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ORIGINAL ARTICLE

KNOWLEDGE OF NURSING STUDENTS ABOUT AUTISTIC DISORDERS CONHECIMENTO DE ESTUDANTES DE ENFERMAGEM SOBRE OS TRANSTORNOS AUTÍSTICOS CONOCIMIENTO DE ESTUDIANTES DE ENFERMERÍA SOBRE LOS TRASTORNOS DEL ESPECTRO AUTISTA

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ABSTRACT

Objective: to analyze the knowledge of Nursing students of a Public University on Autism Spectrum Disorders (ASD). **Method:** it is a quantitative, descriptive study, carried out with 65 undergraduate students in Nursing. The data were collected through a questionnaire, submitted to statistical analysis and presented in a table. **Results:** the media was evidenced as the main source for the acquisition of information about ASD by the students. The main alterations of ASD were the difficulties in social interactions, the commitment in communication and use of verbal and non-verbal language, as well as high cognitive abilities. It was found that 90.8% did not feel safe to attend people with ASD. **Conclusion:** it is concluded that students present reasonable knowledge regarding ASD, but with important weaknesses mainly in relation to symptoms and treatment. It is appropriate to approach about the ASD still in the graduation so that the students of Nursing, future professionals, have more security and knowledge to realize an ethical and evidence-based care. **Descriptors:** Autisct Disorder; Students, Nursing; Knowledge; Education, Nursing; Pediatric; Nursing, Psychiatric Nursing.

RESUMO

Objetivo: analisar o conhecimento dos estudantes de Enfermagem de uma universidade pública sobre os Transtornos do Espectro do Autismo (TEA). **Método:** trata-se de estudo quantitativo, descritivo, realizado com 65 estudantes de graduação em Enfermagem. Coletaram-se os dados por meio de questionário, submetendo-os à análise estatística e apresentando-os em tabela. **Resultados:** evidenciaram-se os meios de comunicação como a principal fonte para a aquisição de informações sobre os TEA pelos estudantes. Apontaram-se, como principais alterações dos TEA, as dificuldades nas interações sociais, o comprometimento na comunicação e o uso da linguagem verbal e não verbal, além de altas habilidades cognitivas. Verificou-se que 90,8% não se sentem seguros para atender pessoas com TEA. **Conclusão:** conclui-se que os estudantes apresentam conhecimento razoável referente aos TEA, porém, com fragilidades importantes, principalmente, em relação aos sintomas e tratamento. Faz-se oportuno abordar sobre os TEA ainda na graduação, para que os estudantes de Enfermagem, futuros profissionais, tenham mais segurança e conhecimento para realizar um cuidado ético e baseado em evidências. **Descritores:** Transtorno Autístico; Estudantes de Enfermagem; Conhecimento; Educação em Enfermagem; Enfermagem Pediátrica; Enfermagem Psiquiátrica.

RESUMEN

Objetivo: analizar el conocimiento de los estudiantes de Enfermería de una Universidad Pública sobre los trastornos del espectro autista (TEA). **Método:** se trata de un estudio cuantitativo, descriptivo, realizado con 65 estudiantes de graduación en Enfermería. Se recogen los datos por medio de cuestionario, sometidos al análisis estadístico y presentados en tabla. **Resultados:** se evidenciaron los medios de comunicación como principal fuente para la adquisición de informaciones sobre TEA por los estudiantes. Se señalaron como principales cambios del TEA las dificultades en las interacciones sociales, el compromiso en la comunicación y uso del lenguaje verbal y no verbal, además de altas habilidades cognitivas. Se verificó que el 90,8% no se siente seguro para atender a las personas con TEA. **Conclusión:** se concluye que los estudiantes presentan conocimiento razonable referente a los TEA, pero con fragilidades importantes principalmente en relación a los síntomas y tratamiento. Se hace oportuno abordar sobre los TEA aún en la graduación para que los estudiantes de Enfermería, futuros profesionales, tengan más seguridad y conocimiento para realizar un cuidado ético y basado en evidencias. **Descriptores:** Trastorno Autístico; Estudiantes de Enfermería; Conocimiento; Educación en Enfermería; Enfermería Pediátrica; Enfermería Psiquiátrica.

