Teachers' Challenges and Strategies in Sexual and Reproductive Health Education for Children with Intellectual Disabilities

Dyah Dwi Astuti[a], Duwi Pudji Astuti[b], Tri Widyastuti Handayani[c], Sumardino[d]
[abd]Poltekkes Kemenkes Surakarta, Indonesia
[c]Poltekkes Kemenkes Yogyakarta, Indonesia
astutidyah83@gmail.com

Keywords:
children with intellectual disabilities; sexual and reproductive health education; teachers

Abstract

Children with intellectual disabilities require additional support in understanding sexual and reproductive health due to decision-making challenges and limited educational and socio-cultural support. This study explored teachers' challenges and strategies in delivering such education. A qualitative descriptive design was conducted in a special school involving five teachers selected through purposive sampling. Data were collected through focus group discussions (FGDs) and analyzed using inductive content analysis. Five themes revealed challenges in managing sexual behaviors that were not aligned with cognitive development. Teachers implemented habituation, experience-based learning, and counseling to support understanding of bodily changes, social norms, and self-regulation during puberty, supported by collaboration among schools, parents, and health professionals. These findings highlight the importance of adaptive and collaborative approaches. Schools should integrate experience-based learning and strengthen partnerships with families and health professionals.

Kata Kunci:
anak-anak dengan disabilitas intelektual; pendidikan kesehatan seksual dan reproduksi; guru

Abstrak

Anak dengan disabilitas intelektual membutuhkan dukungan tambahan dalam memahami kesehatan seksual dan reproduksi akibat keterbatasan dalam pengambilan keputusan serta dukungan sistem pendidikan dan sosial-budaya yang masih terbatas. Penelitian ini mengeksplorasi tantangan dan strategi guru dalam memberikan edukasi tersebut. Penelitian menggunakan desain deskriptif kualitatif di Sekolah Luar Biasa dengan lima guru yang dipilih secara purposive. Data dikumpulkan melalui diskusi kelompok terarah (FGD) dan dianalisis menggunakan inductive content analysis. Hasil penelitian mengidentifikasi lima tema yang menunjukkan tantangan dalam mengelola perilaku seksual yang tidak sejalan dengan perkembangan kognitif. Guru menerapkan strategi berupa pembiasaan, pembelajaran berbasis pengalaman, dan konseling untuk mendukung pemahaman perubahan tubuh, norma sosial, serta pengaturan diri selama pubertas, melalui kolaborasi antara sekolah, orang tua, dan tenaga kesehatan. Temuan ini menegaskan pentingnya pendekatan yang adaptif dan kolaboratif. Sekolah perlu mengintegrasikan pembelajaran berbasis pengalaman serta memperkuat kemitraan dengan keluarga dan tenaga kesehatan.

Journal of Disability Studies
INKLUSI
Vol. 13, No. 01, 2026
doi 10.14421/ijds.130101
Submitted: 05 Jan 2026
Accepted: 11 Apr 2026

A. Introduction

Children with intellectual disabilities require specialized support in understanding sexual and reproductive health, including bodily changes, personal boundaries, and socially appropriate behaviour (Janighorban et al., 2022). Challenges in providing such support are influenced by limitations within the education system, which has yet to provide structured, adaptive, and continuous sexual and reproductive health education (Wakjira & Habedi, 2022). The mismatch between education and developmental needs increases the risk of confusion, inappropriate sexual behaviour, and vulnerability to sexual violence (Shukla et al., 2023). Therefore, sexual and reproductive health education in schools is an urgent necessity for children with intellectual disabilities. Education is part of fulfilling children with intellectual disabilities' rights to access information, protection, and healthy development (Davies et al., 2026). This underscores that the fulfilment of sexual and reproductive health is a right of children with intellectual disabilities that requires the support of an inclusive education system.

The school environment is the primary setting where children with intellectual disabilities engage in social interaction and learn to understand rules, values, and behavioural boundaries. At school, children encounter various situations related to social relationships, physical contact, and self-expression concerning sexuality and reproduction (Vincent & Krishnakumar, 2022). Teachers play a vital role as educators, mentors, and protectors in helping children understand sexual and reproductive health in a safe and developmentally appropriate manner (Pandia et al., 2024). Therefore, the establishment of a supportive teacher-child relationship within the school environment is crucial in preventing risky behaviours associated with sexual and reproductive development (Vincent & Krishnakumar, 2022). In educational practice, the effectiveness of sexual and reproductive health education is influenced by various barriers that indicate structural constraints within policies, curricula, and institutional support.

Various studies indicate that implementing sexual and reproductive health education faces challenges, including limited knowledge, readiness, and skills in delivering educational content (Goli et al., 2022; Pandia et al., 2024; Shibuya et al., 2023). This situation is influenced by strong social, cultural, and religious norms within society that can hinder open communication about sexual health in schools. From a cultural perspective, discussing sexual issues is still considered taboo and is feared to encourage deviant behaviour among children with intellectual disabilities (Munea et al., 2022). These factors limit teachers' pedagogical practices in discussing sexual health openly and comprehensively, resulting in teaching materials that are often delivered cautiously, superficially, or avoided altogether (James et al., 2022). These findings indicate that challenges in sexual and reproductive health education are systemic, as the socio-cultural context within society influences teachers' pedagogical practices.

