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Choosing Goals Regarding Sexual Intimacy: Approaches for Sexual Education for Individuals with Autism Spectrum Disorder

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Abstract

Individuals with autism spectrum disorder (ASD) are often viewed as asexual or hyposexual. Caregivers of children with ASD are often coordinating multiple home services and report that educating them about sexuality is a low or not a priority. Consequences can be dire for any individual naïve of personal boundaries, ranging from victimization and abuse to being viewed and potentially prosecuted as a sexual offender. Without sex education goals listed on the Individualized Education Program, it is unlikely that the student with ASD will receive sex education with the necessary differentiated instruction. Sex education in the United States varies greatly across states and districts regarding forms and accessibility. From no education being offered to the less common comprehensive sex curriculum, enormous disparities exist. This paper lists objectives for a brief consideration of sex education topics to be included for students with ASD and recommends appropriate interventions.

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Introduction

Intimacy can be defined with varying operational definitions. Generally speaking, it can be understood as perceived partner responsiveness and the degree of disclosure in a relationship [1]. More specifically, sexual intimacy relates to perceived partner responsiveness in the area of sexual contact. As sexual stimulation is a primary reinforcer [2], sexual intimacy is likely to have principal value in adult, romantic relationships, regardless of ability or disability.

While sexual intimacy can be a cornerstone in certain relationships, there exist other forms of intimacy that may require different personal boundaries. Being intimate with someone does not require sexual contact. It can be expressed through spiritual, emotional, intellectual, or Platonic intimacy [3]. Platonic intimacy typically involves friendships not including sex. Understanding and monitoring boundaries is necessary for relationships of various intimacies [4].

Friendships can involve exchanges of reinforcers and shared interests [5]. Being able to respond appropriately to your communicative partner is a vital skill, which often involves appropriately processing nonverbal (body) language, e.g. tone of voice, facial expressions, gestures, body posture, etc. [6]. Friends can both positively and negatively influence relationships and understanding the difference is essential for a healthy relationship.

People with autism spectrum disorder (ASD) may have difficulty in social interaction and communication. Deficits in forming, maintaining, and understanding relationships are criteria of the diagnosis [7]. Friendships can involve complex chains of behaviors and those friendships that are elevated from Platonic to involve sexual intimacy can involve or require even more complex behavior. For people with ASD, difficulties with social judgement can make navigating the dating world a confusing and complex place [8].

It is a recurrent misbelief that people with ASD are asexual or hyposexual [9]. These perceptions could be perpetuated by the common ASD-related behaviors of avoiding eye contact and physical contact. Moreover, an inability to acquire social skills through every day interactions can be perceived as a predilection for being alone [10]. However, individuals with ASD mature physically and sexually on a timeline similar to people without disabilities. Indeed, adolescents and adults with ASD have been found to have similar levels of sexual interest and functioning with nondisabled peers [11]. Notwithstanding their shared sexual abilities and interests, adolescents and adults with ASD frequently have less sexual awareness and knowledge than their typically developing peers [12].

Not receiving appropriate sexual education could have dire consequences. Lack of sexual knowledge has been associated with increased sexual victimization and exploitation [13]. Individuals with ASD are particularly at increased risk for sexual abuse because they may have been unaware that they were victimized and are often unable to report incidents due to communication impairments [14,15]. Furthermore, this lack of sexual knowledge could allow potentially criminal behavior such as inappropriate touching of others and public sexual acts [16].

While students with ASD who fail to receive sex education can be put at risk for victimization, it may also preclude them from participating in romantic relationships due to communication and/or social impairments. Navigating the dating world can require an understanding and expression of subtle behaviors. Listening skills, appropriately initiating courtship, and physical boundaries are critical for dating success [17].

Due to deficits in social communication, social skills training is a fundamental aspect of education for individuals with ASD. Acquiring social skills is necessary before more involved aspects of sexual education can be taught [18]. Resources for social skills are abundant and numerous behavioral interventions have been documented to increase social skills for people with ASD [19-24]. Social skills training is a vital aspect of sex education [25] and the latter is a life-long process that should begin in early childhood [26].

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Parents are frequently the providers of sex education for their children [27]. This appears to be especially true and more so for parents of children with ASD. While recognizing the need for education to prevent them being potentially victimized and/or their children's behaviors being misinterpreted, parents also reported concerns with how they were to begin instruction. Additionally, parents may not include discussions on relationships and sexual health [28].

