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Research Article

School Nurse–Parent Partnership in School Health Care for Children with Type 1 Diabetes: A Hybrid Method Concept Analysis

Ju-Yeon Uhm,¹ Mi-Young Choi^{2,*}

¹ Department of Nursing, Pukyong National University 45, Yongso-ro, Nam-Gu, Busan, 48513, Republic of Korea

² Department of Nursing Science, Chungbuk National University, Chungdae-ro 1, Seowon-Gu, Cheongju, Chungbuk, 28644, Republic of Korea

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SUMMARY

Aim: To define school nurse–parent partnerships in school health care for children with type 1 diabetes (T1D) and determine its attributes using a hybrid model.

Design: A concept analysis using a hybrid model.

Methods: This method involves a three-phase process: theoretical, fieldwork, and analytical. A literature review was conducted during the theoretical phase. A literature search of articles from January 1991 to February 2020 was conducted using relevant electronic databases. Eighty-three articles that met the inclusion criteria were completely read. Fieldwork data were collected through individual interviews from February to July 2019 in South Korea. In the fieldwork phase, interviews were conducted individually with 22 mothers of students with T1D and 20 school nurses recruited by purposeful sampling. Inductive content analysis was conducted. The findings from the theoretical phase were integrated with those from the fieldwork phase, and the final concept was derived.

Results: School nurse–parent partnership in school health care for children with T1D has been defined as an interactive process of maintaining a balanced responsibility and providing tailored care to meet needs by establishing trusting relationships and communicating transparently and openly. This analysis yielded four attributes: trusting relationships, transparent and open communication, balanced responsibility, and providing tailored care to meet needs—this entails providing nursing actions by advocating for students and performing a negotiated role together or individually for student and family.

Conclusion: The findings of this study add to the importance of an attribute of balancing responsibility for partnership in school health care. The results show that this partnership could contribute to the development of a scale, theory, and nursing intervention in school health care for children with T1D.

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Introduction

In the United States, approximately 40% of school-age children and adolescents are reported to have one or more chronic conditions, such as asthma, obesity, or diabetes. The health care needs of children and adolescents with such chronic diseases include the daily management of the disease and the resolution of potential emergencies [1]. To increase the independence and self-management of school-aged children and adolescents with

chronic diseases, care coordination through partnerships between families and school nurses is essential [2]. Family engagement in school is key to the health care of school-aged children and adolescents with chronic disease, which can help their successful transition into independent young adults [3]. The Centers for Disease Control and Prevention (CDC) presents family engagement as an important component of the whole-school, whole-community, and whole-child models to address health problems in the school setting [4].

Currently, school-based interventions for children with chronic conditions have been implemented [5], and type 1 diabetes (T1D) self-management has become much easier with the introduction of advances in technology, such as continuous glucose monitoring or artificial pancreas system [6]. However, it is not known whether the development of school-based interventions or technologies using devices has strengthened collaboration between each party or

Ju-Yeon Uhm: <https://orcid.org/0000-0002-0561-9756>; Mi-Young Choi: <https://orcid.org/0000-0002-9564-4161>

* Correspondence to: Mi-Young Choi, Department of Nursing Science, Chungbuk National University, Chungdae-ro 1, Seowon-Gu, Cheongju, Chungbuk, 28644, Republic of Korea.

E-mail address: myb98@chungbuk.ac.kr

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reduced the need for collaboration. Moreover, the ratio of school nurses to students is correlated with the HbA1c of students with T1D. This finding suggests that this change in the level of collaboration may be applied in the calculation of the ideal staffing level of school nurses [7]; however, there is currently no scale to measure it, and above all, no concept analysis has been conducted. Several scales applied concepts regarding partnership have been developed in children's hospital and long-term care facility settings; however, it has not been revealed whether the conceptual attributes of partnership in school health care are the same as that in these settings or if it includes other attributes.

Background

The most common health conditions requiring school health care were asthma, attention deficit disorder/attention deficit hyperactivity disorder, and severe allergies, but the most common health care procedure by school nurses was related to all diabetes care, such as glucose monitoring, insulin injections, and glucagon injection [5]. The previous study noted that there was an increase in blood glucose monitoring and insulin injections and decrease in nebulizer treatment and oxygen saturation checks during care by the school nurse. This result is consistent with research on the increase in T1D in the USA; the estimated T1D prevalence per 1000 youths for those 19 years or younger increased significantly from 1.48 in 2001 to 2.15 in 2017 [8]. In a review study on the perception of school health care among parents of children with chronic diseases from 2010 to 2020, 60% were identified related to diabetes, which was twice as high as asthma [9]. Otherwise, in a national survey on confidence in school health care, 42% of school nurses reported that they were confident in diabetes management, which was lower than in the case of anaphylaxis (82%), asthma (73%), eczema (57%), and epilepsy (58%) [10]. These results suggest that diabetes is one of the health problems that should be preferentially dealt with in school health care. Additionally, mothers are the primary caregivers for children with T1D, and only 5% of children had a father or grandparent as the primary caregiver [11]. In addition, compared to fathers, mothers of children with T1D reported significantly greater parenting stress [12], perceived burden, and emotional distress [13].

