



Literature Review Psychiatric Approach Management of Ambiguous Genitalia in Children and Teenagers

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Abstract

Introductions: Ambiguous genitalia is a congenital disorder defined by atypical development at the chromosomal, gonadal, or anatomical levels of the sex organ. The incidence of ambiguous genitalia is estimated to be 1 in 4500-5500 births. The management of ambiguous genitalia takes an extended time. This can lead to psychiatric manifestations such as depression, anxiety, suicidal ideation, and substances. **Objectives:** The study aimed to describe the management of ambiguous genitalia in the scope of psychiatry to optimize the comprehensive treatment of the disorder and achieve a good quality of life for a person with ambiguous genitalia in Indonesia. **Methods:** This study is a literature review that collects from various sources of scientific journals related to the psychiatric management of the disorder. **Results:** Ambiguous genitalia should be treated by a multidisciplinary approach, with a mental health professional and other essential expertise of the team. Improper application of parenting in childhood can create a problem in adolescence and adulthood. Certain aspects of the management need a psychiatrist's assistance. Psychological management should focus on giving reliable information that is not confusing and preparing children and adolescents to encounter general and sexual life problems. The family and the child should always be involved during the process. **Conclusions:** The purpose of the entire ambiguous genitalia treatment is to strengthen the patient and family's adaptive coping to the stressors correlated with ambiguous genitalia and the management to promote good quality of life for children and adolescents.

Introductions

Ambiguous genitalia, or Disorders of Sex Development (DSD), is a congenital disorder defined by atypical development at the chromosomal, gonadal, or anatomical level of the sex organs. The incidence of ambiguous genitalia is estimated to be 1 in 4500-5500 births [1]. The Cytogenetic Central Registry stated that the prevalence of women with XY chromosome is 6.4 among 100,000 live births. The prevalence of androgen insensitivity was 4.1 among 100,000 infants born with a mean age diagnosis of 7.5 years. The prevalence of XY gonadal dysgenesis is 1.5 per 100,000 live birth women with a mean age diagnosis of 17 years [2]. Many problems arise in managing sexual development disorders, such as determining gender assignment and deciding whether to have elective surgery to create more distinctive genitalia and long-term outcomes regarding health issues, social, and psychological health, and well-being. Adolescents with ambiguous genitalia and atypical genitalia may undergo repeated genital examinations throughout infancy, childhood, and adolescence, with the potential to increase anxiety and trauma [3].

Diagnosing a child with sex ambiguity often causes parents stress. Parents' level of stress and coping strategies are influenced by the time of diagnosis, type of disease, severity, cause, mental and behavioral changes, and treatment [4]. This disorder also has a psychological impact on the family, such as depression, anxiety, post-traumatic stress, and uncertainty about illness cure [5].

Aims

The treatment of ambiguous genitalia recommends long-term evaluation and management with an experienced multidisciplinary team, including psychiatry. Counseling and psychological assistance should be a fundamental element of a multidisciplinary model of care, where ambiguous genitalia children and adoles-

cents and their families need psychiatric assistance [6]. This study aims to represent the management of ambiguous genitalia in the scope of psychiatry, accompanied by a discussion of the legality of people with ambiguous genitalia in Indonesia to optimize the comprehensive treatment of the disorder to achieve a good quality of life.

Methods

This literature review collects data from various sources such as books, journals, and other sources related to the research topic. PubMed and Google Scholar were searched using the following keyword: ("Psychiatric approach" OR psychiatric) AND ("Disorder of sex development" OR "Gender dysphoria" OR "Ambiguous genitalia disorder") AND (Psychiatric management) with publication filter in Indonesian or English language, and published in the last five years (2015-2020). The selection of literature considers the hierarchy on the pyramid level of evidence. The most suitable research designs in the literature to obtain information about psychiatric management of the condition or disorder are randomized controlled trials (RCTs), cohorts, and case controls. However, this research paper will also include literature with other research designs that discuss matters relevant to the objectives of this study.

