, 5 with hemorrhage insults, 2 was with scull and brain trauma, 2 by acute pneumonia that caused breathing shortage, 1 with influenza caused by HINI virus and one by medication intoxication. Patients were in coma leveled as Glasgow scale 3-8 scores. 16 patients has as secondary disease hypertonia disease, 12 patients heart shortage and 5 patients had diabetes, by using APAHE 11 scale patients conditions were assessed at 30 score that gives 82.2% of lethality

Patients were on artificial breathing, parenteral feeding, water and electrolyte correction was made as well.

In the first group were inputted 16 patients. Provided musk were represented as Georgian science which were provided form the admitting patient to the clinic permanently during 72 hour in prolongation by using of Headphones.

In the second grope were included 5 patients the music was listened from the admitting patients to hospital 24 hour in prolongation by „open method“ and the music were listened at the same time by working personal as well.

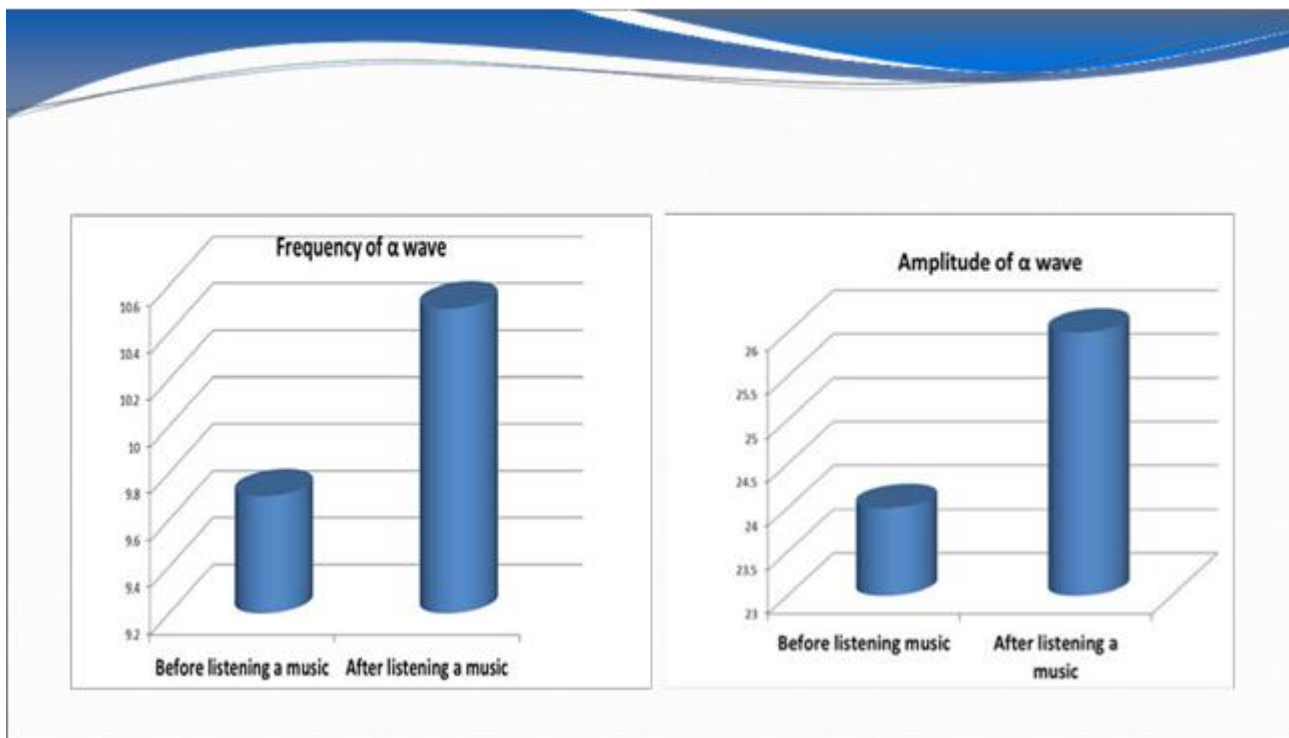
Research was conducted before providing music and after. Were processed Alfa, Beta, Tetra and Delta wave standings that included there rate and amplitude change research.