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INTRODUCTION

It is known that Autism Spectrum Disorders (ASDs) are characterized by qualitative changes in reciprocal social interactions, behavior and communication. It is estimated that 500 thousand people, in Brazil, had autistic disorders in 2010, with a higher incidence in males.¹

The ASDs are recognized as relatively frequent and common disorders in the population, but, it was not the epidemic that made autism visible, but, the visibility of autism that made the epidemic.²

It has been observed that autistic disorders have gained greater visibility and, with this, have gained greater relevance in recent years, either by the comprehensiveness of current diagnostic criteria or even by the dissemination of information by different spheres of society, especially, by the media and family members linked to political movements and social services, which, in addition to helping in the dissemination of information, request specialized services and support the development and dissemination of studies in the health area.¹⁻²

It should be noted that this visibility contributed to the formulation of public policies and the line of care to be provided by qualified and qualified health professionals, including, nurses, who are at the forefront of the comprehensive care of health users and are increasingly find these patients in health care settings.³

The nurse is configured as part of the multidisciplinary team that serves the user with ASD, who must have knowledge about the topic that encompasses this disorder, since it is constantly close to the patient, besides being responsible for the consultations of evaluation and follow-up of children's growth and development in basic health units and clinics.⁴⁻⁵

It is hoped, therefore, that nurses identify the different needs through flexible and individualized care planning, considering the application of Nursing interventions and technologies and possible and concrete goals, as well as helping parents when it comes to newly diagnosed children, guiding them about challenges and caring for the child with ASD.⁴⁻⁵

However, there is insufficient knowledge of nursing professionals regarding the etiology, the identification of signs and therapeutic possibilities for the child with ASD and his/her family, who refer fear and insecurity to dealing with children with ASD due to lack of

knowledge, obtained by a minority in specializations or extracurricular internships, which reveals that in nursing undergraduate academic environments, little is studied about the subject.^{4,6-7}

In addition to prejudices and stigmas present in society, where information is not always consistent with the reality of the person with ASD, many cases of autism may pass through the information and knowledge limitations on ASDs, many cases of autism can go unnoticed by nursing professionals, which may hinder the early identification of signs of autism and, consequently, implicate in interventions and late referrals.⁶⁻⁷

The nurse is expected to be able to act as an educating agent with the family through information and guidance about autism, accompanied by support and understanding of the family's difficulties and suffering related to the diagnostic and therapeutic process, especially in the light of the perceived perception in the literature that people with ASD and their families have a belief that their interests and grievances will not be heard or acknowledged by the nursing team, which may delay or lead to resistance in the search for health services.³

From this, it is appropriate to carry out research to identify nursing students' knowledge about ASD, even in the undergraduate context, in order to stimulate discussions related to the dissemination of this topic in undergraduate and contribute to the development of strategies that instrumentalize nursing students during their training to care for people with autistic disorders.

OBJECTIVE

- To analyze the knowledge of nursing students, of a public university, on Autism Spectrum Disorders.

METHOD

This is a quantitative, descriptive study, carried out with undergraduate Nursing students from November to December 2017.

As inclusion criteria, students duly enrolled in the university and who were attending the 8th, 9th or 10th semesters of the Nursing course were included as inclusion criteria, since they would have completed subjects that deal with theoretical content and practical experience in the area of mental health and the child's health. As exclusion criteria, students who were on leave and / or on an extended leave while collecting data or who left one or more questions of the blank

questionnaire were chosen as exclusion criteria.

The data was collected through a structured questionnaire, which contained a total of 19 objective questions and included data on characterization of the participants, knowledge about etiology, symptomatology, treatment, public policies of care for the person with ASD, and self-perception of the students about their own knowledge about the subject and desire to know more about autism spectrum disorders.

The questionnaires, together with the Terms of Free and Informed Consent, were given to students, in the hall of the College of Health, at a time other than the compulsory subjects of the course and on a previously scheduled date. The questionnaire was submitted in a sealed envelope, which was returned in the same way with the purpose of avoiding the identification of the participant.

The study project was submitted to the Research Ethics Committee (REC) of the University of Brasilia, which was approved under the number of opinion 2,331,565, and CAAE 76409617.0.0000.0030, complied with the ethical precepts of Council Resolution 466/2012 National Health Organization at all stages of the research.