Discussions

Disorder of sex development or ambiguous genitalia is a congenital disorder when a mismatch of components involved in sexual differentiation ranging from chromosomes, gonads, and internal and external genitalia that do not follow the standard pathway. [1,7]. Atypical sex development leads to sexual ambiguity and infertility [8]. The incidence of ambiguous genitalia is 1:4500 to 1:5000 live births, with 50% of cases of 46 XY having a known cause and 20% overall diagnosed molecularly [9]. The most prevalent causes of ambiguous genitalia are congenital adre-

nal hyperplasia (CAH) and mixed gonadal dysgenesis, accounting for more than 50% of cases in the newborn period [10]. Hypospadias is common in boys with an incidence of 1:125, while the most common condition involving ambiguous genitalia in girls is CAH, with an incidence of 1:10,000 [11].

Psychopathological symptoms caused by ambiguous genitalia are included in the Diagnostic and Statistical Manual for Mental Disorders (DSM-5) criteria as gender dysphoria. DSM-5 divided gender dysphoria into two criteria, thus gender dysphoria in children and dysphoria in adolescents and adults [12,13]. Determining the sex of a child requires a minimum of 7 traits, namely five organic traits and two psychological traits. These characteristics are chromosomal arrangement, type of gonads, external genitalia morphology, internal genitalia morphology, sex hormones, parenting, and gender orientation. Humans have 23 pairs of chromosomes, twenty-two pairs are autosomal chromosomes, and the 23rd determines sex, particularly XX for women and XY for men. Sex gonads are characterized by males having testes and females having ovaries, while the external genitalia morphology is determined by the external genitalia organs. There are the scrotum, penis, and glans penis in a male, while in a female are the labia majora, labia minora, and clitoris. The internal genitalia organs in males are vasa deferens, seminal vesicles, and epididymis, while the internal genitalia organs in females are the fallopian tubes, uterus, and upper third vagina. Sex hormones are endocrine portions that represent an essential function in the growth and development of children and affect the morphology of the genitalia and secondary sex characteristics. Parenting is the way parents raise their children by determining appearance. If a person is raised from birth as a woman, the behavior will be like a woman. This behavior is what society sees. Gender orientation is what a person does or

states to manifest themselves as a woman or a man. While sexual orientation is the emotional, sexual, and romantic attraction, an individual feels toward another individual. The things that need to be considered in determining gender orientation are behavior, interests, fantasies, conversations, dreams, eroticism habits, and answers to questions that sometimes determine gender [1,9].

Gender identity is a person's understanding and awareness of their gender [14]. Gender identity is generally formed by the age of three. Later it is complicated to change gender identity, while attempts to change it can lead to gender dysphoria. Both biological and social factors have been identified as influencing the formation of gender identity [15]. Gender identity can be the same or different from the assigned gender. Gender identities that differ from the assigned sex can be opposites (transgender), both (bigender), or neither (agender), and various other combinations. A person's gender identity gives rise to specific behaviors that may or may not be accepted by society as normal for the assigned gender, and this is what is experienced by a person with a transgender identity who fails to achieve a "role" that has implications for their mental and social well-being [16].

Gender role is a role that is carried out by women and men regarding their rights and obligations, such as caring for children and earning a living for the family. Socially, this gender role is attached to specific genders, such as the role of breadwinner is permanently attached to the male gender. Because of their masculine nature, women are more identical to housework [17].

Psychiatric Management of Ambiguous genitalia

Optimal management of ambiguous genitalia requires the role of a multidisciplinary team, covering psychosocial, medical, and surgical fields as well as other subspecialty disciplines such as neonatology, endo-

crinology, urology, gynecology, genetics, psychiatrists, nurses, and social workers [18]. Figure 1 shows an algorithm for managing ambiguous genitalia patients starting from the initial assessment to consideration of interventions from the fields of surgery, urology, and endocrine, including psychiatry. Ambiguous genitalia patients should be treated by a multidisciplinary team. Psychiatrists are the main component, considering that psychological emergencies for patients and families in dealing with these conditions are no less important than treating ambiguous genitalia conditions. The endocrinologist should refer the patient to mental health professionals such as psychiatrists, psychologists, and psychiatric social workers as a part of a multidisciplinary team at all stages of the management of ambiguous genitalia. The primary approach is to be open, non-judgmental, and accepting of the person. Mental health professionals must have the clinical ability to listen actively, have empathy, and be knowledgeable about the psychosexual treatment. These professionals share responsibility in the decision to initiate hormone treatment and surgery [16,19]. Special psychiatric genetic examination in children with ambiguous genitalia is based on guidelines for managing ambiguous genitalia.