In school, children with T1D not only need skills but also the ability to make decisions about the need for tests and medications and dosing for proper blood sugar control, but school-aged children are far from perfect. A previous study of students aged 6 to 9 (1st to 3rd grades) reported that parents frequently received calls from the school or were requested to visit school [14]. Furthermore, 56.5% of children aged 6 to 9 required assistance in administering insulin injections; even 15.6% of older children (aged 10 to 12) did not have the skills to determine the type and dose of insulin [15]. Even if adolescents have self-medication skills, it does not mean that they do not need help in acquiring information about medication. Only 8–9% of adolescents aged 13 to 15 with diabetes needed help with self-care at school [16], but 36.5% of adolescents obtained information about self-medication from their parents [17].

In 2016, the National Association of School Nurses (NASN) released "21st Century School Nursing Practice," a new framework moving beyond basic care management to a systems-level approach for delivery of school health care [18]. A key element in the application of this framework is care coordination, including direct treatment and communication throughout the system. Care coordination includes case management, chronic disease management, collaborative communication, direct care, education, interdisciplinary teams, motivational interviewing/counseling, nursing delegation, student care plans, student-centered care, student self-empowerment, and transitioning planning [19].

Students' health status has a positive correlation with academic achievement and lifelong well-being [20,21]. School nurses, who occupy the largest portion of school health services, have a direct and lasting relationship with students. School health care is team-based care that works collaboratively with patients, family caregivers, school nurses, and primary and community health care providers [22]. Specifically, school-based intervention for children with chronic diseases emphasizes the partnership with the school nurse or child/youth and family [23].

Similarly, the partnership between family and the school nurse is emphasized in school health care for children with T1D; however, both parents and school nurses recognized various interpersonal obstacles pertaining to school health care for children with chronic diseases [9,24]. Although advances in technology for children with chronic diseases have recently been developed, there is no quantitative comparative study on how these developments affected the collaboration between families and schools in school health [25]. A scale examining partnerships with pediatric nurses in hospital settings has been developed [26]; however, a concept analysis of partnerships in the context of school health care has not been conducted. It is necessary to analyze the concept and develop scales for partnership with families in school-based care.

Partnerships in child care are different from partnerships with patients or clients as they include parental participation and parents as experts regarding the developmental aspects and health statuses of children [3,27]. Family-centered care (FCC) is used as a surrogate term for partnership in care and its attributes, including parental participation in care, development of a respectful and trusting partnership, and information sharing [28].

To improve the quality of school health care for students with chronic conditions, it is necessary to identify commonalities and differences between the ambiguous concepts of partnerships between school nurses and parents in school health care settings and clarify conceptual attributes. Concept analysis promotes understanding of a specific phenomenon with a concept that is poorly defined or has inconsistencies between the definition and its use in research, which aims to clarify, recognize, and define [29]. In a hybrid model of concept development, analysis from the literature review is closely integrated with the empirical data collected in the clinical setting and precedes the measurement of a concept [30]. The school nurse–parent partnership in school health care for managing T1D can provide a theoretical basis and an understanding of key elements to develop a scale and school-based intervention. This concept analysis aims to evaluate the school nurse–parent partnerships using a hybrid model.

Methods

This study analyzed the concept of school nurse–parent partnerships in school health care for children with T1D using a hybrid model. This method involves a three-phase process: theoretical, fieldwork, and analytical.

Theoretical phase

A literature review was conducted during the theoretical phase. The keywords and synonyms related to "school nurse," "family," and "partnership" were used, employing four databases—PubMed, Embase, Cumulative Index to Nursing and Allied Health Literature, and Web of Science (supplementary file). The inclusion criteria were as follows: (1) published in English, (2) peer-reviewed articles published from the beginning of database until February 2020, and (3) primary reviews and descriptive studies, including attributes of partnership in school health care. Of the total 704 articles initially obtained from the search, the titles and abstracts of 432 studies

were reviewed after the duplicates were deleted. Eighty-three articles that met the inclusion criteria were completely read. Finally, 19 articles were selected for the analytical phase (Figure 1, Table 1) (Figure 2).

The literature was reviewed as follows: What is the nature of the partnership between school nurses and families of children with T1D? How has the partnership been defined? How has the partnership been conceptualized? How has the partnership been measured? For data analysis, the authors repeatedly read the selected articles to extract relevant meaning units, which were coded. Codes were identified and classified, which were integrated as subcategories and categorized.