Teachers' lack of preparedness to deliver sexual and reproductive health education in schools is not only linked to their capacity but is also influenced by structural factors within the education system. Some schools still lack guidelines, specialized modules, or adaptive learning materials tailored to the needs of children with intellectual disabilities (Greene et al., 2025; Shibuya et al., 2023). Meanwhile, limited training means that teachers' competencies, particularly in counselling skills and information delivery, have not developed optimally. The absence of structural policy support and learning resources restricts teachers' pedagogical scope, leading them to tend to avoid sensitive sexual health topics when they lack clear guidance (Goli et al., 2022; Greene et al., 2025; Qi et al., 2023). Another factor is the lack of coordination among schools, families, and healthcare professionals, resulting in fragmented education across different settings (Goli et al., 2022; Wakjira & Habedi, 2022). Limited access to disability-friendly sexual health services, due to economic factors, knowledge gaps, and societal attitudes, further restricts the development of a continuous educational support system (Janighorban et al., 2022; Wakjira & Habedi, 2022). These structural and socio-cultural conditions constrain teachers' pedagogical scope in teaching sexual and reproductive health

to children with intellectual disabilities, resulting in teachers' readiness to provide education developing suboptimally. Unclear policy direction and socio-cultural taboos constrain teachers' pedagogical space, leading to cautious or avoidant approaches that limit the depth and effectiveness of sexual and reproductive health education.

In line with these various barriers, previous research findings indicate that the implementation of sexual and reproductive health education in schools still faces numerous challenges. Qualitative research by Shibuya et al. (2023) revealed that teachers often face dilemmas in delivering comprehensive sex education due to the influence of religious and cultural values, limited competencies, and the lack of clear integration between traditional sex education and the school curriculum. Meanwhile, research by Khalesi et al. (2022) emphasized that effective school-based sexual health education programmes require an empowerment-based approach, learning methods tailored to learners' needs, and youth-friendly health services; however, it did not specifically highlight the context of children with intellectual disabilities. Previous studies have identified barriers to the implementation of sexual and reproductive health education in schools, such as structural influences within the education system and socio-cultural factors. These studies have not explained how teachers actually adapt their teaching strategies for children with intellectual disabilities; therefore, this study aims to explore teachers' experiences in addressing these challenges and in developing adaptive educational approaches in schools.

The scarcity of research detailing the implementation of sexual and reproductive health education for children with intellectual disabilities highlights the need for a deeper understanding of the challenges and strategies teachers employ in addressing various social, cultural, pedagogical, and structural barriers in educational practice within schools. This study aims to explore, within a contextual framework, how teachers address these challenges and develop adaptive educational strategies for children with intellectual disabilities. This study makes a theoretical contribution by enriching our understanding of teachers' pedagogical practices in inclusive sexual health education, whilst also providing a practical contribution as a basis for developing a contextual, adaptive model of sexual and reproductive health education tailored to the needs of children with intellectual disabilities within the school environment. Thus, this study presents new insights that focus on the implementation of teachers' practices in real-world contexts, rather than merely the barriers generally identified in previous literature.

B. Research Methods

1. Study Design

The approach used in this study is a qualitative descriptive study. This research design was chosen as it allows the researcher to explore teachers' philosophies more deeply within a real-world context. These perspectives encompass the challenges and strategies encountered during the process of delivering sexual and reproductive health education to children with intellectual disabilities. This qualitative descriptive study differs from research designs such as phenomenology or grounded theory, which focus on the deep meaning of experiences or the development of new theories (Oranga & Matere, 2023). This qualitative descriptive study focuses more on exploring teachers' perspectives on challenges and strategies within the context of providing sexual and reproductive health education to children with intellectual disabilities (Doyle et al., 2020). This study used the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines to report the research findings (Tong et al., 2007).

2. Samples/Participants

The study was conducted at a private Special School (SLB) type BC in Karanganyar Regency, which provides education for children with intellectual disabilities at the Special Primary School (SDLB), Special Lower Secondary School (SMPLB), and Special Upper Secondary School (SMALB) levels, with a total of 60 students. The research participants were classroom teachers who directly taught pupils with intellectual disabilities. The sampling technique used was purposive sampling, with the aim of

gaining access to teachers who could be observed and with whom Focus Group Discussions (FGDs) could be conducted to obtain rich data. Participant selection was based on *criterion-based* inclusion criteria, including: (1) Teachers who have taught children with intellectual disabilities for at least one year; (2) Teachers who have no impairments in verbal and non-verbal communication. The exclusion criterion was teachers who refused to participate in the study.

There were five teachers participating in this study, selected based on the results of an initial identification process at the school and meeting the study's inclusion criteria. All participants had direct experience teaching children with intellectual disabilities at the school and possessed an educational background supporting special education. The determination of the number of participants also took into account data saturation: 87 codes had been identified across the five participants, and no new codes were found in the data analyzed. In this study, no participants dropped out during the research process. The characteristics of the participants are described in Table 1.

Table 1
Research Participants

Code	Age (Year)	Gender	Highest Level of Education	Length of Service (Years)	Ethnicity	Training Courses Attended
P1	29	Female	Social Sciences Graduate	3	Javanese	Improving teachers' competence regarding bullying among adolescents, sexual violence, and drugs
P2	21	Women	Bachelor of Education in Language	1	Javanese	Improving teachers' competence regarding sexual violence
P3	64	Male	Bachelor of Special Education	29	Javanese	Improving teachers' competence regarding bullying among adolescents, sexual violence, and drugs
P4	61	Male	Bachelor of Special Education	36	Javanese	Improving teachers' competence regarding bullying among adolescents, sexual violence, drugs, and HIV/AIDS
P5	46	Male	Bachelor of Psychology	13	Javanese	Improving teachers' competence regarding bullying among adolescents and sexual violence

Note. Research Data Analysis, 2025.

