

<http://dx.doi.org/10.1590/0104-070720160001020015>

MUSICAL INTERVENTION AS A NURSING CARE STRATEGY FOR CHILDREN WITH AUTISM SPECTRUM DISORDER AT A PSYCHOSOCIAL CARE CENTER¹

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ABSTRACT: Music has been used increasingly in care for children with autism spectrum disorder. This study aimed to report on the application of the music experience as care technology for these children at a Child - Juvenile Psychosocial Care Center. This is an intervention project based on the idea of action-reflection-action through the stages of diagnosis of reality, theory and application in reality. The musical intervention facilitated and mentored new play, sensory, motor experiences, language and interaction of children with autism spectrum disorder, and involved the triad of impairments - interaction, communication and behavior - in a playful and musical form. It is important that professionals deepen and develop knowledge on methods and strategies for the use of music therapy in mental health in order to extend its use in the care for these children and assess the effects of this intervention.

DESCRIPTORS: Nursing care. Music. Autistic disorder. Child. Mental health services.

INTERVENÇÃO MUSICAL COMO ESTRATÉGIA DE CUIDADO DE ENFERMAGEM A CRIANÇAS COM TRANSTORNO DO ESPECTRO DO AUTISMO EM UM CENTRO DE ATENÇÃO PSICOSSOCIAL

RESUMO: A música tem sido utilizada cada vez mais no cuidado a crianças com transtorno do espectro do autismo. Este trabalho teve como objetivo relatar a experiência da aplicação da música como tecnologia de cuidado a estas crianças em um Centro de Atenção Psicossocial Infantojuvenil. Trata-se de um projeto de intervenção baseado na ideia de ação-reflexão-ação por meio das etapas de diagnóstico da realidade, teorização e aplicação na realidade. A intervenção musical favoreceu e orientou novas experiências lúdicas, sensoriais, motoras, de linguagem e de interação de crianças com transtorno do espectro do autismo, sendo possível abarcar a tríade de alterações □ interação, comunicação e comportamento - de forma lúdica e musical. É importante que os profissionais aprofundem e desenvolvam conhecimentos sobre métodos e estratégias do uso da música terapêutica em saúde mental a fim de ampliar a sua utilização no cuidado a essas crianças, e avaliar os efeitos dessa intervenção.

DESCRIPTORIOS: Cuidados de enfermagem. Música. Transtorno autístico. Criança. Centros de atenção psicossocial.

LA INTERVENCIÓN MUSICAL COMO ESTRATEGIA DE ATENCIÓN DE ENFERMERÍA PARA NIÑOS CON TRASTORNO DE AUTISMO EN UN CENTRO DE ATENCIÓN PSICOSOCIAL

RESUMEN: La música se ha utilizado cada vez más en el cuidado de los niños con trastorno del espectro autista. Este estudio tuvo como objetivo informar sobre la aplicación de la experiencia de la música como tecnología del cuidado de estos niños en un Servicio de Salud Mental Infanto-Juvenil. Se trata de un proyecto de intervención basado en la idea de acción-reflexión-acción a través de las etapas de diagnóstico de la realidad, la teoría y la aplicación en la realidad. La intervención musical facilitó nuevas experiencias recreativas, sensorial, motora, del lenguaje y de la interacción de los niños, actuando sobre la tríada de alteraciones - comunicación, comportamiento e interacción. Los profesionales deben profundizar sus conocimientos sobre los métodos y estrategias del uso de la musicoterapia en la salud mental con el fin de extender su uso en el cuidado de estos niños y evaluar los efectos de esta intervención.

DESCRIPTORIOS: Atención de enfermería. Música. Trastorno autístico. Niño. Servicios de salud mental.

INTRODUCTION

The Brazilian Psychiatric Reform contributed to the resignification of knowledge and practices in the mental health area by proposing the replacement of the asylum paradigm, whose characteristics are social exclusion and a simplistic and hegemonic biopathological perspective on psychiatry, by new care scenarios. These new scenarios are called substitutive mental health services, which offer distinguished care practices to the subjects in their experience of pain and mental suffering.¹⁻³ In this context, the Psychosocial Care Centers (CAPS) were created as specialized care services for people in severe mental suffering, replacing for psychiatric internments, with a view to favoring the exercise of citizenship and the social inclusion of the users and their families.⁴