The data obtained with double entry in Excel spreadsheets, Microsoft Office 2010 version, were processed in the Software Action Stat, version 3, to perform statistical analyzes of descriptive character (mean, standard deviation and absolute and percentage frequencies) and inferential . The chi-square test of independence was applied and a significance level of 5%.

RESULTS

A total of 71 students from the last three semesters of the Nursing course were quantitatively enrolled. Two students were excluded because of prolonged leave, one for refusal to participate in the study and three for leaving questions blank, resulting in the final sample of 65 participants.

The mean age of the students was 23.6 years (21-30, SD $\pm$ 2.1) and the female predominance, with 90.8% (n = 59). It was verified that 17 (26.2%) were in the eighth semester, 35 (53.8%), the ninth semester and 13 (20%) were in the tenth semester; in addition, 32 (49.2%) participants had never had prior contact with people with ASD and only four (6.2%) had close relatives or relatives in the autism spectrum.

It was observed that 81.3% of the students answered that ASDs can manifest in a peculiar way in the same person and / or between different people, while 15.4% did not know how to respond, and only one participant (1.5%) marked not.

The media were evidenced as the main source for the acquisition of information on ASD by students, as shown in table 1. It is noteworthy that the participants that marked the "other sources" option specified them as optional subjects, family and people with the disorder.

It should be noted that the number of markings differs from the total number of participants, since it was an issue in which participants could mark more than one option, totaling 162 markings.

Table 1. Main sources of information used by students to acquire knowledge about autistic disorders. Brasília (DF), Brazil, 2018.

Source of information	n	%
Internet	40	24.7
TV, films and series	35	21.6
Social networks	32	19.8
Scientific literature	16	9.9
Newspapers and magazines	12	7.4
Extracurricular activities	10	6.2
Nursing course subjects	6	3.7
Other sources	4	2.5
Scientific Events	3	1.9
No source	4	2.5

The responses of the students to the etiology, to the indication of the ideal professional to carry out the diagnostic process and to the symptomatology of Autism

Spectrum Disorders were specified in tables 2, 3 and 4, respectively. Emphasis is given to the possibility that participants have marked up to three of the eight options set out in table 4.

Table 2. Etiology of Autism Spectrum Disorders according to students' responses. Brasília (DF), Brazil, 2018.

Etiology	n	%
Multifactorial and complex	35	53.8
Did not know how to specify	16	24.6
Of a specifically neurobiological nature	7	10.8
In affective and parental relationships	4	6.2
Of strictly genetic origin	3	4.6

Table 3. Ideal professional to perform the diagnostic process of autistic disorders. Brasília (DF), Brazil, 2018.

Professional	n	%
Multiprofessional Team	52	80
Psiquiatrist	8	12.3
Psychologist	2	3.1
Neurologist	2	3.1
Did not know how to answer	1	1.5

Tabela 4. Principais alterações relacionadas aos Transtornos do Espectro do Autismo, de acordo com as respostas dos estudantes. Brasília (DF), Brasil, 2018.

Alterações	n	%
Dificuldades nas interações sociais	59	32,1
Comprometimento na comunicação e linguagem	50	27,2
Altas habilidades cognitivas	27	14,7
Hiperatividade	21	11,4
Comportamentos e interesses restritos e estereotipados	16	8,7
Alterações motoras/musculoesqueléticas	6	3,3
Crises convulsivas	2	1,1
Não souberam especificar	3	1,6

The answers to questions regarding treatment, health policy guidelines, self-assessment and self-perception of students

about their knowledge about autism spectrum disorders are presented in table 5.

Table 5. Distribution of the answers of the questions related to the treatment, public policies and self-perception of the students about the knowledge in the thematic. Brasília (DF), Brazil, 2018.