3. Data Collection

The research was conducted from February to December 2025 using focus group discussions (FGDs). The FGDs were conducted by the first researcher, who is female and holds a PhD in pediatric nursing, with experience in conducting qualitative research. The researcher played a crucial role as a key instrument in determining the quality of the research data. Prior to the FGD, participants were provided with an explanation of the research objectives, procedures, and ethical considerations. The researchers emphasized the principles of confidentiality, voluntary participation, and mutual respect amongst participants to foster a safe discussion environment. This preparatory process aimed to build

trust and encourage openness among participants during the FGD. The FGD data collection method was conducted face-to-face to explore teachers' perspectives (inner perspective, who, where, what) (Doyle et al., 2020). The FGD was held in the library hall with appropriate noise and lighting levels. A semi-structured guide in the form of FGD guidelines was used during the FGD. Prior to implementation, the researcher conducted a trial FGD to test the questions and practise the researcher's communication skills.

The researcher conducted a single FGD session, having previously conducted a trial FGD and ensured the clarity of the question guide, the smooth flow of the discussion, and the readiness of the data collection process. The researcher used open-ended or general questions that evolved into specific questions in response to the participants' answers. This FGD session lasted 90 minutes, comprising 30 minutes of preparation and 60 minutes of implementation. The researcher used the following data collection tools: a voice recorder, writing materials, a field note sheet, and a video camera. The researcher engaged two facilitators to record participants' verbal and non-verbal responses.

4. Data Analysis

The analysis method used was inductive content analysis, as this study aimed to gain an understanding of phenomena in the area of sexual and reproductive health among children with intellectual disabilities, a field where knowledge remains limited. The first step involved repeatedly reading the FGD transcripts to gain a comprehensive understanding of the context, followed by an open coding process to highlight key statements. The coding process was conducted manually in Microsoft Excel to organize the data, group codes, and facilitate theme categorization. Code sharing similar meanings was subsequently grouped into categories, then organized into main themes representing the research objectives. The analysis was conducted inductively, maintaining the connection between empirical data and the social context in which the teachers operate, and was validated through discussions with the research team. Where discrepancies arose during the coding process, the researcher and the research team discussed these until a mutual agreement was reached (Outhwaite et al., 2023; Vears et al., 2022).

5. Trustworthiness

The researchers applied the following five standards in their qualitative descriptive study: (1) Confirmability, achieved through peer debriefing amongst researchers 1, 2, 3, and 4—who are experts in methodology and research within the school environment—covering the preparation process, data collection, and report writing; (2) Dependability, achieved by developing questions in the FGD guidelines based on theory, revising them, and conducting trial FGDs prior to data collection; (3) Credibility, namely member checking by providing feedback to participants by returning research themes to them to elicit their responses; (4) Transferability and application by documenting data and writing it up in manuscript form using thick description.

The manuscript translation from Indonesian to English followed Abfalter et al. (2021) guidelines. The purpose was to enhance academic dissemination and support publication. Translation was conducted at the final stage of data analysis and included meaningful statements, codes, categories, themes, and the full manuscript. The lead researcher prepared the Indonesian draft, which was translated by a qualified external translator. A forward translation approach was applied, with validation by all researchers through comparison of both language versions. The process considered the Javanese socio-cultural context to preserve participants' identities and used professional translation services supported by DeepL AI (Abfalter et al., 2021).

6. Ethical Considerations

This study was approved by the Ethics Committee of Dr. Moewardi General Hospital (No. 1.198/VI/HREC/2025). Ethical principles included autonomy, with participants providing informed consent after receiving clear explanations. Confidentiality and anonymity were ensured by safeguarding all data. Beneficence was upheld through contributions to scientific knowledge, while

non-maleficence was maintained by minimizing discomfort during FGDs. Justice was ensured by selecting participants based on predefined inclusion criteria to maintain fairness and research integrity.

C. Results & Discussion

This study identified five research themes, namely:

a. Meaning and Challenges of Sexual Behaviour Regulation in Children with Intellectual Disabilities

This theme describes the gap between biological and cognitive development in children with intellectual disabilities. The theme comprises two categories: the mismatch between cognitive and physical development and the increase in children's sexual behaviour. Teachers interpret children's sexual behaviour as a natural part of puberty, yet it is difficult to manage due to limitations in understanding, memory, and self-regulation. The faster biological development in children with intellectual disabilities compared to their cognitive maturity poses challenges in delivering sexual and reproductive health education. Sexual behaviours frequently observed in children include attraction to the opposite sex, curiosity about sexual activities, and physical closeness. These findings indicate that the imbalance between biological maturity and cognitive ability requires an educational approach that is more structured, concrete, and tailored to the learning needs of children with intellectual disabilities. Participant statements:

> "…children with intellectual disabilities have greater biological development (sexual and reproductive) compared to typically developing children…" (P1)
> "…if a child with an intellectual disability (type C) is taught something today, they'll have forgotten it by tomorrow…" (P3)
> "…children with intellectual disabilities do not yet know how to manage their sexual urges; they are sometimes curious about engaging in sexual activities, such as looking at attractive women and having physical contact with the opposite sex…" (P4)

