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INCLUSION IN EDUCATION THROUGH MUSIC: THE PERCEPTION OF BRAZILIAN EDUCATORS AND MUSIC THERAPISTS

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ABSTRACT

Objective: To evaluate the perception of educators and music therapists about the use of musical experiences to inclusion of children and adolescents with autistic spectrum disorder. **Method:** A descriptive-exploratory survey was carried out from March 2016 to March 2017, with 182 participants of which 63 Basic Education teachers, 59 Music teachers, 35 Professionals in Education (not teachers) and 25 Music Therapists. **Results:** 181 (99.2%) of the participants consider that the use of musical experiences is important in the process of inclusion of children and adolescents with autistic spectrum disorder; 180 (98.8%) recognize that music with therapeutic objectives contributes to inclusion; 147 (80.7%) use music to include and 157 (86.1%) attests that music improves social interaction in children and adolescents with autistic spectrum disorder. **Conclusion:** According to the perception of educators and music therapists, musical experiences can and should be used for the inclusion of people with autistic spectrum disorder, provided that there is a training or qualification of these professionals, because they act in connection with the development of the emotional states of the subjects and contribute to the sensory, motor, affective and cognitive.

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INTRODUCTION

According to the fifth American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders (2014), the diagnosis of Autistic Spectrum disorder (ASD) involves the identification of severe and chronic impediments of two main areas: persistent deficits in social communication and Social interaction and restrictive and repetitive response patterns. The levels of ASD intensity are different as well as their symptoms as it warns Cunha (2015, pp. 23) "It is a syndrome so complex that there may be medical diagnoses encompassing different behavioral frameworks". Furthermore, for Gattino (2016), the origin of neurodevelopmental disorders, including ASD, "have been attributed to numerous environmental, chemical, psycho-emotional and genetic factors." The Center of Diseases Control and Prevention (CDC) announced in 2014 that the cases of ASD have risen to one in every 68 children eight years of age. This incidence of people diagnosed with ASD demonstrates the need to train qualified professionals to work with this population in schools

and in non-formal spaces of education and therapies. Children and adolescents with ASD often demonstrate difficulty in socialization and personal interaction, and in this case, studies show that musical experiences exercise social communication, interpersonal relationships, understanding of oneself and the expression of own emotions. Researches based on experiences with musical resources and music therapy have demonstrated a great potential of these activities to improve the communication capacity, interaction, integration and development of social cognition in children and Teenagers (Molnar-Szakacs et al., 2006; Fadiga et al., 2009; Wan et al., 2010; Hamilton, 2013, Bhatara et al., 2013; Gattino, 2015; Sampaio et al., 2015). In addition, when considering the correlations between music and language, it is possible to observe that they are interrelated in a very intrinsic way. According to Molnar-Szakacs and Overy (2006), music represents a communication system whose perception and understanding is based on a combination of rules. Both music and speech are endowed with hierarchically organized rules. In this process, smaller units integrate to originate a structure of

higher level of complexity. In the case of music, it involves the simultaneous and sequential combination of elements such as rhythms, phrases, chord progression and sonorities in order to form a musical structure. Human language is organized in a similar way combining words, phrases, periods and different intonations with the purpose of creating the discourse (Molnar-Szakacs and Overy, 2006). The problem question that this study intended to answer was: Do musical experiences contribute to the inclusion of people with ASD in regular school and in non-formal spaces of education and therapies? The objective of this study was to evaluate the perception of educators and music therapists about the use of musical experiences for the inclusion of children and adolescents with autism spectrum disorder (ASD).

MATERIALS AND METHODS

This investigation was carried out with the postgraduate program of the Master's Degree in Education, Management and Diffusion in Biosciences at the Leopoldo de Meis Institute of Medical Biochemistry (IBqM) of the Federal University of Rio de Janeiro (UFRJ), Brazil. It was approved by the Research Ethics Committee of the Clementino Fraga Filho University Hospital (HUCFF/UFRJ). All participants have signed the informed consent form. A descriptive-exploratory survey was conducted between March 2016 and March 2017, using a questionnaire with five questions for data collection that was filled out by the participants in person:

- Do music activities contribute to the inclusion of people with ASD?
- Does music, with therapeutic objectives, contribute to inclusion?
- Do you use music as a tool for inclusion?
- Does music improve social interaction in people with ASD?
- Do all people like music?

The questionnaire was elaborated because no one was found to meet the objective of the study, neither to the study object nor with the study population, after reviewing previous studies using the keywords *music*, *musical experiences*, *inclusion*, *autism*, ASD and music therapy, in the databases Scientific Electronic Library Online (SciELO); Medical Literature Analysis and Retrieval System Online (MEDLINE), Theses and annals of Congresses. The study population consisted of four different groups:

1st Group - Basic Education Teachers (PEB) that comprise teachers who can work from elementary school to high school in Brazil;

2nd Group - Graduated Music Teachers (PM);

3rd Group - Education Professionals also graduated (PE) included in this group all professionals working in primary schools in other functions that are not teachers, such as: psychologists, pedagogues, pedagogical coordinators and Administrative officers, directors, secretaries, nurses and teaching inspectors;

4th Group - Music Therapists (MT).