First, information should be shared with the patient and family before examining: what will be done, open communication, questions, and concerns to be raised. If necessary, parents can be encouraged to talk to the patient before the genital examination with input from the ambiguous genitalia team about appropriate communication. Physicians can be trained to provide reassurance about the positive aspects of the examination while maintaining full disclosure of all findings. Second, an adolescent with ambiguous genitalia can be given the broadest possible control over various aspects of the examination and is encouraged to communicate with the ambiguous genitalia team. Pediatric patients should not be forced to undergo examinations if they are under pressure or do not like genital examinations. Third, any efforts should be made to reduce the stigma and shame that may require a request for permission so that the patient and parents can refuse if the situation or condition is uncomfortable, for example, reducing the number of specialists in the examination room except for those that are necessary for the examination. Lastly, the presence of stress on the patient and family should be assessed routinely with interventions tailored to the family’s needs, such as stress reduction and coping techniques [3].

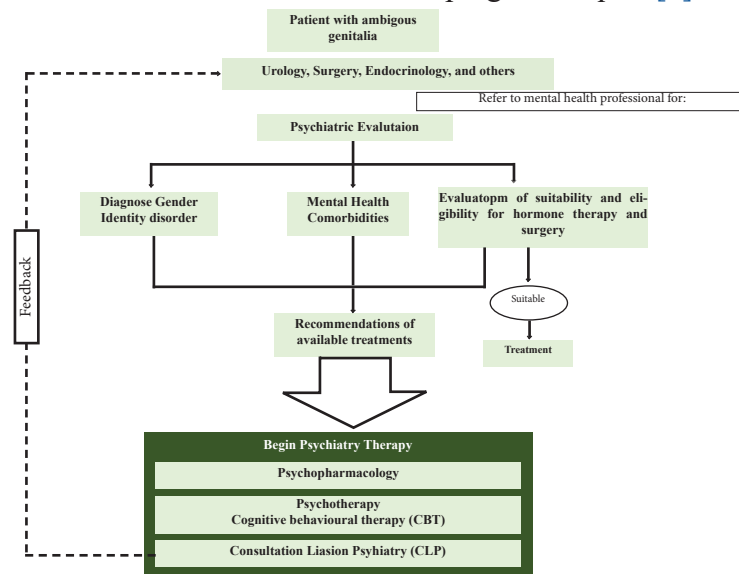


Figure 1. The algorithm shows the management of ambiguous genitalia disorder.

Source: N. C. Capetillo-Ventura, S. I. Jalil-Pérez, and K. Motilla-Negrete, "Gender dysphoria: An overview," Med. Univ., vol. 17, no. 66, pp. 53–58, Jan. 2015, doi: 10.1016/j.rmu.2014.06.001

Management from the field of psychiatry in cases of ambiguous genitalia consists of numerous methods. First, we should diagnose the patient's gender identity disorder carefully. A gender identity that someone has can be consistent with the gender specified at birth or completely different. The next step is to diagnose the patient's comorbid psychiatric disorders and provide proper treatment according to the diagnosis. Professionals should be able to screen for comorbid psychiatric conditions and identify risk factors for self-harm and suicide. Professionals also play a role in discussing various therapies and fertility options with patients and families. We should educate the patient and family about the actual condition, the series of treatments that will be carried out, and an explanation of the consequences (long-term care). Psychotherapy is also an essential part of the treatment needed. We can evaluate the patient's suitability and fitness for hormone therapy and surgery during the process. We should provide information to the relatives, patient's education institutions, and caregivers about ambiguous genitalia disorder and provide education to parents or caregivers to practice a neutral parenting pattern without directing the patient to female or male until there is hormonal maturation and until the child is 17 years old, where the legal age to determine gender will be decided by the patient. We need to be part of a group of professionals who understand and are interested in cases of ambiguous genitalia and be available to the patient for follow-up care because of the long-term treatment so the patient will not be lost to follow-up [5,7,16].