This first theme illustrates the significance and challenges of managing the sexual behavior of children with intellectual disabilities. During puberty, children experience the maturation of reproductive organs accompanied by increased sexual urges, whilst cognitive abilities and social understanding have not yet developed in a balanced manner (Read et al., 2024). The development and ways in which children express their sexuality are unique and diverse, as each child possesses different abilities in learning and retaining new skills (Hole et al., 2022). Children's experiences of puberty also differ by gender; girls experience changes such as menstruation, whilst boys experience wet dreams and voice changes (Hunt et al., 2024; Pérez-Curiel et al., 2023; Strnadová et al., 2022). The imbalance between biological maturity and cognitive ability increases the risk of children experiencing sexual violence and exploitation (Ismail et al., 2025; Matin et al., 2021; Vincent et al., 2025). Therefore, children require institutional support for readiness, including curriculum improvements tailored to inclusion needs, the development of systematic learning modules, and the provision of easily understandable learning materials. Policy support is also crucial, including teacher training to ensure the quality of educational implementation appropriate to the development of children with intellectual disabilities (Goli et al., 2022; Maggio et al., 2022).

b. Educational Approaches Based on Habituation, Lived Experience, and Counselling

The second theme outlines the sexual and reproductive health education strategies that teachers consider most effective when implemented with children with intellectual disabilities. These strategies are categorised into three groups: *habit-based learning* tailored to the child's development, learning based on *real-life stories*, and counselling with educational evaluation and reinforcement. Information on sexual and reproductive health education is delivered in small groups using simple language from an early age, in line with the child's developmental stage; it is repeated over several sessions and reinforced through daily practice. Teachers also present real-life cases, such as the

impact of promiscuity during puberty. These findings indicate that teachers employ learning strategies tailored to the abilities of children with intellectual disabilities, such as using simple language, repeating material, and providing real-life experiences. This approach helps children understand information about sexual and reproductive health more easily, whilst fostering sexual behaviour that aligns with religious and cultural norms. Participant statements:

> "…a single educational topic usually needs to be repeated over a period of about 3–4 weeks. This means that children usually only begin to understand the material after around four sessions or even more…" (P2)
> "…during the education sessions, we bring in a speaker who has previously been involved with drugs and promiscuity, and this speaker then recounts what they experienced…" (P3)
> "…we conduct group counselling with a small number of children. We then conduct an evaluation in which the children are asked to summarise the health information and submit it to their respective class teachers. We assess the children's understanding later through these reports. If they have not understood the information, we repeat the parts they did not grasp; if they are able to understand, we provide further information…" (P5)

Theme 2 discusses educational approaches through habituation, real-life experiences, and counselling as *effective* strategies for teaching sexual and reproductive health to children with intellectual disabilities. The research findings recommend that teachers provide education from an early age using materials tailored to developmental stages: pre-puberty, puberty, and adolescence. This approach is crucial for preventing sexual violence, exploitation, and the child's confusion regarding bodily changes (Saleh & Dillenburger, 2025). Another strategy is the *Community-Based Instruction* approach, which has been shown to help children understand the material more easily. In this approach, learning takes place directly within everyday environments, such as practising changing sanitary pads during menstruation or demonstrating how to protect oneself from sexual violence in public places (Casale-Giannola et al., 2023). Learning should also be structured across several sessions, with small-group discussions, so that teachers can monitor children's understanding. The material should be presented clearly and progressively using various methods, such as books, videos, images, games, demonstrations, and body models, supplemented with live examples, guided practice, and independent practice (Hill et al., 2024).

c. Promoting Self-Regulation and Appropriate Social Behaviour During Puberty

The third theme is teaching self-management and social behaviour during puberty to children with intellectual disabilities, reflecting the local cultural context and teachers' perspectives in Karanganyar Regency. This theme comprises two categories: behavioural training in accordance with religious and social norms and teaching personal hygiene during menstruation. Sexual and reproductive health education provided to children with intellectual disabilities must align with religious and social norms. Examples of educational materials include the guidance that adolescent girls during menstruation are not permitted to pray and are not permitted to have close physical contact with the opposite sex, as this violates social norms. During puberty, children are also taught to maintain personal hygiene, such as bathing and changing clothes, and to use sanitary pads during menstruation, in accordance with the social norms prevailing in society. These findings indicate that teachers not only impart knowledge about sexual and reproductive health but also emphasise behaviour that aligns with religious and social norms. This approach helps children with intellectual disabilities understand behavioural boundaries and develop habits of maintaining personal hygiene during puberty. Participant statements:

> "…children are taught about privacy (boundaries)–which parts of the body may or may not be touched…" (P2)
> "…teaching religious teachings, so that children know the rules or regulations regarding menstruation. So that later, when menstruating, the child does not join in prayer…" (P3)

> "...I restrict girls who have started menstruating from having physical contact with male students..." (P4)

The findings of this study indicate that children often struggle to control their emotions, understand social rules, and inhibit behavioural impulses. This aligns with self-regulation theory, which encompasses the ability to plan, execute, monitor, and adjust behaviour to achieve goals through cognitive processes (França et al., 2025; Warschburger et al., 2023). Children with intellectual disabilities experience difficulties in self-regulation, particularly in 'cool' functions—such as controlling attention and planning actions without emotional interference—and 'hot' functions—such as regulating emotions and impulses in social or emotional situations (Rungsattatharm et al., 2025). Strategies that need to be implemented include helping children understand social norms, manage emotions, and develop appropriate social behaviour, so that these educational strategies are effective in supporting the development of self-regulation during puberty (Andrikos et al., 2024). The training helps children understand that the body is a private possession that must be protected, recognise appropriate boundaries for physical contact with the opposite sex in line with standards of decency and religious values, and have the courage to refuse and report situations that make them feel uncomfortable (Hill et al., 2024).