Whether the person responsible for sex education is the caregiver of a child with ASD, teacher, or clinician, what should be taught? Who is qualified? The American Association of Educators, Counselors, and Therapists (AASECT) have established educational and experiential activities that meet the requirements of Sexuality Educator Certification [29]. However, these credentials do not prepare the sex education teacher for serving the unique needs of those with disabilities. There are numerous sex education resources across medias targeting people with ASD [30-35]. State or district-wide standards, if they exist, are less common.

Wolfe et al. [36] reviewed instructional strategies for sexuality curricula targeting students with developmental disabilities. Their results indicated that there were a limited number of recommended methods across these curricula and those strategies were used repeatedly. The curricula reviewed widely relied on visual strategies, social problem solving, and role-playing methods. Those authors concluded that more empirically-validated methods be implemented to teach these vital skills.

State and local governments are primarily responsible for identifying academic curricula and standards [37]. Area school board members are often the deciding body as to what and what does not get taught. In addition to the traditional subjects of reading, writing, and arithmetic, this also applies to sex education. Sex education has three different models which are taught differently (if at all) across the states: abstinence, abstinence only until marriage or abstinence plus, and comprehensive curricula [38]. Less than half of states teach sex education and even less require that it must be medically or technically accurate [39]. Nationally agreed-upon standards or expectations for sex education do not exist and state practices reflect this disparity with differing or no plans. Considering that these figures for sex education target those in general education, what could be expected for students in special education? What could be expected for the student with disabilities who may be receiving his/her education according to his/her Individualized Education Program in terms of sex education? If targeted at all, sex education is often the least important priority of educational needs, being marginalized by communication and social skills needs [8].

The question over national education standards has long been debated. As previously mentioned, education remain largely in the jurisdiction of state and local education administrations. At the federal level, the Centers for Disease Control (CDC) developed the National Health Education Standards for promoting health-supporting behaviors [40], which serve as a framework for creating health instruction for school districts across the nation. While the standards include performance indicators (benchmarks) of what demonstrable behaviors suggest competence, explicit sexual education goals are not identified. When teaching district-wide sex education, standards are often listed within the broader health education content, e.g., California [41] and Colorado [42]. While recognizing that sex education is a single aspect of health education, perhaps sexuality standards should be considered as opposed to a sub-component of a curriculum.

As local, regional, and societal values shape the curricula and standards in the over 13,500 school districts across the nation, comprehensive and authoritative sex education standards could be used nationally with benchmarks from which to draw for all students but especially for those with ASD requiring consistency, modifications, and accommodations [43]. The objectives of this paper are:

1. Identify appropriate objectives that may be vital and/or problematic for students with ASD due to learning deficits differing from their typically developing peers,
2. Match supports to needs by listing potential interventions.

The National Sex Education Standards, Core Content and Skills K-12, Second Edition

The second edition of the National Sexuality Education Standards, Core Content and Skills K-12 was created to provide clear and consistent guidance on the essential minimum core content for sex education for students K-12 [44]. Additionally, this instrument was developed to address the inconsistent nationwide actions in sex education. Some of its guiding values are that all students, regardless of physical or intellectual ability, deserve the opportunity to learn about sexual health and those teachers should be qualified in sexuality education. These two values may pose questions to stakeholders. Is it the health teacher, who traditionally teaches sex education or the special education teacher, who is versed in the disability and accommodations, or a combination? This decision will likely be influenced by resources and experience and ultimately be a team decision. While all seven topic areas (*Anatomy and Physiology, Puberty and Adolescent Sexual Development, Gender Identity and Expression, Sexual Orientation and Identity, Sexual Health, Consent and Healthy Relationships, and Interpersonal Violence*) of the second edition of the National Sexuality Education Standards are considered for this paper, it is not a complete consideration of the complete standards.

Of the 300+ standards from the seven topic areas listed from kindergarten to 12th grade, 37 were selected as an initial attempt to identify and differentiate instruction for students with ASD. Several factors suggested a selected number of standards for identification in this paper. One reason is that many of the standards are redundant and/or elaborated across grade bands, i.e. *Anatomy & Physiology* state "list medically accurate names for body parts…" for K-2 and "describe human reproductive systems…" for grades 6-8. Additionally, "identify trusted adults and caregivers…" is peppered throughout standards and across grade bands. For a complete list of items, please see the Future of Sex Education Initiative [44].