Among the existing types of CAPS, the Child-Juvenile Psychosocial Care Center (CAPSi) is a service for daily care delivery to children and adolescents in intense mental suffering who are incapable of maintaining or creating social bonds, who do not fit into the imaginary of childhood cultivated by society. These are agitated and anguished children and adolescents, who self-mutilate, self-assault and refuse contact or kindness, often remaining in intense silence or communicating in an incomprehensible language, demonstrating an apparent lack of meaning.⁴ Nevertheless, more than children and adolescents with a disease and/or disorder, they are, above all, subjects with a singular existence, who demand health care.⁵

Nursing care at the CAPSi involves individual and group care, therapeutic workshops, home visits, besides the articulation of care in an intersectorial network, involving stakeholders like guardianship councils, schools, non-governmental organizations, among others.^{1,4} In this context, the nurses' main challenge is clinical practice itself, which requires the development of new specific care technologies for this activity area, which permit the experience of different places, functions and modes of doing in order to establish bonding and a therapeutic relationship with children and adolescents.⁵ Technologies are tools or instruments used in health care practice and in the organization of the relationships inherent in the care process.⁶

Among the nursing care technologies in mental health, musical interventions contribute significantly to relieve anxiety, stress and promote relaxation, besides being useful in cases of social isolation. Despite the acknowledged beneficial effects,

however, it was verified in an integrative review that few Brazilian studies exist on the theme, which can be related to the scarce knowledge on music as a therapeutic resource and element for nursing care.⁷

Nevertheless, it should be appointed that music is present in the Nursing Intervention Classification (NIC). Florence Nightingale reported on its first use as a form of health care in the 19th century. In addition, the North American musical expert nurses Isa Maud Ilsen and Harried Ayer Seymour described the use of music in care during the I and II World War as a therapeutic resource to relieve the wounded soldiers' physical and emotional pain.⁸

Based on this panorama, the interest emerged in introducing the musical intervention as a complementary strategy in care for children with Autism Spectrum Disorder (ASD) at a CAPSi, with a view to stimulating the expansion of language, socialization and each child-subject's self-expression. This action is justified by the inventive need of nursing work with children and adolescents in mental suffering, due to the potential of music as a therapeutic resource in nursing and in view of the singular context of care (re)structuring at the CAPSi.

Thus, the objective in this study was to report on the experience of using music as a nursing care technology for children with autism spectrum disorder at a CAPSi.

METHOD

This is an experience report on an intervention project undertaken in professional practice during the Specialization Course in Nursing Care Lines – Area: Psychosocial Care. The objective of this course was to contribute to the qualification of the nursing professionals working in the Unified Health System (SUS). It is promoted by *Universidade Federal de Santa Catarina* (UFSC), with funding from the Ministry of Health, in partnership with the *Universidade de São Paulo, Escola de Enfermagem de Ribeirão Preto* (EERP/USP). It was held in the semi-distance modality on hubs in all Brazilian states and the Federal District.

The intervention project in professional practice is a systematic process for knowledge production, based on the situational diagnosis of reality, with a view to putting in course a theoretical-practical trajectory to transform the care reality in health and nursing.⁹

The possibility to make changes in the place of work requires reflections about the practice, aiming

to identify weaknesses or perceive potentials that contribute to a better quality of care, promoting at the same time a renewal of thoughts and actions. The proposed method was based on the idea of action-reflection-action in the problematizing pedagogy proposed by Paulo Freire and consists of phases that, when mutually articulated, outline an effective course, with objectivity and criteria, which are: diagnosis of reality, theorization and application in reality.⁹

In the diagnosis of reality, a thorough and detailed diagnosis is elaborated, supported by the experience of the professional and peers, by records in service documents, legal support or surveys in the official registration systems, among others, directly related to the theme and problem. In the theorization phase, the perspective on the reality surveyed is expanded, going beyond the common sense, habitual practice and envisaging concrete possibilities of advancing towards a new reality. Therefore, the new knowledge represents an opportunity to transform this support into a new contribution to professional practice, establishing links between existing practice, theory and new practice. Finally, the application in reality consists of the construction of alternatives and feasible and fundamental strategy to reach the point of arrival, that is, to move towards the new reality. It represents the possibility of presenting the new work process, experiencing new work modes in health and nursing.⁹

The scenario of the intervention project in professional practice was the CAPSi Pilot Plan in the Federal District. The strategy was the application of the musical intervention as nursing care technology during weekly sessions with six different groups of children with ASD, between January and February 2014.