d. Holistic and Collaborative Approaches to Sexual and Reproductive Health Education

This fourth theme highlights that sexual and reproductive health education for children with intellectual disabilities requires collaboration between schools, parents, peers and health professionals. This fourth theme comprises three categories: the role of schools in sexual and reproductive health education; collaboration between schools and parents, and peer support; and collaboration between teachers and health professionals. Schools play a role in integrating sexual and reproductive health materials into the curriculum, creating an educational environment that protects children from sexual violence, and channelling children's biological urges through positive non-academic activities in line with their interests and talents. Forms of collaboration between schools and parents include parenting programmes that foster two-way communication. The role of peers is also crucial in conveying health information to children with intellectual disabilities, as daily interactions allow children to remind one another and help correct inappropriate behaviour. Schools also collaborate with health workers at community health centres and the health department through immunisation programmes, the provision of iron tablets, free health checks, and child psychology consultations with psychiatrists. These findings indicate that sexual and reproductive health education is more effective when delivered through collaboration between schools, parents, peers, and health professionals in supporting understanding and the development of appropriate behaviour. Participant statement:

> "...we have non-academic activities to channel children's sexual urges, including library sessions, special programmes such as folding clothes, buttoning up shirts, ironing, and cleaning the classroom; some children prefer movement-based songs and swimming. In the health sector, specifically regarding exercise, we also invite an instructor once a month..." (P1)
> "...we plan to organise a parenting programme. Through meetings with parents, we will discuss supporting children during puberty; we sometimes hold open forums for questions and concerns to be discussed together so that solutions can be found..." (P4)
> "The school collaborates with the Health Department and the Community Health Centre on various health programmes, such as providing iron tablets for female students who have started menstruating, free health checks, routine vaccinations for pupils, and consultations with psychiatrists regarding psychological support and managing children's sexual urges." (P5)

This fourth theme *emphasises* that sexual and reproductive health education interventions for children with intellectual disabilities must be carried out holistically and collaboratively, involving

schools, parents, and health professionals. Collaboration among teachers, parents, health workers, and researchers facilitates knowledge exchange, enabling the tailoring of learning materials and methods to children's needs (Tohit et al., 2024; Truong et al., 2025). Challenges faced in this collaborative process include adapting the curriculum, modules, learning materials, and communication strategies to suit the children's characteristics, using diverse approaches such as traditional, biomedical, digital, interprofessional, and comprehensive (Mouna et al., 2025). Cross-sectoral collaboration also involves the government, non-governmental organisations, the community, families, and healthcare professionals. Examples of collaboration to support children's quality of life include iron-supplement tablet programmes and free health checks, along with psychological support from psychiatrists who adopt a biopsychosocial-cultural and spiritual approach (Truong et al., 2025).

e. Internal and External Factors Influencing the Implementation of School-Based Education

The fifth theme identifies various factors that influence the effectiveness of education, encompassing both internal and external factors. This theme comprises two categories: internal factors influencing sexual and reproductive health education, and external factors influencing the effectiveness of sexual and reproductive health education.

1. Internal Factors

Internal factors stem from the children's characteristics, including cognitive limitations, low adaptive skills, and communication barriers. These conditions cause children to struggle with understanding abstract information, including that related to social behaviour and sexual health. Furthermore, these limitations affect children's ability to control their behaviour and adapt to the norms of their social environment. Participant statements:

> "…the child hasn't learnt much sign language yet; sometimes I'm also unsure how best to convey the material…" (P2)
> "…the child does not understand that his actions are not in line with social behaviour in public places. He simply says he needs to go to the toilet and does so immediately, even though he is in front of many people…" (P4)

2. External Factors

External factors are those originating from the child's environment that influence the effectiveness of sexual and reproductive health education. External factors include teachers' hesitation and lack of confidence in delivering sexual health material, which is perceived as a sensitive topic. Other external factors include parents' readiness to cope with the post-school transition period, budget constraints, uncontrolled exposure to digital content, and the risk of sexual violence originating from environments outside school. These findings indicate that the success of sexual and reproductive health education for children with intellectual disabilities is influenced not only by the child's condition but also by the support of their surrounding environment. Supporting statements from participants include:

> "…so, when the child exhibits inappropriate behaviour, only then do I remind them. I do not teach them about sexual and reproductive health because I'm afraid the child might feel embarrassed or uncomfortable. So, what I teach, for example, regarding growth and development, is only about getting taller or gaining weight…" (P1)
> "…now the children use gadgets. When they open their phones, they can immediately access various content, and we worry that inappropriate content might appear, as this could have a negative impact on the children…" (P2)
> "…when we organise educational activities by inviting guest speakers and parents, it usually requires additional costs, for example, for refreshments. …" (P4)

The fifth theme concerns internal and external factors influencing the effectiveness of education in schools. Internal barriers for children with intellectual disabilities include difficulty adapting to changes during puberty and absenteeism, which hinder the continuity of education; consequently, there is a need for repeated information and specialised support (Zinda et al., 2024). This situation underscores the need for school-based sex education tailored to children's comprehension levels so that they can understand healthy relationships and make safe decisions (Svae et al., 2022). Further barriers stem from external factors within families, schools, healthcare providers, and the wider community. These barriers include the perception that sex education remains a taboo subject, parents' limited knowledge and time, family cultural values, the lack of evidence-based curricula and materials, and the scarcity of institutional and policy support (Greene et al., 2025; Kamaludin et al., 2022). Therefore, multi-level support is required from families, schools, healthcare professionals, and systemic policies to ensure that sexual health education for children with intellectual disabilities can be delivered effectively and sustainably (Truong et al., 2025).