Anatomy and physiology

According to the National Sexuality Education Standards' Anatomy and Physiology content state that by the end of the 2nd grade, students will *list medically accurate names for body parts including genitals* and will *recall human reproductive systems* by the end of the 5th grade [44, pp 18, 22]. Elliot et al. [45] suggested that some sexual offenders avoid children who know the correct names for their genitals because they were likely educated about sexuality and body safety. Methods for teaching this content should include a variety of instructional methods but emphasize explicit visual mediums such as accurate videos and/or pictures [46]. With regards to these images, color representations have been suggested to increase generalization from pictures to actual objects greater than those images not in color [47].

Additionally, when approved and appropriate, actual images should be used and not cartoons or drawings. Accurate visual representations could increase the effectiveness, as people with ASD often 'think in pictures,' [48] and can be visual learners [49].

Puberty and adolescent development

This paper identified the following four items (in italics) where students should be competent by the end of the 5th grade [44, p. 22]. The first, second, and third items (listed here) could be taught using similar methods; *explain the physical, social, and emotional changes that occur during puberty and adolescence, make a plan for maintaining personal hygiene during puberty, and explain common human sexual development and the role of hormones*. Social stories could be used to describe these maturational periods or assist them in addressing unfamiliar situations [50-53]. Perspectives of puberty and adolescence could be written from the individuals' perspective and on their developmental levels documenting how to successfully deal with the narrated situation. Additionally, visuals could be included in the social stories as videos and/or pictures.

Video modeling involves the individual watching a video of someone or themselves correctly performing a skill. It has been shown to increase both general skills and behaviors necessary for self-care during puberty [54-56]. Both video modeling and point-of-view video modeling [57-59], where the video is depicted from the person's visual perspective, could also be used to explain the physical and emotional changes of puberty and adolescence and how to deal with them. As with other sensitive topics regarding sexual education, care must be taken to ensure there are no invasion of privacy. Caregiver compliance should be obtained after all educational procedures are presented prior to implementation.

The fourth selected standard is to *identify trusted adults with whom they can ask questions about puberty and adolescent health* [44, p 22]. After a list is made of trusted adults, scripts can be created to teach these initiations. Scripts can be composed of words or sentences that can be printed or recorded for those with emerging literacy skills [60-63]. To increase its efficacy, these scripts could also have visuals.

Gender identity & expression

By the end of the 2nd grade, students should be able to *define gender, gender identity, and gender-role stereotypes, and discuss the range of ways people express their gender and how gender-role stereotypes may limit behavior* [44, p 20]. Acquiring these competencies could be difficult for those with ASD. Inherent in this disability are possible deficits in verbal and nonverbal communication, abnormalities in body language, or deficits in understanding and use of physical gestures [7]. Additionally, difficulties in adapting behaviors to suit diverse social contexts is also listed in the diagnostic criteria. In addition to the previously mentioned instructional methods, role playing could be utilized in this area. Role playing consisting of instructions, prompts, reinforcement, and corrective feedback has been shown to be effective at increasing social skills [64-67]. There currently exists no research using role play to teach gender understandings. However, considering that role playing has been to improve social skills, extending those methods to understanding gender may not be an overreach. In-person modeling could also affect this area through adult and/or peer modeling the similarities and differences in expected (and potentially stereotypical) boy's and girl's behaviors [68-70].

By the end of the 5th grade, students should be able to *define and explain differences between cisgender, transgender, gender nonbinary, gender expansive, and gender identity, and identify trusted adults whom students can ask questions about gender, gender-role stereotypes, gender identity, and gender expression* [44, p 23]. This understanding of gender identity and expression is especially relevant considering that some research has found individuals with ASD to have higher rates of homosexuality and bisexuality [71-73]. The previously identified methods of social stories, video modeling, point-of-view video modeling, in-person modeling, role playing, and scripts could potentially address the listed items.

Sexual health

There are multiple sophisticated competencies that students should be able to demonstrate by the end of 8th grade. They include *explaining there are many methods of short- and long-term contraception that are safe and effective and describe how to access them, and describe the steps to using barrier methods correctly (e.g., external and internal condoms, dental dams)* [44, p 26]. While these skills could be effectively targeted by the various methods already identified, the last skill of effective use of a condom could additionally benefit from a task analysis using forward and backward chaining. Creating a task analysis or chaining, is breaking down a skill into a number of smaller units and reinforcing the successful acquisition of each small step [74-76]. The steps involved in a task analysis for effective condom use can number approximately seventeen [77]. After a task analysis is created or identified, forward and backward chaining could be done and have been effective at teaching complex behaviors that involve multiple steps in a sequence [78]. An additional standard that students should be capable of displaying by the end of 10th grade involves *demonstrating ways to communicate decisions about whether or when to engage in sexual behaviors and how to reduce or eliminate risk for pregnancy and/or STDs* [44, p 31]. This standard could also be addressed using the aforementioned interventions.