Research and discussions: in the first group patients after music therapy in brain left side hemisphere statistically has been changed Alfa-wave frequency (10,5+ 001, p<001) and amplitude (26,0+0,7 P<001) with this in same hemisphere statistically proved increased Beta

wave amplitude ((22,0+0,1 : p<001) as well as Tata and Delta waves frequency (Appropriate 6,2+001 Hertz and 3,6+001 Hertz p<001.). analogy to right hemisphere after providing music to

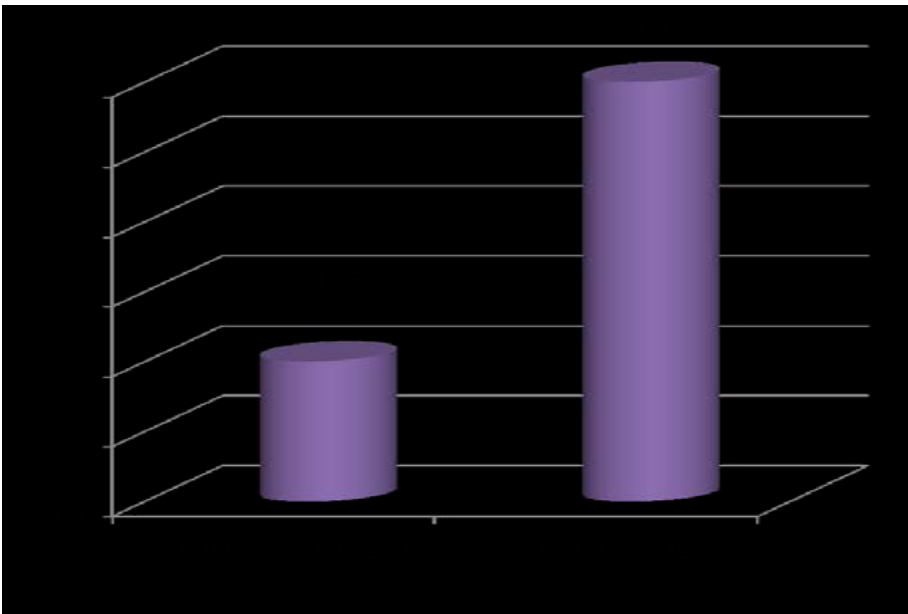
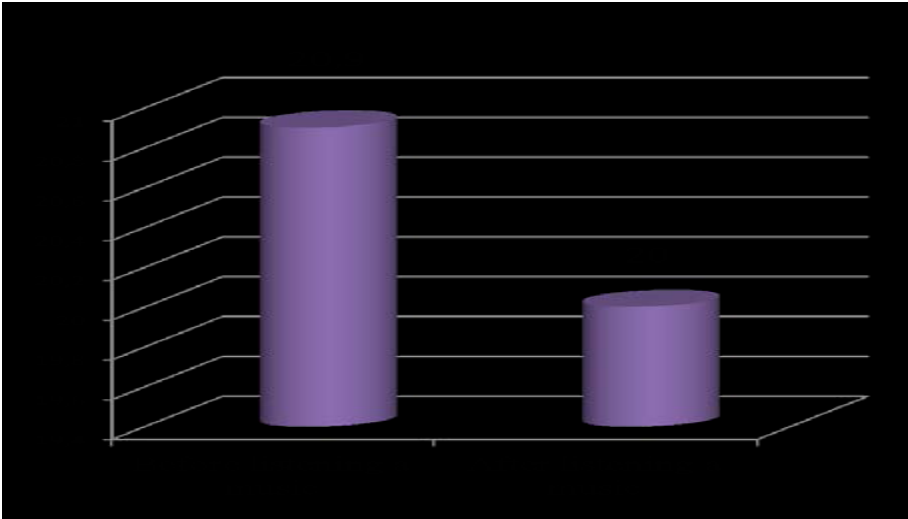
the first data statistically proved increased Alfa, Beta, Tata and Delta wave frequency and constituted 10,5+0,1 Hertz ,22,0+0,6 Hertz 6,4+001 Hertz and 6,4+0.01 Hertz ($p<0,01$). With this regard other parameter were not changed statistically proved ($p<0,05$).

Have to be noted that analogue changes have been found in the second group of patients after providing music therapy by “open method”.



Freqvency and amplitude of alfa wave before and after mudic in the left hemisphere

With this in this group of patients after music therapy were noted Alfa, Beta, Tata and Delta wave amplitude statistical proved ($P<005-0,001$) increase than in the first grope of the patients. In this respect other studied data were not statistically different form together ($P>0,05$). With this changes were strongly noted in right side hemisphere.



Freqvency and amplitude of Beta wave before and after mudic in the left hemisphere

References:

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Conclusion:

Electro activity of brain is better outlined when the same music are being listened by patients that are in unconscious condition and by the working personal with these changes are better presented in right hemisphere

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**მუსიკის გავლენა კრიტიკული ავადმყოფების ელექტროენცეფალოგრამაზე
(თბილისი, საქართველო)**

უგონო მდგომარეობაში მყოფი პაციენტების ელექტრული აქტივობა უფრო მკვეთრად არის გამოხატული მაშინ, როდესაც ერთი და იგივე მუსიკას ერთდროულად უსმენს უგონო მდგომარეობაში მყოფი პაციენტი და სამედიცინო პერსონალი. ამასთან ეს ცვლილებები უფრო ინტენსიურად არის წარმოდგენილი მარჯვენა ჰემისფეროში.