Special psychiatric treatment in ambiguous genitalia consists of psychopharmacologic, non-pharmacologic, and consultation-liaison psychiatry (CLP). The consideration of giving pharmacotherapy is based on the main complaints that arise during the initial examination and mentoring, such as symptoms of depression, anxiety, and behavioral

disorders. Anti-depressants are needed if, during the initial treatment and assistance, the patient has symptoms of depression. Anti-psychotics are needed to overcome patients' aggressiveness, hyperactivity, and emotional lability. Non-pharmacologic treatment given to the patient can be in psychotherapy or cognitive behavioral therapy. Supportive psychotherapy is performed with reassurance and reinforcement or to strengthen the patient's ability to adapt to internal and external stressors related to his and their developmental problems as a woman or man. Cognitive-behavioral therapy's (CBT) goal is to identify patients' negative thoughts or cognitive abnormalities about problems that make patients feel difficult or worried during long-term management. Consultation-Liaison Psychiatry (CLP) actively assists and provides intense feedback on what the psychiatrist has done in related fields concerning strengthening adaptation and family expectations and providing suggestions for further action plans. CLP must be carried out because of the challenge and complexity of the therapy of ambiguous genitalia cases.[19,20]

Many previous studies have highlighted the importance of ongoing communication between health professionals and family members, with psychologists/psychiatrists integral to the process. Psychologists/psychiatrists can facilitate understanding and help deal with emotional problems while opening up space for dialogue in the doctor-patient relationship. Some describe how psychosocial professionals ideally support parents in talking to age-appropriate children about their condition so that the whole family can participate in the dialogue. This is important for child coping and gradual involvement in decision-making, as children will automatically have autonomy and responsibility for their health when they transition to adult care [4].

CBT, interpersonal therapy, brief psychodynamic therapy, supportive therapy, and family or partner therapy effectively treat

ambiguous genitalia. However, other challenges are the continuity of care, compliance, and retention of the patient and the family. Family therapy and psychoeducation have shown specific benefits for stress tolerance, treatment decisions, and acceptance of changes in gender identity and gender roles after sex reassignment therapy. Continuing psychosocial care in coordination with attending physicians of related specialties (endocrinologists, surgeons) and other mental health care professionals (psychologists, mental health counselors, psychiatric social workers) support the reintegration of people with ambiguous genitalia into society including developing and establishing their identity [16].

Psychiatric Management of Babies with Ambiguous Genitalia

The primary principles of appropriate management of babies with ambiguous genitalia require a rapid but meticulous evaluation [19]. First, we must set a positive tone during the communication with the family so that the parents will be involved and attentively guided during the process. When addressing a baby, it is necessary to be as neutral as possible and avoid calling with “he”, “she”, “boy”, “girl”, “son”, or “daughter” pronouns that could unintentionally direct the family towards a specific gender preference. Friendlier expressions like “your baby” can develop a closer bond. Misunderstanding and confusion in the family can be avoided if we remain neutral until a decision is finalized. Medical providers should emphasize that infants are healthy, happy, and well-adjusted, and can become healthy children and adults. Too much stress on the genitals can develop anxiety and stigma in the family [21].

The physicians should also be careful with the significant responsibilities to assign gender, thus not being rushed. It is crucial to gather all the relevant information

because numerous factors must be considered in determining the gender in ambiguous genitalia. The opinions and possible cultural practices of the parents should also be respected. The influences of prenatal androgen exposure, future need for hormone replacement, surgical options, and potential fertility are additional factors that are still a long way off. To establish the most accurate working diagnosis before determining sex and gender, all of the factors mentioned above should be integrated collectively. Ultimately, an individual approach is critical because data on long-term outcomes are still minimal [21].

During decision-making, parents should be involved and made to feel included. We should provide adequate time to answer any questions the family may encounter. The anatomy and pathology of the genitals should be explained to the family in layman’s terms so that the family might understand. The child should ideally be informed and take part in the process. Any information should be provided in an age-appropriate manner. This approach, called “Shared Decision Making,” is a method to gain complex or challenging healthcare decisions that help families feel more involved in the process and thus, increase satisfaction [21].