The project was not submitted to the Research Ethics Committee as the study was focused on describing and reflecting on the care strategy implemented at the service, without using any data on the subjects involved in the sessions.

RESULTS

Diagnosis of the reality: context and organization of work at the CAPSi Pilot Plan

The CAPSi Pilot Plan was officially created in 1998, based on the only child-juvenile mental health outpatient clinic in the Federal District, the Center for Medical-Psychopedagogic Orientation

(COMPP). It was only as from 2012 that that CAPSi Pilot Plan was acknowledged as a service in the mental health network of the Federal District, as it had only served as one of the projects of the COMPP outpatient clinic until then.

Since then, the CAPSi Pilot Plan has been (re) structured from the perspective of psychosocial care as, since it originated in the outpatient logic of specialties, remnants of this model are still found in clinical practice. In fact, the CAPSi is going through an organization and structuring process, including the definition of the mission, institutional values, technical structure (interdisciplinary team) and care flow. Great effort has been undertaken for the structuring and strengthening of the CAPSi as a psychosocial care service. Among these efforts, the organization of the First Internal Forum of the CAPSi Pilot Plan in 2013 should be highlighted, the construction of the service's institutional project, the new organization of the physical space and technical team, the technical visits and readings on the work process at other CAPSi, among that many other efforts of the CAPSi team.

Despite the advances towards the institutional recognition in the Mental Health Network, towards the physical space and technical organization, the challenge remained to rethink the functioning of care for patients in this new scenario. The children and adolescents at the CAPSi Pilot Plan are attended each week during one-and-a-half-hour shifts. The shifts consist of small groups of distinct age ranges - child group (0 to 12 years) and adolescent group (13 to 25 years), with a maximum of five children or eight adolescents, with different diagnoses (autism, psychosis, mental impairment). Four to five professionals with different backgrounds provide care, such as nurses, psychiatrists, occupational therapists, nutritionists, speech therapists, psychologists and nursing technicians.

Care happens in an area with different thematic rooms (game room, play room, individual care room, skills room, arts and music room), where the patients can move around and expand their possibilities of exploring, experiencing, getting to know new modes of doing, playing and interacting with one another. Nevertheless, the team's challenge was exactly to offer and propose, during the shifts, activities to guide new playful, sensory, motor, language, interaction experiences, with one another and with the midst the child/adolescent is inserted in, considering the mental organization and interest level of each child.

After meetings, discussions and reading on care experiences at other CAPSi and visits by the managers to CAPSi in other states, the team got organized to propose and elaborate activities planned with the help of therapeutic resources that favored the relation and development of the children attended at the service.

Among the activities, the insertion of musical interventions into group care at the CAPSi was proposed, not as the only activity, but as one of the several activities to be developed in care for children with ASD, aiming to stimulate and permit mainly the enhancement of language, socialization and responses to the environment. It should be highlighted that the specific interest in the musical activity is related to the primary author's background as a musical expert and her theoretical interest in the theme musical intervention.

To plan the activities, searches were undertaken in electronic databases and books on the use and the therapeutic effects of music in mental health, specifically in children with autism spectrum disorder since, although the diagnosis is not a criterion to be inserted in the service, but the child or the adolescent's suffering, it is known that the most frequent diagnoses at the CAPSi Pilot Plan are the global development disorders/ASD.

Theorization

Autism/Autism Spectrum Disorder

It is estimated that one out of every 88 children presents ASD, at a rate of three to four boys for every girl. More than two thirds of these children present associated cognitive deficit/mental retardation. The etiology of the disease is complex, heterogeneous and multifactorial, so that there is not a single specific cause.¹⁰⁻¹¹ Studies suggest that genetic and neurobiological factors are associated (anatomic or physiological anomaly of CNS; biologically determined, innate constitutional problems), as well as psychosocial risk factors.¹⁰⁻¹¹

Autism can manifest itself in a very peculiar way among different children, and in the same child as well, between one and another phase of development. Therefore, the term Autism Spectrum Disorder is used. Many authors use autisms in the plural form to refer to the different forms in which the disease manifests itself.¹⁰ Despite this diversity, the autism spectrum disorders in general are characterized by qualitative changes in the social interactions, in communication and in behavior.¹⁰⁻¹¹