The sample consisted of 182 participants 63 PEB, 59 PM, 35 PE and 25 MT.

RESULTS

It is observed the predominance of female participants for the PEB (75%), the PE (83%) and MT (92%). The age of the participants presents a more balanced distribution for the ranges of 26-35, 36-45 and above 46 years, indicating the presence of participants in different professional stages, which is corroborated by the distribution of service time over 10 years for all groups. Regarding the institutional link, it is observed a predominance with public institutions. Our results show that 98.4% of the PEB and 100% of the PM, PE and MT agreed or fully agreed that the use of musical activities is important for the inclusion process of children and adolescents with ASD, and this percentage is very similar to that observed when we questioned these populations about the contribution of musical activities that have a therapeutic objective aimed at inclusion (PEB, 95.3%; PM, 100%; PE, 100%; MT, 100%).

The questionnaire allowed participants to justify their responses by reporting whether they have already observed the improvement of some person who presents ASD after the use of music as an educational or therapeutic tool. It was found that 44 (70%) PEB, 54 IN (90%) PM, 23 (66%) Of the EP and all 25 (100%) MT consider that the use of musical activities assists in the development of skills with people with ASD in the aspects of: behavior, interaction, socialization, attention, concentration, affectivity, rhythm of the body and language development. Among the participants who reported not having observed the improvement of cognitive, affective or motor skills through musical activities, one can cite the report of a teacher of basic education:

PEB 35 "Despite not having witnessed, I believe that group activities such as dances and songs sung collectively, that is, activities that provide interaction and integration are fundamental for the insertion and formation of groups, challenging the children who Have some disorder to feel as part of a collective".

Regarding the PM, it was found that 53 (90%) reported that through musical activities they observed improvement in socialization, creativity, motor coordination, affectivity, attention, concentration, interaction, language and respiration. In addition, some specific reports of musical experiences were found with students with ASD as indicated in the participant's response:

PM 20 "Student with autism began to have a better development when he discovered that he liked to play a musical instrument."

The PE presented similar responses as the following:

PE 12 "Through the music many children and adolescents to whom I had the possibility of intervening had improvement in the skills of attention, interaction and oral communication, at least during the time they were exposed to the stimulus";

PE 23 "In music there is interaction of the teacher, student and colleagues and with this the student interacts through dance accompanied by music and musical instruments. So, the student focuses more, gets more attentive and speaks more (if he speaks little or nothing)".

All 25 (100%) MT reported having already observed the improvement of cognitive, affective or motor skills with

people with ASD and/or other disturbances through musical experiences. The answer of two MT participants is presented below:

MT 10 "I am a music therapist and I have been regularly following cases of ASD. Each with its particularity has presented significant improvements in language, concentration, motor coordination, socialization and other more specific gains of each individual";

MT 22 "Music therapy works with physiotherapy are very valid and promote significant improvements including multiple autistic individuals with deficits, in several respects. In addition, musical activities help to include in the classroom, in the interaction between students, in the integration and expression of the autistic student".

Regarding the answers to question 3, it was found that the majority of the participants in the four populations 63.5% of the PEB; 96.6% of the PM; 62.8% of the EE and 100% of the MT uses music to include, when we add the answers to agree with those of fully agree. Regarding question 4, it was observed that 100% of the MT, 91.5% of the PM, 73% of the PEB and 80% of the EE, adding the answers to agree with those of agree fully consider that people with ASD improve social integration with music. In question 5, there was a divergence in the responses of the TM with respect to the other populations. Most MT, 68%, disagrees that all people like music, while most other populations (PEB-60%, PM-57.6% and EE-60%) summing up the answers to agree with those of fully agree consider that all people like music.

DISCUSSION

The music when used in the work with individuals with ASD has provoked effective improvement according to the participants. This assertion is corroborated by studies that have proven that these activities have a direct relationship with areas of the brain, linked to emotions and language and are used not only in the skills as in the interaction and socialization of individuals with ASD (Kohler *et al.*, 2002; Molnar-Szakacs and Overy, 2006). Still in the case of most who agree with the fact that musical activities are of great value in the intellectual, behavioral and affective development of people with ASD, the verbalization of one of the PM that a student to discover that he liked to play a Musical instrument had a more accentuated learning development is in total consonance with the study by Lai *et al.* (2012), since for these authors the functional system of people with ASD is more engaged to music than to the discourse, Thus signaling the advantage of using this resource with these individuals. Analyzing the socio-demographic profile of the study participants, we can say that they are predominantly female, with age range between 25 and 45 years; Teachers of basic education, music and education professionals have a public institutional link, and musicians have a private relationship and a higher level and have worked in the area for over 16 years. It can be inferred that due to the fact that the study participants have a considerable professional experience and a higher level of education, that the reports they have brought are rich in musical experiences of many years with children and adolescents both in Formal education and non-formal environments. One of the advantages pointed out by the PE for the use of musical activities with students with ASD is due to the fact that for these participants the musical stimulus enables