This study identified five interrelated themes. These five themes indicate that the challenges in managing sexual behaviour in children with intellectual disabilities are linked to the gap between the child's biological development and cognitive abilities, thus requiring an adaptive educational approach. Teachers address these challenges through educational strategies based on habituation, real-life experiences, and counselling to help children develop self-regulation skills and appropriate social behaviour during puberty. The effectiveness of these strategies is reinforced through collaboration between schools, parents, peers, and healthcare professionals, and is influenced by various internal and external factors within the educational environment.

This study makes a scientific contribution to the development of an educational approach to sexual and reproductive health for children with intellectual disabilities in a school setting. Firstly, this study highlights the importance of a habituation-based sexual and reproductive health approach, wherein material is delivered repeatedly and integrated into daily activities, making it easier for children to understand. Secondly, this study expands understanding of adaptive teaching strategies within the context of religious and cultural values as a framework for delivering sexual and reproductive health education. Thirdly, this study emphasises the importance of a collaborative school–family–health framework to support the implementation of comprehensive and sustainable education. These three contributions enrich the literature by demonstrating that sexual and reproductive health education for children with special needs emphasises contextual, collaborative, and real-life experience-based approaches within the school environment.

This qualitative descriptive study has limitations regarding the number and context of participants, which were restricted to a single school setting; consequently, the findings cannot yet be widely generalised. The data obtained relies heavily on the perceptions and experiences of informants, which has the potential to introduce subjective bias, particularly given the sensitivity of the topic of sexual behaviour in children with intellectual disabilities. Further research is recommended to involve a more diverse range of participants, utilise methodological triangulation such as observation, and consider *a mixed-methods* design to gain a more comprehensive understanding and strengthen the evidence base for the development of school-based sexual health education.

D. Conclusion

This study identified five interrelated themes that explain how the gap between biological maturation and cognitive development shapes the challenges of sexual and reproductive health education for children with intellectual disabilities. Addressing this gap requires adaptive pedagogical strategies that are structured, repetitive, and grounded in real-life experiences to support the development of self-regulation and socially appropriate behaviour during puberty. The findings demonstrate that the effectiveness of such education depends not only on classroom practices but also on a coordinated support system involving teachers, families, and healthcare professionals. In addition, both internal

factors (e.g., cognitive limitations) and external conditions (e.g., teacher readiness, socio-cultural norms, and resource constraints) critically influence implementation. This study contributes by highlighting a habituation-based and contextually grounded approach to sexual and reproductive health education, supported by a collaborative school–family–health framework. It recommends that schools institutionalize adaptive, experience-based learning and strengthen cross-sectoral partnerships to ensure consistent and sustainable educational support.

E. Acknowledgements

We would like to express our gratitude to the YPASP-BC Gondangrejo Karanganyar Special School and the Surakarta Ministry of Health Polytechnic for facilitating this research. The authors declare that the use of artificial intelligence (AI) tools during the manuscript preparation process was limited to language editing and stylistic refinement. The use of AI did not influence research design, data collection, data analysis, or interpretation of findings, and the authors remain fully responsible for the content of this manuscript.

F. References

Abfalter, D., Mueller-Seeger, J., & Raich, M. (2021). Translation decisions in qualitative research: A systematic framework. *International Journal of Social Research Methodology*, *24*(4), 469–486. https://doi.org/10.1080/13645579.2020.1805549

Andrikos, G. P., Smith, C. A., & Ciccarelli, M. (2024). Supporting co-regulation and development of self-regulation skills in students with intellectual disabilities: A scoping review. *Australasian Journal of Special and Inclusive Education*, *48*, 1–17. https://doi.org/10.1017/jsi.2024.3

Casale-Giannola, D., Delisio, L., Sardo, L., & Kline, K. (2023). Research and reality: A survey of educators' perceptions about evidence-based practices in inclusive settings for students with intellectual disabilities. *Education Sciences*, *13*(6), 1–8. https://doi.org/10.3390/educsci13060558

Davies, A., O'Leary, S., Prioletta, J., Shay, B., Bryan, M., & Neustifter, O. (2026). Sexuality education for disabled children and youth in Ontario, Canada: Addressing epistemic injustice through school-based sexuality education. *Children and Society*, *40*(1), 165–182. https://doi.org/10.1111/chso.12843

Doyle, L., McCabe, C., Keogh, B., Brady, A., & McCann, M. (2020). An overview of the qualitative descriptive design within nursing research. *Journal of Research in Nursing*, *25*(5), 443–455. https://doi.org/10.1177/1744987119880234

França, T. F. A., Segura, I. A., Dias, N. M., Miranda, M. C., & Pompeia, S. (2025). The effect of pubertal status on self-regulation of behavior and executive functions—A systematic review. *Developmental Psychobiology*, *67*(5), 1–48. https://doi.org/10.1002/dev.70069