Fieldwork phase

In the fieldwork stage, in-depth interviews were conducted with 22 mothers of students with T1D and 20 school nurses (Table 2). The inclusion criteria were mothers who had: (1) children with T1D, (2) children aged between 6 and 12 (primary school age), and (3) children who experienced school health care for one year after the first diagnosis. The inclusion criteria of school nurses were

as follows: (1) more than one year of experience. Purposeful sampling was used to recruit participants through an online self-help group of parents of children with T1D and school nurse groups in two districts in South Korea. Those who voluntarily agreed to participate in the interview following the introduction of the purpose, process, and implications of this study were selected. The participants were sampled until the responses to the interview questions reached saturation and no new codes emerged, and then data collection was terminated [31].

The individual interviews were conducted between February and July 2019, in consideration of the participant's preferred schedule (school nurse: 5 months; parents: 4 months), mainly at the participants' home. However, if this was unfeasible, a rented private space near the home was used temporarily to conduct interviews. Interviews with parents and school nurses lasted for 57.64 ± 11.74 and 53.33 ± 20.55 minutes, respectively. The interviews were based on a semi-structured interview guide. The interview questions included experiences of cooperating with the parents or school nurses and perceived components of partnership. The interviews were recorded and transcribed. Inductive content analysis was conducted [32].

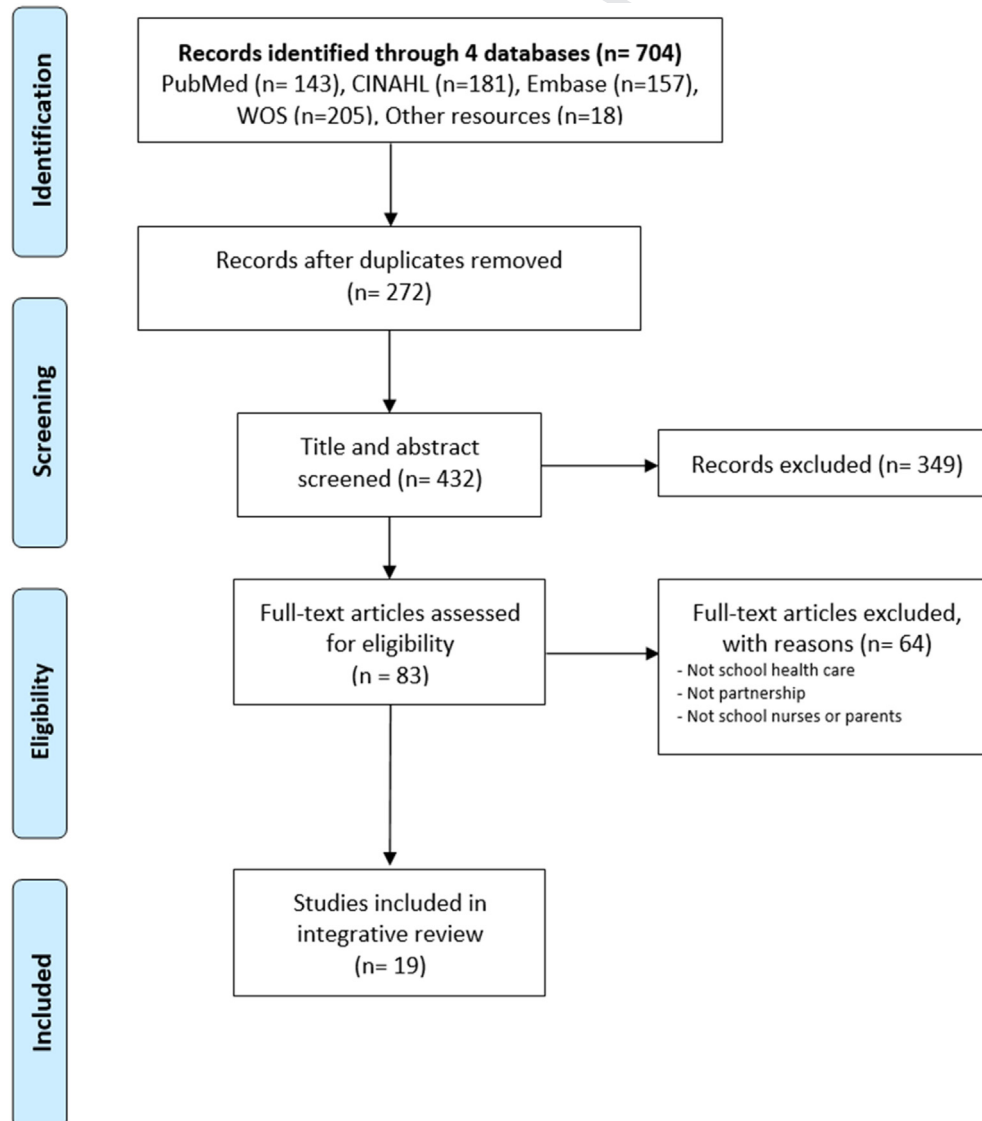


Figure 1. Theoretical phase: PRISMA flowchart.