Acquisition of adequate social skills must have occurred prior to more complex elements of sexual education being attempted [18]. The communicative standard previously listed here as a 10th grade objective should be considered only after corresponding social skills are present. In addition to the previously mentioned interventions, social skills groups could be created. Social skills groups occur when three or more students come together and are taught a variety of social behaviors [79]. Social skills groups have been effective in teaching various social skills including; greetings [80,81], handling disagreements [82,83], joint engagement [84,85], and social interaction [86,87].

Students should be able to explain sexually transmitted diseases (STDs), how they are and are not transmitted, describe symptoms, and prevention by the end of the 8th grade [44, p 25]. Behaviors associated with an ASD diagnosis do not suggest a potential inability with effectively teaching about STDs but the need for communication skills may require accommodations and/or modification due to potential deficits in social-emotional reciprocity and nonverbal communicative behaviors [7]. Educators, clinicians, and caregivers could select from the previously identified methods.

Consent and healthy relationships

Children with developmental disabilities are more likely to be victims of abuse, including sexual abuse [88,89]. *By the end of the 2nd grade, students should be able to identify the characteristics*

of a friend and identify healthy ways for friends to show affection [44, p 18]. While the DSM-5 does not identify characteristics of ASD that could affect instruction for *identifying characteristics of a friend, showing affection* could prove problematic due to difficulties developing, maintaining, and understanding relationships [7]. Direct instruction using the listed interventions could benefit acquisition of the first but would likely be a necessity for the second item. The same direct instruction would likely be needed for students by the end of 5th grade, where they *should be able to describe healthy and unhealthy characteristics of friends and family* [44, p 22]. Regardless of standards included or not included, social skills instruction should be considered as a part of a comprehensive sexuality program with students with ASD.

Regarding healthy relationships, there are multiple identified competencies that students should be able to display by the end of 8th grade. They are; *describe the potential impacts of power differences (age, status) within a relationship, analyze the similarities and differences and similarities between romantic relationships and friendships, and demonstrate communication skills that support healthy relationships* [44, pp 25, 26]. These three identified standards could require differentiated instruction using the previously discussed interventions due to individuals with ASD having potential deficits in developing, maintaining, and understanding relationships [7]. Aside from potential deficits in understanding relationships, individuals with ASD may have deficits in social-emotional reciprocity and nonverbal communicative behaviors which could make these sophisticated competencies difficult to teach. The last standard (*demonstrate communication skills*) would likely require direct instruction that could include one or more of the aforementioned interventions.

Due to the similarity of the action verbs "describe" and "demonstrate" in content from the 8th grade standards, similar interventions could be utilized for 12th grade students. By the end of 12th grade, students should be able to *describe unhealthy relationships that media may perpetuate* [44, p 32]. Students should also be able to *apply a decision-making model to maintain or end a relationship*. Potential deficits in social-emotional reciprocity, nonverbal communication, and developing, maintaining, and understanding relationships could make differentiated instruction likely using the aforementioned interventions [7]. Acquiring these skills are essential for any individual but may be more dire for people with ASD, particularly females. Females with ASD have expressed fear of exploitation when involved in romantic relationships [90,91] and abuse [92,93].

Interpersonal violence

There is evidence that individuals with severe disabilities are at a very high risk of sexual abuse [94]. The following competencies target this risk where by the end of the 2nd grade, students will be able to *define sexual abuse and identify behaviors that would be considered abuse, and talk with a trusted adult* [44, p 19]. By the end of the 5th grade, students should be able to *identify strategies that a person could do to call attention to or leave an uncomfortable situation* [44, p 22]. The previously mentioned strategies could be used to address these standards.

Conclusion

While it may be beneficial for all young people to receive sex education, it is especially important for individuals with ASD, who may have deficits in the understanding of relationships and impaired communicative ability. Lack of knowledge can preclude them from participating in sexually intimate relationships and also be dangerous, potentially resulting in victimization or subjecting others to unwanted physical advances. Behavioral objectives for sex education should be agreed upon by stakeholders and the qualified professionals identified for instruction using empirically validated methods. Caregivers should be included in instruction for its additional implementation in the home to promote generalization [95-97].

Competing Interests

The author declare that there is no competing interests regarding the publication of this article.

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