Question	n	%
In the treatment of people with ASD, is it recommended that the choice between the various approaches be considered effective and safe and be taken according to the singularity of each case?		
Yes	61	93.8
No	0	0
Don't know	4	6.2
Is the use of psychoactive drugs developed specifically for ASD one of the main therapeutic resources?		
Yes	8	12.3
No	24	36.9
Don't know	33	50.8
In the scope of the Health Networks, can care for the person with ASD and their family take place from Basic Health Units, Ambulatories, Specialized Centers in Rehabilitation, Psychosocial Care Centers to Emergency Care Units, services in which nurses are inserted?		
Yes	46	70.8
No	17	26.2
Don't know	2	3.1
Are the intersectoriality in the development of policies and care for the person with autism spectrum disorder, through comprehensive attention to their health needs, guidelines that guide the National Policy on the Protection of the Rights of Persons with Autism Spectrum Disorder?		
Yes	22	33.8
No	1	1.5
Don't know	42	64.6
Do you believe that during graduation you acquired sufficient knowledge about care for people with ASD?		
Yes	0	0
No	65	100
Do you feel safe to work with this population in different health contexts?		
Yes	6	9.2
No*	59	90.8
Do you consider ASD an important topic to address during undergraduate?		
Yes	65	100
No	0	0
Did you participate in a course, lecture and / or seminar on the subject of ASD carried out by other institutions, in addition to its University?		
Yes	5	7.7
No	60	92.3
Would you like to know more about Autism Spectrum Disorders?		
Yes	64	98.5
No	1	1.5

* Reasons alleged: lack of knowledge, inexperience and fear.

It was found, in the inferential analysis, a statistically significant relationship between the questions "do you have any relative or close relative with ASD" and "the use of psychotropic drugs developed specifically for ASDs is one of the main therapeutic resources used for people with ASD" (p- value = 0.026). It was found that all students who had relatives or close relatives with ASD correctly answered the question by selecting the option that there are no psychotropic drugs specifically developed for autistic disorders.

DISCUSSION

The predominance of the female sex among the students is attributed to the fact that nursing is a predominantly female profession, which brings with it, from the earliest stages, the sexual segregation of work and gender issues, framing care as a female stereotype.⁸

One has the internet as one of the main information and communication technologies.

It is known that health is one of the most researched topics in the network, due to the great availability and easy access to online content.⁹ It is confirmed, in data from the National Household Sample Survey (NHSS), of 2016, that the student population was the one that most used the internet (81.2%), and, among the purposes of internet access, to watch videos, including programs, series and films was the second most pointed (76.4%), profile also portrayed in this study.¹⁰

It is noted that there is the contribution of videos, films and series in the propagation of the subject in relation to ASD, but, there are controversies regarding the dissemination of information through these media, as they contribute to the awareness and awareness about ASD , sometimes further strengthen stereotypes and stigma.¹¹

It is known that the representations of autistic disorders on the screen have a potential educational value, since they

represent the diagnostic criteria of the disorder, but as they contribute to the propagation of the subject, individual representations can expose a highly misleading reality, since it is not possible to represent in a single character the heterogeneity of the autistic experience, considering the subjectivity and singularity of each person.¹²

It was revealed that most of the participants knew how to identify ASD as a disorder of heterogeneous and complex origin, etiology based on the multifactorial etiologic model with epistatic regulation, which is currently the most accepted because it explains about 80% of cases of ASD.¹³

It is also worth noting that, 6.2% of the participants still relate the etiology of ASD to changes in affective and parental relationships, which reflects an old belief that still perpetuates these days. It has historically been based on the records of the Austrian psychiatrist Kanner and psychoanalytically inspired theories, problems in the relationship between the child and parents as the etiology of autism; the family was blamed, especially the so-called "refrigerator mothers" for not being affective with their children.¹⁴

It is necessary, when dealing with multifactorial and complex alterations, that the diagnosis of ASD is carried out by a multidisciplinary team, since it involves evaluation of several dimensions to be carried out by different specialties through the formulation of individual therapeutic project.¹⁵

It is understood as a more important role of nursing in the face of autism in a multiprofessional team, the identification of early signs, health education actions and adequate counseling to families in order to take full care of the fragile, difficult and suffering of the person with ASD and from your family.^{7,16}

"Difficulties in social interactions", "impairment in communication and use of verbal and non-verbal language" and "high cognitive abilities" are the main changes reported by the participants. The first two responses are consistent with the triad of autism impairments, characterized by qualitative changes in the domains of social interaction, communication and behavior.¹⁷

It should be noted that the large number of markings of the "high cognitive abilities" option is not in line with reality, since approximately 70% of individuals with autism have a cognitive deficit.¹⁷ However, high cognitive abilities are characteristically

associated with ASD and overrepresented in several series and films, also known as Savant's Syndrome, and are manifested by remarkable abilities in a certain area-island of genius, which contrast with the general functioning of the ASD.¹⁸