Goli, S., Rahimi, F., & Goli, M. (2022). Experiences of teachers, educators, and school counselors about the sexual and reproductive health of educable intellectually disabled adolescent girls: A qualitative study. *Reproductive Health*, *19*(1), 1–10. https://doi.org/10.1186/s12978-022-01397-8

Greene, A., Simić Stanojević, I., Sherwood-Laughlin, C., Sangmo, D., Baugh, M., Greathouse, L., Chow, A., Myers, N., & Galyan, J. (2025). Teachers' perceptions of barriers to implementing school-based sexual health education for students with intellectual and developmental disabilities. *American Journal of Sexuality Education*, *20*(4), 536–558. https://doi.org/10.1080/15546128.2024.2429432

Hill, J., Meyer, J., Stokes, L., Ausmus, J. C., Worthey, B., & Carney, J. (2024). Sexuality, sex education, and intellectual disability: Guidance for counselors. *Journal of Counseling Sexology and Sexual Wellness*, *5*(1), 1–12. https://doi.org/10.34296/05012004

Hole, R., Schnellert, L., & Cantle, G. (2022). Sex: What is the big deal? Exploring individuals' with intellectual disabilities experiences with sex education. *Qualitative Health Research*, *32*(3), 453–464. https://doi.org/10.1177/10497323211057090

Hunt, G. R., Higgins, D. J., Willis, M. L., & Harris, L. (2024). Scoping review of the definitions used to describe and understand harmful sexual behaviors in children and young people. *Trauma, Violence, and Abuse*, *25*(4), 2569–2583. https://doi.org/10.1177/15248380231218294

Ismail, N. A., Sukeri, S., Rahman, A. A., Ghazali, A. K., Rahim, M. Z. A., & Hashim, N. (2025). Exploring health issues of adolescents with intellectual disabilities: A qualitative study. *Malaysian Journal of Medicine and Health Sciences*, *21*(3), 318–327. https://doi.org/10.47836/mjmhs.21.3.37

James, M. H., Porter, J. E., Kattel, S., Prokopiv, V., & Hopwood, P. (2022). Peer educators in the facilitation of sexuality and respectful relationship education for people with an intellectual disability: A scoping review and narrative synthesis. *Sexuality and Disability*, *40*(3), 487–502. https://doi.org/10.1007/s11195-022-09740-4

Janighorban, M., Boroumandfar, Z., Pourkazemi, R., & Mostafavi, F. (2022). Barriers to vulnerable adolescent girls' access to sexual and reproductive health. *BMC Public Health*, *22*(1), 1–16. https://doi.org/10.1186/s12889-022-14687-4

Kamaludin, N. N., Muhamad, R., Yudin, Z. M., & Zakaria, R. (2022). Barriers and concerns in providing sex education among children with intellectual disabilities: Experiences from Malay mothers. *International Journal of Environmental Research and Public Health*, *19*(3), 1–14. https://doi.org/10.3390/ijerph19031070

Khalesi, Z. B., Adib, M., & Sigaroudi, A. E. (2022). Exploring the structure of a school-based sexual and reproductive health education program: A qualitative study. *Jornal Brasileiro de Reproducao Assistida*, *26*(2), 299–304. https://doi.org/10.5935/1518-0557.20210072

Maggio, M. G., Calatozzo, P., Cerasa, A., Pioggia, G., Quartarone, A., & Calabrò, R. S. (2022). Sex and sexuality in autism spectrum disorders: A scoping review on a neglected but fundamental issue. *Brain Sciences*, *12*(11), 1–14. https://doi.org/10.3390/brainsci12111427

Matin, B. K., Ballan, M., Darabi, F., Karyani, A. K., Soofi, M., & Soltani, S. (2021). Sexual health concerns in women with intellectual disabilities: A systematic review in qualitative studies. *BMC Public Health*, *21*(1), 1. https://doi.org/10.1186/s12889-021-12027-6

Mouna, H., N'djoli, J., & Maria, H. (2025). Role of health education and reproductive health education in schools and higher education institutions. *Indonesian Journal of Innovation and Applied Sciences (IJIAS)*, *5*(1), 33–48. https://doi.org/10.47540/ijias.v5i1.1764

Munea, A. M., Alene, G. D., Debelew, G. T., & Sibhat, K. A. (2022). Socio-cultural context of adolescent sexuality and youth friendly service intervention in West Gojjam Zone, Northwest Ethiopia: A qualitative study. *BMC Public Health*, *22*(1), 1–11. https://doi.org/10.1186/s12889-022-12699-8

Oranga, J., & Matere, A. (2023). Qualitative research: Essence, types and advantages. *OALib*, *10*(12), 1–9. https://doi.org/10.4236/oalib.1111001

Outhwaite, L. A., Early, E., Herodotou, C., & Van Herwegen, J. (2023). Understanding how educational maths apps can enhance learning: A content analysis and qualitative comparative analysis. *British Journal of Educational Technology*, *54*(5), 1292–1313. https://doi.org/10.1111/bjet.13339

Pandia, W. S. S., Widyawati, Y., Handayani, P., & Sutamto, E. (2024). The reproductive health education to adolescents with intellectual disabilities: Perspectives of parents, teachers, and caregivers. *AMCA Journal of Education and Behavioral Change*, *4*(1), 17–24. https://doi.org/10.51773/ajeb.v4i1.328

Pérez-Curiel, P., Vicente, E., Morán, M. L., & Gómez, L. E. (2023). The right to sexuality, Reproductive health, and found a family for people with intellectual disability: A systematic review. *International Journal of Environmental Research and Public Health*, *20*(2), 1–29. https://doi.org/10.3390/ijerph20021587

