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About sound rhythm in the therapeutic management of aggressive behavior in young people suffering from deafness.

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Introduction:

In France metropolitan, 5 182 000 people have hearing loss (8.7% of the population), of which 4.1% are under 20 years of age. In children, hearing impairment is sought in the presence of depression, hyperactivity, impulsivity, instability accompanied by intense anger, and aggressive behavior. So far, the impact of dance and music on deaf people has been little studied. In this context, we recently initiated a project in mediated therapeutic workshops; Devoted to hearing-impaired adolescents or young adults with behavioral problems. The main objective of this project is to foster the adaptability of these young people with severe behavior problems.

Methods :

4 volunteers with moderate to profound deafness were included in this prospective study (2 F/ 2 M, aged 19.5 ± 5.0 years). These patients exhibited daily behavioral disorders with stereotypies and aggressiveness with moderate to severe intensity according to the Behavior Problems Inventory (BPI-01). Weekly session of 45-60min. at the "Music / Percussion" workshop in the presence of a teacher educator and a nurse therapist. Young people use different sound instruments, the aim being to approach the notion of rhythm. The therapist also offers them listening to world music on which they can move according to their sensitivity. Schedule: at beginning individual accompaniment, at 3-4th week: 2 by group and 4-5th week: 3 by group and after 6th week: 4 by group. The primary outcome measures for the study consisted of Behavior Problems Inventory (BPI-01) total severity score, and Clinical Global Impression–Severity (CGI) at baseline compared to 1 year after.

	Subject #1.	Subject #2.	Subject #3.	Subject #4.
Age (years)	19	23	19	17
Sex	F	F	M	M
Handicap	Deep deafness Severe mental impairment and epilepsy	Deep deafness, Very low visual acuity Intellectual disability	Average Deafness, autism, instability	Deep deafness Cerebral palsy, in a chair
Communication	No oral language gestures	No oral language, gestures	No oral language gestures	No oral language, gestures
Initial accensement				
BPI frequency (severity) Auto-aggression Hetero-aggression	13(11) 21 (13)	13 (14) 15(8)	17(12) 19 (10)	13 (10) 5(4)
Assessment "1 year after "				
CGI-S Global BPI Frequency (severity)	CGI-S: 1 Very much improved BPI ≈ 65% (50%)	CGI-S: 3 Minimally improved BPI ≈ 20% (<10%)	CGI-S: 1 Very much improved DPI ≈ 62% (45%)	CGI-S: 2 much improved BPI≈ 45% (50%)

Table 1. characteristics of the subjects included in the study

Fig. 1. "Music / Percussion" workshop

Outcome and Discussion:

No voluntary withdrawal of the project was recorded. A very strong behavioral improvement was noted in 3/4 of the cases and a slight improvement in 1/4 of the cases (table 1). This study has shown that hearing loss is compensated by various adaptive processes, in particular by multi sensorial interactivity (such as the interactivity between touch and vision) and through mirror neuronal system (since subject #2 "partially sighted" have minimally improvement).

Conclusion:

This finding has been put to the benefit of rehabilitation through Music and Dance Therapies which has improved the behavioral disorder and blossoming of the group rehabilitation through Music and Dance Therapies of young people suffering from medium to profound deafness with severe behavior problems.