Table 1 Literature Reviewed in the Theoretical Phase.

Author (published year)	Subcategories	Attributes
Mäenpää et al. (2013) Maenpaa & Astedt-Kurki (2008a) Erickson, Splett, Mullett, Jensen, et al. (2006) Rouse (2012)	Respect	Building a rapport
Maenpaa & Astedt-Kurki (2008a) Erickson, Splett, Mullett, Jensen, et al. (2006) Murdock et al. (2009)	Trust and confidence	
Maenpaa & Astedt-Kurki (2008a) Rouse (2012) Murdock et al. (2009)	Familiarity Reciprocity Contact availability	Transparent and open communication
Maenpaa & Astedt-Kurki (2008a) Guilday (2014) Erickson, Splett, Mullett, & Heiman (2006)	Honesty, openness, confidentiality Open and effective communication	
Mäenpää et al. (2013) Kakumanu et al. (2017) Maenpaa & Astedt-Kurki (2008a) Maenpaa & Astedt-Kurki (2008b) Bullard et al. (2020) Lavalle (2002) Erickson, Splett, Mullett, Jensen, et al. (2006) Rouse (2012)	Mutually exchange information about the children's health status	
Mäenpää et al. (2013) Lavalle (2002) Holmström et al. (2018)	Problem-based communication Assessing the needs of the parent Responsiveness to individual needs of students and parents Agreements on addressing the situation	Negotiation
CDA (1999)	Clarifying the roles and responsibilities of school nurses and parents in school health care	Clear role delineation
Lavalle (2002) Mäenpää et al. (2013) Maenpaa & Astedt-Kurki (2008b) Guilday (2014) AADE (2016) Jackson & Albanese-O'Neill (2016) Strawhacker (2001) NASN (2016)	Understanding the roles and responsibility of the team Assessing, knowing, and monitoring children's health	Using nursing process
Mäenpää et al. (2013) Mäenpää et al. (2013) NASN (2016) Kakumanu et al. (2017) Lavalle (2002) AADE (2016)	Supporting self-care practices: teaching skills, sharing knowledge, and empowerment	
Mäenpää et al. (2013) Mäenpää et al. (2013) NASN (2016) Kakumanu et al. (2017) Lavalle (2002) AADE (2016)	Respect for child's privacy in decision-making Helping with problematic situations Implementing management plans	
Bobo et al. (2011) Murdock et al. (2009) Rouse (2012) Kakumanu et al. (2017) Bobo et al. (2011) Kakumanu et al. (2017) Maenpaa & Astedt-Kurki (2008b) Bobo et al. (2011)	Parental participation in care	
Bobo et al. (2011) Kakumanu et al. (2017) Maenpaa & Astedt-Kurki (2008b) Bobo et al. (2011) Erickson, Splett, Mullett, & Heiman (2006) Maenpaa & Astedt-Kurki (2008a) Freeman (2011)	Ensuring safety Applying flexible rules within the school Enhancing school staff awareness and education Understanding the family situation	Advocating
Erickson, Splett, Mullett, & Heiman (2006) Maenpaa & Astedt-Kurki (2008a) Freeman (2011)	Supporting the family to care for themselves Enhancing parental resources and linking resources	Empowering parents

Note. AADE = American Association of Diabetes Educators; CDA = Canadian Diabetes Association; NASN = National Association of School Nurses.

The collected data were analyzed according to the inductive approach to qualitative content analysis procedures suggested by Elo and Kyngäs, comprising open coding, coding sheets, grouping, categorization, and abstraction [33]. For data analysis, the researchers read the transcripts repeatedly to find important sentences or phrases, grasped the meaning, and created codes. The codes, subcategories, and categories were developed using the NVivo (Release 1.5.1) [34]. Meaningful units and initial codes were extracted through repetitive line-by-line reading. Similar codes were formulated and grouped into subcategories, and categories

were formed by integrating them. Conflicting opinions were discussed until a consensus was reached.

Analytical phase

After extracting the categories regarding school nurse–parent partnership in school health care for children with T1D in the theoretical phase, the categories at the theoretical level were compared and contrasted with those at the field level. The findings from the theoretical phase were integrated with those from