Patients with ambiguous genitalia inevitably need extensive psychological support to optimize their psychosocial and psychosexual well-being. Throughout the age scale of infancy, childhood, adolescence, and adult developmental phases, psychological problems can be dynamic. The confusion around diagnosis and sex determination from infancy is long-lasting and traumatic. It is ordinary for the patient and family to encounter numerous stigmas, confidentiality, and shame from childhood to adolescence and adulthood, so intervention by an experienced mental health provider for the patient and family can contribute much-needed support [21].

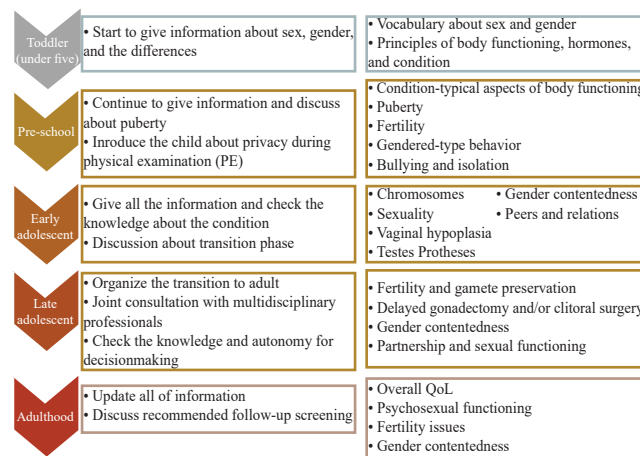


Figure 2. Essential age-appropriate topics of discussion and communication [5]

Figure 2 describes the multidisciplinary care and data collection of ambiguous genitalia patients at various ages beginning at diagnosis and continuing throughout the individual's age. Psychological and peer support are critical elements for all ages. It is acceptable for children with ambiguous genitalia should be familiarized with their condition from an early age, although the timing and topic may differ depending on individual states [5].

Guidelines for Initial Evaluation, Common Problems and Psychiatric Management in Children and Adolescents with Ambiguous Genitalia

Children and adolescents who experience ambiguous genitalia show an increased rate of psychiatric manifestations. Increased depression, anxiety, and substance abuse rates are seen in adolescent women with ambiguous genitalia, while men show increased psychiatric disorders, especially suicide, attempted suicide, and substance abuse [11].

The consensus guidelines stated how psychosocial care and the involvement of mental health staff with expertise in ambiguous genitalia are crucial for managing a person with ambiguous genitalia. A psychiatrist with expertise in ambiguous genitalia is experienced in recognizing the tremendous personal and social problems experienced by the patient. Variations of psychological

intervention between diagnoses made the specialist design the intervention based on the patient's needs, including routine monitoring, informed consent, and validation of each treatment [22].

The entire ambiguous genitalia treatment aims to strengthen the patient and family's adaptive coping to the stressors correlated with ambiguous genitalia and the management to promote good quality of life for children and adolescents. The management is the same method as assisting families in coping with other pediatric chronic conditions. Information obtained from a psychosocial assessment conducted with a medical evaluation is a basis for applying this approach [5].

Some of the problems and treatments that arise at a particular stage of development and that need to be considered by the ambiguous genitalia psychosocial evaluation team require a balance between developmental and adaptation aspects, thus are the prenatal period, childhood period, adolescence, and adulthood [23]. For example, during childhood and adolescence is how the individual involved provides age-appropriate information. Support focuses on psychoeducation, particularly explaining to parents that exploration of gender expression is part of the developmental process, and in most children, does not cause gender dysphoria in adolescence. More attention needs to be given to the child to

lessen the disorder's distress and prepare or support the child and parent in exploring and progressing to the next stage when pubertal development begins [23, 24]. Adolescents might react with irritability and sadness. Adolescents begin to become cognitively aware to ask questions about their situation, and psychosexual development, focus on intimacy, sexual function, and fertility, and tell their peers about their situation. Appropriate support and application should focus on the feelings around body image, improving social skills, and self-esteem. Improving coping with problems is also needed during this period [23].