In the context of social interactions, the children may neither demonstrate nor understand emotional expressions, not seek or react to interactions with other people through looks, gestures, speech and other resources, reflecting the limitation in social and affective expression.¹⁰⁻¹² Absence of selective bonding with parents/caregivers may occur, as well as avoidance of physical contact and difficulty to play in group and develop bonds of friendship due to the trend towards isolation.¹⁰⁻¹²

Concerning communication, many present impaired language development, with inexistent speech in 20 to 50% of the cases.¹³ Immediate or late echolalia can also be present, sometimes accompanies by pronominal inversion and a characteristic idiosyncratic vocabulary, besides speech with peculiar intonation and volume.¹¹⁻¹³

As regards behavior, children with ASD tend to present stereotypes - repetitive motor movements, besides restricted and unprecedented interests like fascination for paper, tissue and ventilators, playing mechanically, repetitively and without creativity and symbolism.^{10,12} They may have the habit of smelling and licking objects, sharpened sensitivity to certain sounds and visual and tactile insistence to certain objects.¹¹ They are also extremely resistant to changes in their routine, which are ritualized and strict. In addition, some may also assault themselves.^{10,12}

Several approaches and/or care technologies can be adopted to treat children with ADS. Among these, medication treatment, behavioral technologies like the Treatment and Education of Autistic and Communication Handicapped Children (TEACCH), supplementary and alternative communication methods, clinical treatment based on psychoanalysis or behavioral analysis are highlighted, as well as complementary therapeutic resources like music therapy.^{12,14}

Music as a therapeutic resource in care for children with Autism Spectrum Disorder

Music therapy and musical intervention have been increasingly used in the treatment of autistic children. The terms may seem similar, but there are differences between them. The difference between these two modalities is the approach of each professional and the theoretical framework to use music as a care intervention in the different contexts.¹⁵

Music therapy or music therapy in medicine is a therapeutic technique reserved for music therapists

for the purpose of prevention, rehabilitation and treatment of an individual or group of individuals, in which the therapeutic relationship between the music therapist and patient and between the latter and the music are curative components of a certain need.¹⁵ Music in medicine or musical intervention consists in the use of music as a therapeutic resource for several conditions of the patient by health professionals in general, such as nurses, physicians, dentists, among other non-music therapists, to be used as a guide or facilitator between the professional and the patient to conduct the therapy/treatment or to lead the patient to have therapeutic contact with him/herself.¹⁴⁻¹⁵

As regards the use of the music by nurses, the Regional Nursing Council in the State of São Paulo (COREn-SP) issued opinion 025/2010,¹⁶ about the nurse's competence to use music in care for the patients. In the course of the opinion, the two concepts of music are addressed as a therapeutic resource, music therapy in medicine and music in medicine. The latter is presented in the context of Nursing as an intervention to be used "[...] judiciously, as a complementary resource in care for human beings, aiming to restore the possible balance, the wellbeing and, in many cases, the enhancement of individual awareness in the health-disease process".^{16:2}

It is highlighted that COREn-SP¹⁴ is in favor of nurses using music as a therapeutic resources, provided that they are knowledgeable about the careful application of this therapy and observe the responsibilities and duties of the Nursing Professionals' Ethics Code for high-quality and safe nursing care.

The music intervention aimed at the children with ADS involves different therapeutic musical therapies, such as singing, improvisation and musical recreation, bodily movements with music and dance, musical hearing, use of musical videos, elaboration of histories on music/singing, besides the use of musical instruments by the therapist and the child.^{14,17-18}

There is evidence that the musical intervention contributes to break with patterns of isolation, favoring verbal and non-verbal communication, reducing stereotyped behaviors, stimulating self-expression and the manifestation of children with ADS' subjectivity, thus stimulating the development and experiencing of new modes of playing.^{14,17-18}

Application in reality: musical intervention as a nursing care strategy

The musical intervention as a nursing care strategy was used in different ways at the CAPSi,

which ranged from listening to songs, nursery rhymes, to the (re)creation and musical composition.

At the start of the care sessions, a nurse and other professionals received the children with recreated and improvised songs directed at them personally. Some of the songs that were adopted, sung and played on the guitar were children's songs like "*Bom dia, como vai*" and "*For he's a jolly good fellow*".

After this reception, the nurse played children's songs of interest to the children on the guitar, mainly nursery rhymes. The aim of these songs was to offer a moment of creative interaction and stimulate communication, based on the manifestations of echolalia and/or through games of completing musical phrases.