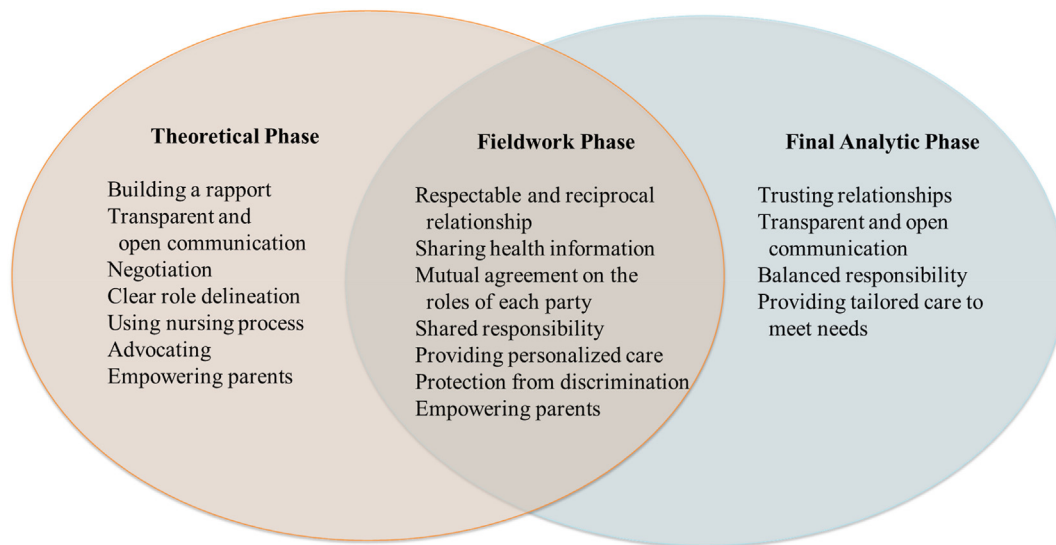


Figure 2. Concept of school nurse–parent partnership in school health care for children with type 1 diabetes.

Table 2 Characteristics of the Participants (N = 42).

Characteristics	Categories	n (%) or M±SD
Mother (n = 22)		
Age (years)		42.77 ± 3.94
Education	High school	5 (22.7)
	Bachelor's degree	11 (50.0)
	≥ Master's degree	6 (27.3)
Employed	No	9 (40.9)
	Yes	13 (59.1)
Child's age (years)		11.00 ± 1.72
Duration of disease onset (months)		36.00 ± 27.30
Child's school type	Public	21 (95.5)
	Private	1 (4.5)
School nurse (n = 20)		
Age (years)		47.60 ± 7.26
Career as school nurse (months)		210.05 ± 109.61
Education	Bachelor's degree	15 (75.0)
	Master's degree	5 (25.0)

fieldwork phase, and the concept regarding school nurse–parent partnership in school health care was expanded, and consequently, the final concept was derived.

Ethical considerations

This study was approved by the Institutional Human Research Board (IRB No. 1041386-202101-HR-75-01). Interviews were conducted after the approval of IRB on qualitative research through interviews with school nurses and mothers (IRB No. DHUMC-D-19001-PRO-01 and DHUMC-D-19002-PRO-01). Participants who voluntarily consented to participate in the qualitative phase through interviews were included.

Rigor

Field notes were taken for rich descriptions. Member checks, peer debriefing, and referential adequacy were conducted for credibility [35]. Credibility, which is equivalent to internal validity in quantitative research, is an evaluation of whether the analyzed results are reasonably derived from the data obtained from the participant and whether the participant's original point of view is accurately interpreted [36]. Member checking includes systematic feedback from participants on data, categories, interpretations, and

research conclusions to reduce the risk of misinterpretation [37]. There was no significantly meaningful change in interpretation and categories by member checking. Peer debriefing is a kind of external evaluation regarding the research process by peer researchers [37].

Results

Theoretical phase

Dictionary definition of partnership

A partnership is defined as a relationship between individuals or groups characterized by mutual cooperation and responsibility to achieve a specific goal [38].

Attributes of partnership from other disciplines

Partnerships have been used in a variety of areas, including business and administration, public service, education, health, and social care. Its dimensions in business and administration include commitment, coordination, interdependence, and trust [39]. In the public service context, the partnership includes sharing power, work, support, and/or information with others in the achievement of joint goals and/or mutual benefit [40]. Partnerships with family have been used extensively in education. Its dimensions include commitment, respect, communication, and professional competence [41]. Staff or families are required to have capacities, such as capabilities (skills and knowledge), connections (networks), cognition (belief, values), and confidence (self-efficacy) [42].

Attributes of partnership in nursing

The nature of partnerships with a client in the health field reflects its attributes in nursing. This relationship has the characteristics of a working alliance [43]. In the health visiting context, attributes include a genuine and trusting relationship, honest and open communication and listening, praise and encouragement, reciprocity, empathy, sharing and respect for the other's expertise, working together with negotiation of goals, plans and boundaries, participation and involvement, support and advocacy, information giving, and enabling choice and equity [44].

Common key attributes of partnership in nursing are information sharing, participation, collaboration, power sharing, and

negotiation [45,46]. Partnership in caring for the accident and emergency environment included three attributes, namely negotiation and equality of care, parents as equal partners, and shifting of care responsibility [47]. Partnership within the relationship between health care providers and patients included eight attributes: shared decision-making, relationship, professional competence, shared knowledge, autonomy, communication, participation, and shared power [46].