A prevalence of 46% of Savant represented in films and television media that deal with autism is higher than that of the real population, since Savant's syndrome is associated with only 10% of individuals with ASD, that is, the media represent an erroneous image about the autistic transnos when generalizing an exception as main symptomatology.¹⁸⁻¹⁹

It is understood that there is no ideal method for the treatment of ASD, since the specificities of each case must be considered, as reported by more than 93% of the students. Different therapeutic approaches are adopted in the care of the person with ASD, such as clinical treatment based on psychoanalysis, behavioral approach technologies such as the Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH), supplementary and alternative communication methods, resources therapies and drug treatment.²⁰⁻²¹

It is defined after the diagnosis and classification of the degree of autism spectrum if there is a need for drug intervention to control the symptoms, especially serious behavioral problems. Atypical antipsychotics are considered the most used pharmacological class, with emphasis on Risperidone, in addition to selective serotonin reuptake inhibitors, antidepressants, mood stabilizers and anticonvulsants.

It is emphasized that psychoactive drugs do not act directly in the cause of ASD, since autism is of a multifactorial etiology, but they help in the control of behavioral disorders, improving the quality of life and promoting a better social interaction.²² It is suggested that the statistical association between adequate knowledge about the non-specificity of medications for autistic disorders and students who have relatives and close relatives diagnosed with ASD is due to the degree of involvement in the care expended to these.

It is hoped that regardless of the approach or technology adopted in the care of the person with ASD and his or her family, in order to guarantee integral care, care should be taken in Health Care Networks (HCN), constituted by the articulation of services in the scope of basic care, specialized and hospital services, as well as intersectoral services, such as justice, education and

culture, in order to build a shared care between these different points of attention and professionals from different areas of formation and thus contemplate plurality and complexity of each subject with ASD and his family.²⁰

It can be seen that more than 60% of the students did not know how to respond if the intersectoriality is a guideline that guides the care of the person with ASD and the development of policies, such as the National Policy for the Protection of the Rights of Person with Autism Spectrum Disorder, instituted in the year 2012, and the Care Line for Attention to People with Autism Spectrum Disorder and their families in the Psychosocial Attention Network of the Unified Health System, established in 2013, which defines the ASD as mental disorders and relates the care actions to the psychosocial care network, especially the CAPSi, with the aim of contributing to the expansion of access, as well as the qualification of care for people with ASD and their families.²⁰

It is strange that this lack of knowledge of the participants, since the intersectoriality is not a directive restricted to policies directed at people with ASD, on the contrary, it is a transversal directive to several health policies and health care networks such as the Psychosocial Care Network (PSCN) and the Network of Care for the Disabled. The objective of intersectoriality is to overcome the fragmentation of the various areas of social action, allowing dialogue between institutions, governments and individuals and helping to formulate public policies that have a positive impact on the health of the population.²³

It is indicated that all the participants stated that they did not acquire enough knowledge in the undergraduate program and more than 90% stated that they did not have the security to work with this population in the different health contexts, and the lack of knowledge referred to as the main reason for this feeling of insecurity compared to the care of the person with ASD, in consonance with a study that found that 62.4% of Psychology students evaluated their knowledge about ASD as insufficient.²⁴

It was also evidenced in a study carried out with students of Physical Education, that 62.5% were unaware of the term ASD and 79.4% of the students stated that they did not have any content about the ASD at graduation.²⁵ It was also demonstrated, in a study carried out with 757 medical students from several universities in Nigeria, that only 28.8% attended and participated in the

evaluation and clinical management of some children with ASD during the clinical stage in Pediatrics and Psychiatry.²⁶

It should be borne in mind that this deficit of knowledge about ASD does not only occur in Nursing, but also in other courses such as Physical Education, Psychology and Medicine, which points to the questioning whether undergraduate courses, in general, treat ASDs as a relevant issue to be addressed even in the context of the training of health professionals.