At certain times, other resources like DVD's and music CD's were used, for group games and dancing as well as for background music. In addition, musical instruments were commonly shown to incite the child's interest in exploring and touching them. Some of the musical instruments used are displayed in Figures 1, 2 and 3.

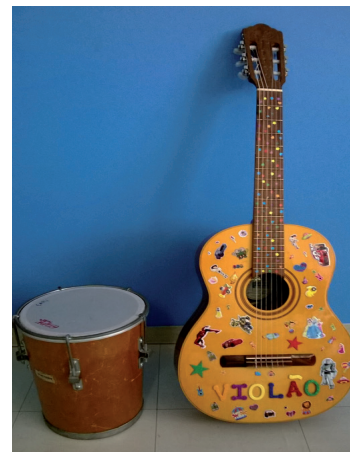


Figure 1 - Guitar and *surdo*



Figure 2 - Stereo, half moon tambourine, *guiro* (Cuban *reco-reco*), *maracas*, *claves*, tambourine and xylophone

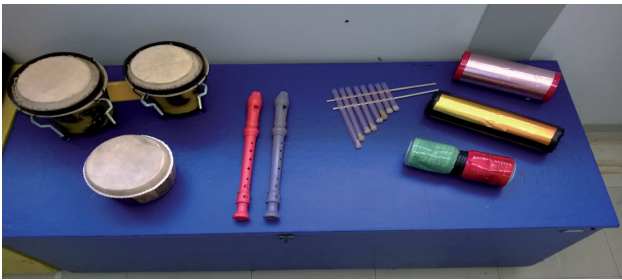


Figure 3 - Bongo drums, drum, flutes (left) and musical instruments made from scrap made at the CAPSi - pan flute and *ganzás* (right)

These musical interventions were offered during all care sessions for the children and adolescents. Nevertheless, their organization was conditioned by the patients' interest and response each day. In that sense, on some occasions, the music was used during the entire shift and, at other times, the musical activity took about 20 minutes.

Hence, music could not be used as a previously planned activity in all sessions. The interventions were potential activities to be accomplished and constructed according to the reactions and singularity of each child attended at the CAPSi. Therefore, the planning of the activity was an organizational set of interventions and proposals in constant elaboration to act on the individual possibilities of each patient in the group.

Based on this organizational dynamic, most children attended at the CAPSi responded positively to the musical intervention, as many of them reacted to the songs personally directed at them, whether through looks, facial expressions or even speech and sounds. This finding is strengthened in earlier studies, according to which it is important to reserve some time for musical games and songs of interest to the child, including her name and descriptions to permit a possible opening to subjectivity.¹⁴

In addition, the musical intervention contributed to further moments of interaction between the child and the professionals through the creative use of rhymes, gestures, rhythms and songs related to their echolalia. It is interesting to use the echolalia and, based on the repetitive and decontextualized words and expressions, expand the child's repertoire and construct moments of interaction through the use of rhymes, gestures, different rhythms and the elaboration of sung histories related to verbal repetition.¹⁹

Some children also presented a qualitative change in the relation with the objects and with

the body itself, as the movements and repetitive gestures they made all the time were performed in a new context of dancing, executing musical instruments and games. Sound and musical games based on the child's stereotypes grant meaning to these repetitive gestures, thus motivating a qualitative change in the relation with the objects and the own body.¹⁹

Despite the potential of music as a therapeutic resource in nursing care for children with autism, in certain situations, depending on the conditions in which it is used/applied, it can serve as a iatrogenic element. That was observed when some children closed off their ears with their hands and made facial expressions showing discomfort because of the sounds and vibrations. This finding supports literature data, which suggest not ignoring the iatrogenic effect of the musical intervention as, beyond the benefits, the music, depending on the conditions it is applied in, it favors a burden in some autistic children's nervous system, who can present different auditory perceptions than neurotypical individuals, increasing reactions of self-stimulation.^{11,14,19}

Therefore, it is essential for the nurse to be able to use the musical intervention and guarantee playful and at the same time safe care. The nursing professionals need to get qualified through the search for knowledge on musical aspects like timbre, tone height, intensity, metrics and other techniques, and mainly about the particularities of the child that is to receive care.

It should be appointed that the nursing professionals applied the music as a nursing intervention, in line with the NIC. During all care sessions, however, other professionals contributed to and participated in the activities, as care at the CAPSi always takes place in a multiprofessional context based on teamwork.