Partnerships in children's health care include understanding children's health issues in a family and respecting them as experts [48]. Partnerships with parents include assessing their as well as their children's needs, sharing care with families, encouraging parental involvement, keeping them informed, and respecting, empowering, and collaborating with them [49]. Pediatric nurse–parent partnership included seven attributes—reciprocity, professional knowledge and skills, sensitivity, collaboration, communication, shared information, and cautiousness [26].

Definition of partnership in school health care

Partnership in school health care is intended to form a supportive circle for children in collaboration with health care faculty in schools and the community [50]. It was defined as collaboratively looking for opportunities to teach skills, sharing disease knowledge, and providing support to empower students toward self-management [51]. Kakumanu et al. (2017) defined partnerships in school health care for children with chronic diseases as shaping a child-centered supportive circle, comprising clinicians, school nurses, and families around children with chronic disease [52].

In the theoretical phase of this study, seven attributes were identified: building a rapport, transparent and open communication, negotiation, clear role delineation, using the nursing process, advocating, and empowering parents.

Fieldwork phase

In this phase, primary codes were extracted and grouped into attributes of school nurse–parent partnership in school health care for children with T1D.

Attributes

The extracted attributes were classified into 7 categories, 23 subcategories, and 222 codes (102 of parents and 120 of school nurses). The fieldwork phase analysis results were identified with seven attributes similar to those of the theoretical phase: (1) respectable and reciprocal relationship, (2) sharing health information, (3) mutual agreement on the roles of each party, (4) shared responsibility, (5) providing personalized care, (6) protection from discrimination, and (7) empowering parents.

(1) Respectable and reciprocal relationship

Participants recognized “respectable and reciprocal relationship” as a subcategory of reciprocity, mutual respect, trust, cautiousness, and politeness as important attributes of partnership in school health care. Most parents and school nurses recognized the importance of trust and respect for each other. In particular, it was not an effort by one party, but reciprocal features were emphasized. They said that it was necessary for parents to trust the school nurse as the sole health care professional in school, and for the school nurse to recognize the parent as another expert in the health care area. They also said that the rapport formed through this was a way to make cooperation easier. In this process, they pointed out the importance of each other's cautiousness and respectful attitude.

“The school nurse should respect parents, and it would be inappropriate to teach children's parents.” [school nurse4] “I believe that a little politeness between the school nurse and parents and caution during the introduction are needed.” [parent8] “There's a great difference between saying ‘I'm worried about my child's situation’ and asking, ‘If something happens to my child, will the school nurse take responsibility? Isn't that what they have to do?’” “They must be considerate of each other.” [school nurse13].

(2) Sharing health information

Both parties shared students' health information and opinions to solve students' health conditions. For this, participants had periodic contact between themselves and exchanged information for the child's condition. They recognized that timely contact and regular meetings were needed, rather than frequent meetings or contacts, due to the time limitations of either parents at work or the school nurse. Parents informed the health status of their children to the school nurse in detail so that the school nurse could prepare and respond in advance. The school nurse also informed parents of students' health problems at school so that the parents could receive active treatment at a hospital or discuss any problem with the parents to immediately solve it.

“A connection is needed, whereby we can send and receive short text messages about the child's condition when the child goes to school sick.” [parent9] “When we talk, the school nurse tells me to solve things I did not think of.” [parent17] “I am in touch to see how I can keep this child healthy by sharing opinions.” [school nurse12]

(3) Mutual agreement on the roles of each party

The subcategories of the third attribute, mutual agreement on the roles of each party, included verifying needs and requests, and compromising. It means that the school nurse verifies what kind of demands the parents had from school health care, and the parents also request to learn about the kinds of school health care that they want from the school nurse. In this process, as parents are in the position to request the school nurse for specific roles, and the school nurse is in a position to receive requests from the parents, it is important to find a midpoint between each other's needs so that both the mother's needs and the school nurse's work situation can be considered simultaneously. In other words, while parents should not make unreasonable demands from the school nurse beyond the legal scope, school nurses too should consider the situation of the student's family and try to find ways and means to help parents as much as possible rather than drawing a clear line on parental requests.

“I told the school nurse that I should be able to call you if the pump is clogged, or the machine is malfunctioning.” [parent15] “It would be good to have an in-depth discussion about the child, and the school nurse would like to talk about their position and what school nurse can and cannot do. First, I would request you to help as much as possible regarding childcare.” [parent11] “I think it is right to open up gradually while communicating with the mother because they [mothers and school nurses] have different expectations for each role.” [school nurse3] “We have to find the center point among the needs of the school nurse and parents.” [school nurse5].

(4) Shared responsibility

Shared responsibility includes three subcategories: mutual understanding, shared duties, and working together. It means that school nurses and parents faithfully share responsibility to achieve the common goal of optimal health outcomes for students. For this, parents and school nurses need to know the scope of each other's

roles well and to have agreed role descriptions for specific situations. There is no written agreement on the roles of each, but the roles that each of them plays individually or together are partly subdivided.