better communication and interaction between colleagues and teachers resulting in better Concentration and motivation for conviviality and learning. In this sense, it is important to emphasize the asserted by Levitin (2010) when he says that the musical stimulus moves several areas of the brain and neural systems and the fact of the individual (any individuals, including what has ASD and/or other disturbances) hear or making music, causes intense brain activity, and this activity contributes to human intellectual development. Therefore, there is a consonance between what this author affirms and what the EE responded about the benefit of music and musical activities among students with ASD. Antão *et al.* (2006) consider music a valuable instrument not only in the communication process but also of rehabilitation, literacy, sensitization and improvement of various aspects of life, thus resulting in the inclusion of these individuals in any environments. The World Music Therapy Federation considers that music therapy, as an intervention in educational environments with individuals with ASD, is valuable as it aims to create favorable conditions for quality of life, physical and social wellbeing, individuals with ASD (Sampaio *et al.*, 2015). It was expected, therefore, this convergence of conceptions among the music therapist's respondent with the one advocated by the Federation.

Santos and Louro (2016) also reinforce this understanding of the TM, as they affirm that music enables interaction, interpersonal communication and social communication among students with learning disabilities or socializing with other colleagues and teachers. Therefore, the comprehension of the MT respondents corroborates what Benenson (1985) affirms about music therapy for the child, understanding it as the first approach technique, since the non-verbal framing of this technique allows the establishment of one or more channels of communication between these children and the music therapists. Because it is a profession that works with therapy using music elements such as rhythm, melody or sound, the MT were unanimous in pointing out significant improvements in terms of language, socialization, concentration and several other benefits With ASD people participating in musical activities as a means of inclusion, integration and school interaction. Gattino (2015) states that children with autism should be encouraged musically from an early age, as thus, communication and social interaction skills can be established at a level closer to a habitual dialogue.

The author continues stating that evidence points the ASD as a multifactorial, genetic and environmental cause disorder and that the therapeutic management is obtained by several treatments, and music therapy proposes to improve the quality of life, increasing the Autonomy and improving the social coexistence of the individual with ASD. The perception that musical resources and activities, used in regular schools or non-formal spaces of education and therapies, contribute to the development of skills and inclusion of people with ASD is quite positive among respondents Participants in this research. This issue has high acceptance even for the EE, education professionals who do not work directly with music, as we have previously seen, but have this knowledge through observing the work of other professionals of their conviviality as the PEB, PM and MT. Cunha (2015) points out positive aspects through music education and affirms that it can be an ally as the musical practices in the classroom, for example, direct to an inclusive attitude of the student with ASD, whether in musical learning or in Any developments for everyday social

life. It is important to highlight that the musical activities, with therapeutic objectives, promoted with the individuals who have ASD contribute to the cognitive/linguistic, psychomotor, socio affective, sensory-motor, symbolic and analytical development of these people (Santos and Louro, 2016). This understanding was observed in the universe of this research, since no respondent disagreed with this question, and only three (4.8%) PEB were indifferent to that question; The other participants agreed with the contribution that musical activities and therapeutic objects give to those who have ASD. Music, therefore, does not only have the function of externalizing the emotions of those who hear it, but also of "mobilizing complex cognitive processes such as divided and sustained attention, memory, impulse control, planning, execution and control of motor actions, among others "affirmed Sampaio *et al.* (2015).

Music as a work tool used by PM and MT has an important didactic effect and can be used in various activities and by various means: musical instruments, singing, dancing, rhythmic games, among others. Thus, when asked if they perceive that individuals with ASD improve social interaction through music and musical activities there was relevant agreement of the interviewees: 54 (91.5%) 46 (73%) of the PEB, 28 (80%) of EE and all 25 (100%) MT claim that yes. There was a marked divergence in relation to the MT and the other respondents regarding the existence of people who like or dislike music. The MT mostly disagree that all individuals like music, which reflects the knowledge that the MT have in relation to the existence of people with disturbances or deficiencies that result in this dislike of music (Mas-Herrero *et al.*, 2014; SACKS, 2007). It is noteworthy that these same MT were unanimous in answering that the use of musical activities improves the process of inclusion of students with sensory, cognitive, affective and/or motor difficulties, being possible to deduce, therefore, that there was no contradiction between these two responses. Of course, the MT understands that the use of music with a group of students who do not have characteristics of amusia or specific musical anhedonia can really be, a paramount to the process of inclusion

Conclusion

According to the perception of educators and music therapists, musical experiences can and should be used for the inclusion of people with autistic spectrum disorder, provided that there is a training or qualification of these professionals. The musical Activities act as an efficient resource for the inclusion of people with ASD and or with other disorders because they act in connection with the development of the emotional states of the subjects and contribute to the sensory, motor, affective and cognitive. The present study did not intend to exhaust the knowledge about the theme developed, suggesting the realization of new studies capable of revealing possibilities of music applications in the daily life of children with ASD in formal and non-formal spaces of education.

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