A person with ambiguous genitalia might go through a complicated situation during puberty. They commonly consolidate their perception of having ambiguous genitalia about their sexual and physical development. The essential phases of adolescence are sexuality and forming intimate relationships. Upon starting this phase, adolescents with ambiguous genitalia might have some anxiety, notably if there is a history of trauma because of repeated various genital examinations or various treatments by a doctor. Feeling doubtful about sexual compatibility, sexual orientation, or gender identity is familiar to some adolescents with ambiguous genitalia when they hit puberty. They may delay initiating intercourse because of their discomfort. Because of the difficulties mentioned above, adolescents with ambiguous genitalia should be provided an opportunity to discuss adequate, timely medical and sexual education, especially about their problems privately with a mental health clinician [25]. According to Brain et al., child and adolescent psychiatrists are ideal candidates to be significant players in discussing their problems privately with a mental health clinician [25].

The Legality of Gender Change in Ambiguous genitalia in Indonesia

The sex of the baby is not always easy to distinguish, and sometimes there are ba-

bies with the shape of the external genitals that do not indicate the gender as in ambiguous genitalia. For some reason parents, often force themselves to determine the sex of the baby and make it an identity for the baby. A hasty determination is very error-prone. Errors can be detected when the child is still small, but some cases occur when they have reached puberty when the body and genitals begin to develop towards the proper sex. The impact of errors in determining gender can occur in all aspects of children's lives, parents, the environment, and the law because it is related to population data. There may be psychosocial problems in older children as an identity crisis may occur. Medical efforts to adjust or correct the shape of the genitals, followed by legal efforts to change identity data, can be carried out in the future. However, not all people can understand this disorder which is often challenging to accept immediately, and some even refuse [26].

The legal and social impact of sex determination is the registration of population administration and the acceptance of children by the surrounding community (family, neighbors, schools, etcetera) with that identity and gender. For every baby born and has been officially reported, a birth certificate/certificate will be issued, as mandated by Article 5 and Article 27 of Law No. 23 of 2002 concerning Child Protection and Article 27 of Law No. 23 of 2006 concerning Population Administration. Furthermore, based on Article 77 of Law no. 23 of 2006 concerning Population Administration, the data that has been officially recorded regarding the identity and gender of the baby, which is contained in the birth certificate (residence document), has permanent legal force (article 1(8) of Law No. 23/2006) and cannot be changed easily [26].

In the population administration law and other laws, there are no articles that regulate sex change. There are only articles concerning the recording of name changes

and other significant events in the Population Administration Law. Following Article 52, which reads, "Recording of name changes is carried out based on the district court's determination where the applicant is." Then article 56, states, "The recording of other important events is carried out by the civil registration official at the request of the population concerned after a district court decision has obtained permanent legal force." Then the critical event referred to as stated in Article 1 paragraph 17 does not mention a change of gender [26].

No law regulates sex change, so a legal vacuum will make it very difficult for people with ambiguous genitalia. The court is obliged to find solutions to the problem as long as they do not conflict with the existing law. Many parties and experts will be presented, including witnesses and doctors who are team members for handling ambiguous genitalia patients in the sex change trial. The validity of the trial was judged by sex adjustment measures, especially surgery. The medical team in handling ambiguous genitalia also prepares informed consent when patients of legal age choose the gender they want so that lawsuits can be avoided if the patient is dissatisfied with his choice [26].

Conclusions

Psychiatric management in cases of ambiguous genitalia includes various stages. Specific psychiatric management of ambiguous genitalia may include psychopharmacology, non-pharmacology, and consultation-liaison psychiatry (CLP). Psychoeducation and psychotherapy are essential parts of therapy that assist in adaptation and decision-making. Communication between patients and family members with health professionals is an important part that needs to be done by psychosocial experts. Continuity of care, compliance, and retention of patients and families are challenges in managing ambiguous genitalia. The purpose of the ambiguous genitalia

treatment is to strengthen the patient and family's adaptive coping to the stressors correlated with ambiguous genitalia and to promote good quality of life for children and adolescents.

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