Qi, W., Li, H., Lian, Q., Zuo, X., Yu, C., Lou, C., & Tu, X. (2023). Knowledge level and access barriers related to sexual and reproductive health information among youth with disabilities in China: A cross-sectional study. *Reproductive Health*, *20*(1), 1–11. https://doi.org/10.1186/s12978-023-01625-9

Read, J. E., Vasile-Tudorache, A., Newsome, A., Lorente, M. J., Agustín-Pavón, C., & Howard, S. R. (2024). Disorders of puberty and neurodevelopment: A shared etiology? *Annals of the New York Academy of Sciences*, *1541*(1), 83–99. https://doi.org/10.1111/nyas.15246

Rungsattatharm, L., Tasingha, P., Trairatvorakul, P., & Chonchaiya, W. (2025). Longitudinal associations between executive function and positive parenting during early childhood and resilience, self-regulation, and behavioral problems in school-age children. *Child and Adolescent Psychiatry and Mental Health*, *19*(1), 1–12. https://doi.org/10.1186/s13034-025-00875-8

Saleh, A., & Dillenburger, K. (2025). Sexual health education for children and young people with autism and/or intellectual/development disabilities in the Arab World: A systematic literature review of the attitudes and experiences of parents and professionals. *Sexuality and Disability*, *43*(3), 1–18. https://doi.org/10.1007/s11195-025-09901-1

Shibuya, F., Estrada, C. A., Sari, D. P., Takeuchi, R., Sasaki, H., Warnaini, C., Kawamitsu, S., Kadriyan, H., & Kobayashi, J. (2023). Teachers' conflicts in implementing comprehensive sexuality education: A qualitative systematic review and meta-synthesis. *Tropical Medicine and Health*, *51*(1), 1–22. https://doi.org/10.1186/s41182-023-00508-w

Shukla, S., Ezebuihe, J. A., & Steinert, J. I. (2023). Association between public health emergencies and sexual and reproductive health, gender-based violence, and early marriage among adolescent girls: A rapid review. *BMC Public Health*, *23*(1), 1–14. https://doi.org/10.1186/s12889-023-15054-7

Strnadová, I., Danker, J., & Carter, A. (2022). Scoping review on sex education for high school-aged students with intellectual disability and/or on the autism spectrum: Parents', teachers' and students' perspectives, attitudes and experiences. *Sex Education*, *22*(3), 361–378. https://doi.org/10.1080/14681811.2021.1941842

Svae, G. B., Blixt, L., & Søndenaa, E. (2022). Personal and sexual boundaries: The experiences of people with intellectual disabilities. *BMC Public Health*, *22*(1), 1. https://doi.org/10.1186/s12889-022-14181-x

Tohit, N. F. Mohd., Rashid, S. A. Z. Abd., Fakuradzi, W. F. S. W. A., Zaidi, N. 'Adnin A., & Haque, M. (2024). Exploring pathways from community involvement to empowerment in sexual and reproductive health: A public health perspective. *Advances in Human Biology*, *14*(4), 296–307. https://doi.org/10.4103/aihb.aihb_112_24

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, *19*(6), 349–357.

Truong, H.-H. M., Amboka, S., Kadede, K., Otieno, B., Odhiambo, H., Odeny, D., Agot, I., Miller, L. E., Bushman, D., Obunge, D., Auerswald, C., & Zamudio-Haas, S. (2025). Harmonizing voices: A collaborative, cross-cultural approach for adolescent sexual and reproductive health research. *Adv Glob Health*, *4*(1), 1. https://doi.org/10.1525/agh.2025.2469788

Vears, D. F., Gillam, L., & Vears, D. (2022). *Inductive content analysis: A guide for beginning qualitative researchers*. *23*(1), 2022. https://doi.org/10.3316/informit.455663644555599

Vincent, R., & Krishnakumar, K. (2022). School-based interventions for promoting sexual and reproductive health of adolescents in India: A review. *Journal of Psychosexual Health*, *4*(2), 102–110. https://doi.org/10.1177/26318318221089621

Vincent, R., Nalini, R., & Athira, V. H. (2025). Primary Carer's Experiences on the Emerging Sexuality of Adolescents with Intellectual and Developmental Disabilities: A Qualitative Meta-synthesis. In *Journal of Psychosexual Health*, 7(3), 235–242. https://doi.org/10.1177/26318318241276987

Wakjira, D. B., & Habedi, D. (2022). Barriers to access and utilisation of sexual and reproductive health services among adolescents in Ethiopia: A sequential mixed-methods study. *BMJ Open*, *12*(11), 1–8. https://doi.org/10.1136/bmjopen-2022-063294

Warschburger, P., Gmeiner, M. S., Bondü, R., Klein, A. M., Busching, R., & Elsner, B. (2023). Self-regulation as a resource for coping with developmental challenges during middle childhood and

adolescence: The prospective longitudinal PIERYOUTH-study. *BMC Psychology*, *11*(1), 1–21. https://doi.org/10.1186/s40359-023-01140-3

Zinda, A. R. P., Riskiyani, S., & Nasir, S. (2024). Menstrual hygiene: Barriers and support for adolescents with intellectual disability. *International Journal of Chemical and Biochemical Sciences*, *25*(19), 1–5. https://doi.org/10.62877/96-ijcbs-24-25-19-96