"The school nurse works with me to adjust the insulin amount to match the child's blood sugar." [parent3] "First, I think we should know each other well... about the extent of demands and how the school nurse can help." [parent8] "We need to properly determine what we can do together and individually." [school nurse12].

(5) Providing personalized care

This refers to taking an interest in students' health care and providing supportive care and includes providing personalized care to meet the students' individual needs. The attributes are educating and strengthening students' self-care, counseling and psychological care, providing nursing interventions, and parental participation in care. Both parents and school nurses said that it was necessary to educate students so that they can take care of themselves from an early age. In addition, parents and school nurses each perform their own negotiated tasks; the school nurse performs health care for children with chronic diseases in addition to basic tasks, and parents participated in school health care as the school nurse could not fulfill the tasks of their own volition.

"We need to work with the school nurse and parents to make the child independent." [school nurse16] "This should be tailored to the child's characteristics." [parent10] "I tried to apply the nebulizer because of the difficulties of peer problems other than the health of the child." [school nurse18] "These things cheer up the child. First, I can take good care of their physical health: Although I do not want the school nurse to do a great deal, I want them to provide the best possible care and psychological support." [parent9].

(6) Protection from discrimination

This category is to protect a student's illness from becoming a weakness and help the student be considered a regular student by school staff and peers. Parents want their children to experience a normal school life without discrimination through effective disease management rather than receiving special treatment at school. The participants recognized the need to protect privacy so that the child's disease does not become a weakness at school, to consider the students for effective disease management, and to give the child as much attention as desired.

"I think school nurse should protect children's own rules." [school nurse20] "I'm just trying to be a guard on the kid so she won't be withdrawn in school." [parent3] "I think it's a concern for a child who needs care." [school nurse6] "I hope school nurses would raise awareness about diseases among their peers." [parent13] "I made it easy for my child to rest in the health room and then go back to the classroom." [school nurse3].

(7) Empowering parents

Participants state that supporting parents and linking them with the resources they need is important. They believed it was important to advocate for parents with relevant resources. Some school nurses perceived cooperation with parents as providing a counseling program for parents to resolve their psychological distress or introducing financial support through national funding programs.

"The school nurse told me about the funding project supported by the government." [parent2] "I am working on paperwork to ensure that the child can receive medical help." [school nurse6].

Final analytical phase

The school nurse–parent partnership in school health care for T1D was analyzed in the final analytical phase. In this, attributes were confirmed by a comparative analysis of the theoretical phase results and fieldwork phase results.

School nurse–parent partnership in school health care for children with T1D has been defined as an interactive process of maintaining a balanced responsibility and providing tailored care to meet needs by establishing trusting relationships and communicating transparently and openly.

The four attributes of school nurse–parent partnership in school health care for T1D are as follows: (1) trusting relationships: this refers to establishing mutually trusting and respectful relationships between the school nurse and parents, (2) transparent and open communication: this means communicating openly and consistently to share and solve students' health problems, (3) balanced responsibility: this means compromising each other's needs, sharing roles, and working together to pursue a common goal, and (4) providing tailored cares to meet needs: this means providing nursing actions through advocating students and performing a negotiated role together or individually for student and family.

Discussion

The purpose of this concept analysis was to analyze the school nurse–parent partnership in school health care for T1D using the hybrid model. In this study, four attributes (trusting relationship, transparent and open communication, balanced responsibility, and providing tailored care to meet needs) of this partnership were derived. Previous literature regarding partnership in school health care related to asthma found the attributes of forming supportive relationships and communication, which were similar to those found in this study; however, attributes like implementation according to an action plan and assessment of asthma-triggering factors differed from this study [52].

In a previous concept synthesis regarding FCC and partnership in care for children with chronic disease, the domains were similar to this study and included the following: valuing parents' expertise and knowledge about their child; forming a trusting relationship with the child and family; and facilitating the child and family to participate in care delivery through negotiation, empowerment, and shared goal setting [53]. However, the differences between attributes in this synthesis and the current study is that the provision of specific services in FCC, such as providing support to patients and families, providing special knowledge to parents, facilitating parental involvement, and involving parents in care rounds, participation in care, and specific roles [27,53,54], is more pronounced. The attributes extracted in this study had a larger emphasis on the reciprocity, such as "mutual exchange of information" and "mutual agreement," of partnership than those of FCC [53]. As T1D often affects children from early childhood [55,56], the participants perceived that parents were already experts in their child's care; hence, the provision of special knowledge by school nurses or the dependence on the school nurse for specific care may have been found to a lesser extent in this study.