In view of that experience, it was verified that the music was a nursing care technology that contributed to stimulate the interaction/relationship, communication and behavior change in the children with autism spectrum disorder at the CAPSi. These results also converge with mental and social changes found in a study involving adults at a CAPS.²⁰ Thus, when assessing the experiment, the musical intervention favored and guided new playful, sensory, motor and language experiences and interaction of children with autism, spectrum disorder, as it may cover the triad of changes - interaction, communication and behavior - in a playful and musical way.

FINAL CONSIDERATIONS

In the context of the Psychiatric Reform, the CAPSi Pilot Plan serves as a psychosocial care device that favors the construction of social bonds and social insertion of children and adolescents in severe mental suffering.

In view of this perspective, the experience of using music as nursing technology in care for autistic children at the CAPSi Pilot Plan was positive, as it favored new modes of doing/playing, developing skills and relating with the others, that is, this nursing intervention permitted interaction, new behaviors and language stimulation. Therefore, it contributed to improve the verbal and non-verbal communication, break with the isolation patterns, reduce the stereotyped behaviors, stimulate self-expression and the manifestation of subjectivity.

It is considered important for the nursing professionals to deepen and develop specific knowledge on methods and strategies to use music therapy in mental health with a view to expanding its use in care for the children. Therefore, new studies and research is needed that contribute to the development and expanded use of music as a therapeutic resource in nursing and health care. Although musical interventions have been used since the 19th century in nursing care, the literature still lacks studies that investigate the effectiveness of this resource to support the use of this intervention as an evidence-based practice.

The importance of developing intervention projects that propose inventive technologies or even reflect critically on the technologies already incorporated into the service routine. The steps diagnosis of reality, theorization and application in the reality, based on a clear conception of education, are powerful instruments for the advance of the care technology and the improved effectiveness and quality of the care the quality the health team promotes. The disclosure and critical consumption of this type of experience are a fundamental step for the current challenges of Brazilian nursing.

REFERENCES

- Olschowsky A, Wetzel C, Schneider JF, Pinho LB, Camatta MW. Evaluation of intersectoral partnerships for mental healthcare in the Brazilian family health strategy. *Texto Contexto Enferm* [online]. 2014 [acesso 2015 Jan 08]; 23(3):591-9. Disponível em: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072014000300591&lng=en&nrm=iso&tlng=en
- Wetzel C, Kantorski LP, Olschowsky A, Schneider JF, Camatta MW. Dimensões do objeto de trabalho em um Centro de Atenção Psicossocial. *Cienc Saude Colet*. 2011; 16(2):2133-43.
- Junqueira AMG, Carniel IC. Olhares sobre a loucura: os grupos na experiência de Gorizia. *Rev SPAGESP* [online]. 2012 [acesso 2015 Jan 08]; 13(2):12-22. Disponível em: http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1677-29702012000200003
- Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Saúde Mental no SUS: Os Centros de Atenção Psicossocial. Brasília (DF): MS; 2004 [acesso 2014 Fev 03]. Disponível: http://www.ccs.saude.gov.br/saude_mental/pdf/sm_sus.pdf
- Botti APL. A Enfermagem e a construção de saber na permanência-dia de um Centro de Referência em Saúde Mental Infante Juvenil. In: Ferreira T, Bontempo VL, organizadoras. Crianças e adolescentes: o cuidado em saúde mental - o trabalho feito por muitos. Curitiba (PR): CRV; 2012. p. 207-12.
- Lorenzetti J, Trindade LL, Pires, DEP, Ramos FRS. Technology, technological innovation and health: a necessary reflection. *Texto Contexto Enferm* [online]. 2012 [acesso 2015 Jun 02]; 21(2):432-9. Disponível em: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072012000200023&lng=en&nrm=iso&tlng=en
- Nóbrega ED, Sousa MNA. Música na assistência de enfermagem: resultados baseados em evidências. *InterScientia* [online]. 2013 [acesso 2015 Jun 02]; 1(3):102-13. Disponível em: <https://www.unipe.br/periodicos/index.php/interscientia/article/view/227>
- Taets GGC, Barcellos LRM. Música no cotidiano de cuidar: um recurso terapêutico para enfermagem. *Rev Pesq Cuid Fundam Online*. 2010 [acesso 2015 Jun 02]; 2(3):1009-16. Disponível em: http://www.seer.unirio.br/index.php/cuidadofundamental/article/view/639/pdf_37
- Reibnitz KS, Amante LN, Ramos FRS. Desenvolvimento do processo de cuidar. Curso de Especialização em Linhas de Cuidado em Enfermagem. Florianópolis (SC): Universidade Federal de Santa Catarina/ Programa de Pós-Graduação em Enfermagem; 2013.
- Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Linha de cuidado para a atenção às pessoas com Transtornos do Espectro do Autismo e suas famílias na Rede de Atenção Psicossocial do SUS. Brasília (DF): MS, 2013 [acesso 2014 Fev 20]. Disponível em: http://www.autismo.org.br/site/images/Downloads/linha_cuid_autismo.pdf
- Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Diretrizes de Atenção à Reabilitação da Pessoa com Transtornos do Espectro do Autismo. Brasília (DF): MS; 2013 [acesso 2014 Fev 20]. Disponível em: <http://www.pessoacomdeficiencia.gov.br/app/>