There is still a deficit of knowledge on the subject among the graduate population, that is, even after graduating; most of them do not seek improvement. It was verified, in a study carried out with nurses of the Family Health Strategy, an important fragility related to the subject because the professionals did not manage to define autism and neither demonstrated experience in care for people with ASD.⁴

It is emphasized that, of the total, 98.46% of the participants stated that they wanted to know more about the subject; however, only 7.69% participated in any course or lecture about ASD. There is a certain divergence, since they express a desire to know more about the subject, but do not seek this knowledge, which can be observed in a study conducted with physiotherapists graduated, in which only 20% of the interviewees reported having researched new information about the ASD.²⁷

In summary, the results of this research showed that nursing students have reasonable knowledge about autistic disorders, but with important weaknesses. It is important to implement strategies to address this subject in undergraduate courses such as the use of Information and Communication Technologies (ICT's), since the media were referred to as the main source of knowledge of the participants.

It should be noted that although the films depicting characters with ASD do not live up to the richness of the real experience of a person with autistic disorders, given the heterogeneity of this condition, the combination of films and TV series, together with the guidance of expert professionals, can compose an attractive example of educational strategy in the areas of health.¹⁹

Another way of approach is to use simulation of care for the person with ASD through the use of techniques and products such as static mannequins, high fidelity simulators, games, virtual or computer programs and active role-play to assist in the acquisition of safety and clinical experience.³

The use of active role-play, in particular, is considered an effective teaching and learning strategy that encourages decision-making, problem solving, critical thinking, self-reflection and time management. This strategy is exemplified by a study conducted at Midwestern University with simulation of care for an adolescent with ASD, in which 96% of nursing students stated that the method provided a realistic example of what to expect when caring for an individual with ASD, since the opportunity to participate in the simulation, before the actual meeting with the patient, gave them a great learning experience and greater security to work with this population.³

It is believed that this study contributed to evidence the knowledge of nursing students about ASD and to reflect on the importance of addressing autistic disorders still in the context of graduation, as well as encouraging studies in this area, considering the potentialities and fragilities identified knowledge of the sample studied.

It is also admitted that, the study presented some limitations, namely: it was carried out in only one Institution of Higher Education; be based on small size sample; and have used a data collection questionnaire developed by the research team itself, since there is still a lack of research tools to evaluate knowledge about ASD. Among the few, the Knowledge about Childhood Autism among Health Workers (KCAHW) questionnaire was developed by a team of Nigerian psychiatrists and clinical psychologists in 2008 to evaluate the knowledge of health professionals regarding the symptoms and signs of autism, but not yet validated for the Brazilian reality.²⁸

CONCLUSION

In this study, it was evidenced that nursing students presented reasonable knowledge, but also important weaknesses, especially in relation to the symptoms and treatment related to Autism Spectrum Disorders. It is also highlighted that media and media were the main source of information used by students in the acquisition of knowledge about ASD, which evidences the use of Information and Communication Technologies as an important ally and teaching tool.

It is appropriate to address Autism Spectrum Disorders in the undergraduate course, taking into account their prevalence and complexity, so that Nursing students, future professionals, have more security and knowledge to perform ethical and evidences

aimed at people with autistic disorders in the different areas of health care.

REFERENCES

1. Gomes PTM, Lima LHL, Bueno MKG, Araújo LA, Souza NM. Autismo no Brasil, desafios familiares e estratégias de superação: revisão sistemática. J Pediatr [Internet]. 2015 [cited 2017 Sept 13];91(2):111-21. Available from: http://www.scielo.br/pdf/jped/v91n2/pt_0021-7557-jped-91-02-00111.pdf
2. Rios C, Ortega F, Zorzanelli R, Nascimento LF. Da invisibilidade à epidemia: a construção narrativa do autismo na mídia impressa brasileira. Interface (Botucatu) [Internet]. 2015 [cited 2017 Sept 6]; 19(53):325-35. Available from: <http://www.scielo.br/pdf/icse/v19n53/1807-5762-icse-1807-576220140146.pdf>
3. McIntosh CE, Thomas CM, Wilczynski S, McIntosh DE. Increasing Nursing Students' Knowledge of Autism Spectrum Disorder by Using a Standardized Patient. Nurs Educ Perspect [Internet]. 2018 [cited 2018 June 6];39(1):32-4. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/28639981>
4. Sena RCF, Reinalde EM, Silva GWS, Sobreira MVS. Prática e conhecimento dos enfermeiros sobre o autismo infantil. Rev Pesqui cuid fundam [Internet]. 2015 [cited 2017 Oct 9];7(3):2707-16. Available from: <http://www.redalyc.org/html/5057/505750947007/>
5. Sena RCF de, Sobreira MVS. Concepções e conhecimentos dos Enfermeiros da Estratégia Saúde da Família sobre Autismo Infantil. J Nurs UFPE on line [Internet]. 2012 [cited 2018 May 10];6(4):954-7. Available from: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/7122/27579>
6. Dartora DD, Mendieta MC, Franchini B. A equipe de Enfermagem e as crianças autistas. J Nurs Health [Internet]. 2014 [cited 2017 Oct 9];4(1):27-38. Available from: <https://periodicos.ufpel.edu.br/ojs2/index.php/enfermagem/article/view/4304/3506>
7. Carniel EL, Saldanha LB, Fensterseifer LM. A atuação do enfermeiro frente à criança autista. Pediatria (São Paulo) [Internet]. 2010 [cited 2017 Oct 9];32(4): 255-60. Available from: <http://pesquisa.bvsalud.org/portal/resource/pt/lil-610156>
8. Souza LL, Araújo DB, Silva DS, Bêrredo VCM. Representações de gênero na prática de enfermagem na perspectiva de estudantes. Ciênc Cogn [Internet]. 2014 [cited 2017 Oct 9];19(2):218-32. Available from:

http://www.cienciasecognicao.org/revista/index.php/cec/article/view/908/pdf_13

9. Neto AP, Barbosa L, Muci S. Internet, geração Y e saúde: um estudo nas comunidades de Manguinhos (RJ). *Comun Inf [Internet]*. 2016 [cited 2017 Oct 9];19(1):20-36. Available from:

<https://www.revistas.ufg.br/ci/article/view/35602>

10. IBGE, Instituto Brasileiro de Geografia e Estatística. Acesso à internet e à televisão e posse de telefone móvel celular para uso pessoal 2016 - Pesquisa Nacional por Amostra de Domicílios Contínua (PNAD) [Internet]. 2016 [cited 2017 Oct 21]. Available from: <https://biblioteca.ibge.gov.br/visualizacao/livros/liv101543.pdf>

11. Hansen AN, Tøndevold M, Fletcher-Watson S. Mental health on screen: A DSM-5 dissection of portrayals of autism spectrum disorders in film and TV. *Psychiatry Res [Internet]*. 2017 [cited 2018 Mar 14];262:352-3. Available from: [https://www.psy-journal.com/article/S0165-1781\(17\)30422-5/fulltext](https://www.psy-journal.com/article/S0165-1781(17)30422-5/fulltext)

12. Lacerda L. Luz, câmera, estereótipo - ação! A representação do autismo nas séries de TV. *Revista Espaço Acadêmico [Internet]*. 2017 [cited 2018 Mar 14];17(193):13-22. Available from: <http://periodicos.uem.br/ojs/index.php/EspacoAcademico/article/view/33887/19454>

13. Zanolla TA, Fock RA, Perrone E, Garcia AC, Perez ABA, Brunoni D. Causas genéticas, epigenéticas e ambientais do Transtorno do Espectro Autista. *Cad Pos-grad Disturb Desenvol [Internet]*. 2015 [cited 2017 Oct 21];15(2):29-42. Available from: <http://editorarevistas.mackenzie.br/index.php/cpgdd/article/download/11278/7014>

14. Matos IT, Morgado J. School participation of students with autism spectrum disorders. *J Res in Spec Educ Needs [Internet]*. 2016 [cited 2018 May 10];16(s1):972-7. Available from: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/1471-3802.12240>

15. Bortone ART, Wingester ELC. Identificação do Espectro do Transtorno Autista durante o crescimento e o desenvolvimento infantil: o papel do profissional de Enfermagem. *SynThesis Revista Digital FAPAM [Internet]*. 2016 [cited 2017 Oct 21]; 7(7):131-48. Available from: <http://periodicos.fapam.edu.br/index.php/synthesis/article/view/133/130>

16. Ebert M, Lorenzini E, Silva EF. Mães de crianças com transtorno autístico: percepções e trajetórias. *Rev Gaúch Enferm [Internet]*. 2015 [cited 2017 Nov 16];36(1):49-55. Available from:

<http://seer.ufrgs.br/RevistaGauchadeEnfermagem/article/view/43623/33312>

17. Freitas PM, Nishiyama PB, Ribeiro DO, Freitas LM. Deficiência intelectual e o Transtorno do Espectro Autista: fatores genéticos e neurocognitivos. *Pedagog Ação [Internet]*. 2016 [cited 2017 Nov 16];8(2):1-11. Available from:

<http://periodicos.pucminas.br/index.php/pedagogiacao/article/view/13140/10287>

18. Ries IL. Grupos virtuais sobre autismo: aspectos culturais e as configurações comunicativas construídas por dispositivos interacionais. *Temática [Internet]*. 2017 [cited 2018 May 10];13(12):146-63. Available from: <http://www.periodicos.ufpb.br/ojs/index.php/tematica/article/view/37597/18884>

19. Hansen NA, Øien RA, Fletcher-Watson S. Pros and Cons of Character Portrayals of Autism on TV and Film. *J Autism Dev Disord [Internet]*. 2018 [cited 2018 May 10];48(2):635-6. Available from: <https://link.springer.com/article/10.1007%2Fs10803-017-3390-z>

20. Oliveira BDC, Feldman A, Couto MCV, Lima RC. Políticas para o autismo no Brasil: entre a atenção psicossocial e a reabilitação. *Physis (Rio J.) [Internet]*. 2017 [cited 2018 Mar 10];27(3):707-26. Available from: <http://www.scielo.br/pdf/physis/v27n3/1809-4481-physis-27-03-00707.pdf>

21. Onzi FZ, Gomes RF. Transtorno do Espectro Autista: a importância do diagnóstico e reabilitação. *Cad Pedagog [Internet]*. 2015 [cited 2017 Nov 21];12(3): 188-99. Available from: <http://www.univates.br/revistas/index.php/cadped/article/view/979/967>

22. Leite R, Meirelles LMA, Milhomem DB. Medicamentos usados no tratamento psicoterapêutico de crianças autistas em Teresina - PI. *Boletim Informativo Geum [Internet]*. 2015 [cited 2017 Nov 21];6(3):91-7. Available from: <http://www.ojs.ufpi.br/index.php/geum/article/viewFile/4377/3073>

23. Olschowsky A, Wetzel C, Schneider JF, Pinho LB, Camatta MW. Avaliação das parcerias intersetoriais em saúde mental na estratégia saúde da família. *Texto contexto-enferm [Internet]*. 2014 [cited 2017 Dec 5];23(3):591-9. Available from: http://www.scielo.br/pdf/tce/v23n3/pt_0104-0707-tce-23-03-00591.pdf

24. Paula CS, Belisário Filho JS, Teixeira MCTV. Estudantes de psicologia concluem a graduação com uma boa formação em autismo? *Psicol teor prá [Internet]*. 2016 [cited 2017 Dec 5];17(3):206-21. Available

from:

<http://pepsic.bvsalud.org/pdf/ptp/v18n1/16.pdf>

25. Penido LA, Fernandes LA, Ribeiro SRO, Albuquerque MR, Ugrinowitsch H, Lage GM. Conhecimento de graduados e graduandos em Educação Física sobre o Autismo. Revista da SOBAMA [Internet]. 2016 [cited 2017 Nov 16];17(2):37-42. Available from: <http://www2.marilia.unesp.br/revistas/index.php/sobama/article/view/6829/4441>

26. Bakare MO, Tunde-Ayinmode MF, Adewuya AO, Bello-Mojeeed MA, Sales S, James BO, et al. Recognition of Autism Spectrum Disorder (ASD) symptoms and knowledge about some other aspects of ASD among final year medical students in Nigeria, Sub-Saharan Africa. BMC Res Notes [Internet]. 2015 [cited 2017 Nov 21];8:454. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4574575/pdf/13104_2015_Article_1433.pdf

27. Segura DC, Nascimento FC, Klein D. Estudo do conhecimento clínico dos profissionais da fisioterapia no tratamento de crianças autistas. Arq Ciênc Saúde UNIPAR [Internet]. 2011 [cited 2018 Feb 18];15(2):159-16. Available from: <http://revistas.unipar.br/index.php/saude/article/view/3711/2411>

28. Sampson WG, Sandra AE. Comparative Study on Knowledge About Autism Spectrum Disorder Among Paediatric and Psychiatric Nurses in Public Hospitals in Kumasi, Ghana. Clin Pract Epidemiol Ment Health [Internet]. 2018 [cited 2018 Aug 16];14:99-108. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5897989/>

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