- sites/default/files/arquivos/%5Bfield_generico_imagens-filefield-description%5D_85.pdf
12. Srinivasan SM, Bhat AN. A review of “music and movement” therapies for children with autism: embodied interventions for multisystem development. *Front Integr Neurosci*. 2013 [acesso 2015 Fev 27]; 7(22):1-15. Disponível em: <http://journal.frontiersin.org/article/10.3389/fnint.2013.00022/abstract>
 13. Brown AB, Elder JH. Communication in Autism Spectrum Disorder: a guide for pediatric nurses. *Pediatr Nurs*. 2014; 40(5):219-25.
 14. Padilha MCP. A musicoterapia no tratamento de crianças com perturbação do espectro do autismo [dissertação na internet]. Covilhã (PT): Universidade da Beira Interior; 2008 [acesso Fev 15]. Disponível em: <http://www.fcsaude.ubi.pt/thesis/upload/118/763/marisapadilhadiSSERT.pdf>
 15. Silva LC, Ferreira EABF, Cardozo EE. A Música e a Musicoterapia no Contexto Hospitalar: uma revisão integrativa de literatura. In: *Anais do XII Encontro de Pesquisa em Musicoterapia - Musicoterapia: Ciência e Pesquisa Contemporânea*, 2012; Olinda, BR. Associação de Musicoterapia do Nordeste: 2012 [acesso 2014 Fev 20]. p. 75-89. Disponível em: https://14simposiomt.files.wordpress.com/2012/02/final_-_xiv_simp3b3sio.pdf
 16. Conselho Regional de Enfermagem de São Paulo. Parecer Coren-SP CAT nº 025/2010. Assunto: Musicoterapia. São Paulo, 2010 [acesso 2014 Fev 08]. Disponível em: http://portal.coren-sp.gov.br/sites/default/files/parecer_coren_sp_2010_25.pdf
 17. Brandalise A. Musicoterapia aplicada à pessoa com transtorno do espectro do autismo (TEA): uma revisão sistemática. *Rev Bras Musicoterapia*. 2013 [acesso 2014 Fev 15]; 15(15): 28-42. Disponível em: <https://docs.google.com/file/d/0B7-3Xng5XEKfUjhta1J2OTc3TkU/edit?usp=sharing>
 18. Geretsegger M, Elefant C, Mössler KA, Gold C. Music therapy for people with autistic spectrum disorder (Review). *Cochrane Database Syst Rev*. 2014 [acesso 2015 Fev 02]; 1. Disponível em: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004381.pub2/pdf>
 19. Prestes C. Musicoterapia: estudo de caso de uma criança autista. In: *Anais do XVII Encontro Nacional da ABEM - Diversidade Musical e Compromisso Social: o papel da educação musical*, 2008 [acesso 2014 Fev 20]; São Paulo, Brasil. São Paulo: 2008. Disponível em: [http://www.abemeducacaomusical.org.br/Masters/anais2008/026 Clarisse Prestes.pdf](http://www.abemeducacaomusical.org.br/Masters/anais2008/026%20Clarisse%20Prestes.pdf)
 20. Campos NL, Kantorskil LP. Música: abrindo novas fronteiras na prática assistencial de enfermagem em saúde mental. *Rev Enferm UERJ*. 2008 [acesso 2015 Jun 02]; 16(1):88-94. Disponível em: <http://www.facenf.uerj.br/v16n1/v16n1a14.pdf>