Relationship is an attribute that accounts for the largest proportion of partnership attributes [46]. In the present study,

establishing a trusting relationship is similar to reciprocity [26] and relationship [57] derived as an attribute in other conceptual analysis studies on partnership. This means that parents and school nurses have mutual respect and trust to achieve a common goal. Respect has been recognized as an attribute of FCC for children with chronic disease, a counterparty to valued contributors. Trust to support children's interests is another attribute of FCC [58]. Establishing trusting relationships is a theme to facilitate in a challenging context for youth with T1D [59]. Building rapport, developing trust, and increasing familiarity are needed to facilitate communication with children when there is low utilization of school-based health services [60]. Parents and school nurses emphasized reciprocity in mutual collaboration [61].

Communication is an attribute equally mentioned in the extant literature [26,46]. Communication between parents and school personnel is essential for establishing individualized care plans in school health care for students with T1D [62]. When a child has a specific health problem, parents sometimes hide the disease [63]. Therefore, honest and open communication has been emphasized in the literature [64,65], and "open" has been included as it becomes a channel through which information is regularly exchanged in this study. Specifically, parents, school nurses, and primary care providers (PCP) should cooperate in school health care for chronic diseases [66]. However, if PCPs have not been involved in school health care, it may be important to closely communicate and cooperate with parents and school nurses for decision-making to solve children's health problems. It is necessary for the school nurse and parents to set a common goal that can bring the most desirable results to students [67,68]. Moreover, school nurses can bridge the gap as a stepping stone through communication between teachers, students, and parents and can mediate relational conflicts among them.

Partnership between parents and pediatric nurses in hospitals did not have attributes, such as negotiation or shared responsibility, because the given responsibilities of staff nurses were clear, and nurses would not feel like sharing their assigned roles [26]. Balanced responsibility was a unique concept in partnership for school health care with unclear responsibilities. Compared with another conceptual analysis study in partnership between staff and family in a long-term care facility, it is similar to the inclusion of negotiation and shared responsibility [57]. Role negotiation is a tenet concept for partnership between health professionals and the family in child health nursing [69]. Parents with knowledge and experience of chronic disease could negotiate appropriate support to achieve collaborative care [70]; participants in this study also seemed to seek balanced roles in school health care through effective communication. Effective negotiation needs a clear delineation of roles and mutual agreement of participation in care [71]. In the USA, a care or action plan in school is written in collaboration with the parent and the school, and is based on, and consistent with, the written school-based medical management plan [72]. This is also related to clear role delineation and is distinguished from the attributes of other partnerships by understanding the responsibilities of the role according to consensus. However, in cases where there are no legal standards or guidelines for the scope of practice, such as injections and blood sugar tests, although parents make such requests, school nurses either accept or reject them. When both demands did not find a balance or a midpoint, the subjects eventually perceived a lack of cooperation, and either the school nurse or parents, mostly mothers, had no choice but to take care of the child. Hence, these problems resulted in parental dissatisfaction with school health care as a consequence in the analysis of this study. Conversely, the consequences also revealed that mothers who found a compromise and shared duties with the school nurse expressed satisfaction with the school health

care. Regarding a school health environment where there is no action plan for institutional reasons, specifying and documenting role responsibilities may help improve the partnership.

The final attribute is providing tailored care to meet needs. For the students' optimal health outcomes, it means providing care that meets the needs of students by planning or teaching skills to perform self-care, performing negotiated roles, and advocating for students. This includes what a school health professional implements according to an action plan for a child with diabetes [52]. In the USA, school nurses are responsible for coordinating and overseeing medical management and safety during school hours and all school-sponsored activities [72]. They play an important role, including direct care such as testing and medication administration, education for stakeholders, and organization of care for children with chronic disease [73]. The scope of direct practice of school nurse could be limited because of legal limitations and the absence of a similar action plan [24]. The administration of medication and blood sugar testing depended heavily on parental care in this study, which is similar to the literature from some countries [14,74]. To supplement this, school nurses in this study particularly emphasized the cooperative role of self-care for children. Supporting students' self-care is an important attribute of partnership on the trajectory to self-management, which includes teaching skills, sharing knowledge, and providing support to empower students on the trajectory of self-management [14,51]. In advocating, mothers in this study wanted them to participate in school activities like other children without discrimination and socialize with their peers without isolation rather than receiving extra special school services. They also wanted to be a pioneer in peer education and awareness improvement by school nurses so that their children's diseases would not be stigmatized. This finding is consistent with that of parents of children with T1D perceiving stigma surrounding T1D [75] and adolescents with T1D perceiving stigma of varying severity as a social barrier for self-care [76] in other studies. In this context, the school nurse should continuously strive for knowledge and skills for the well-being of students by providing tailored care and playing the role of an advocate.

The implications of this study are as follows: first, the attributes identified through this study can be linked to further nursing research, including scale development, and contribute to the development of practical theory [29]. Second, nursing intervention can be developed to promote partnership in school health care for school nurses and parents based on these attributes in the nursing education area. Third, a scale based on this concept can contribute to further quantitative research on the effect of the level of partnership between school nurses and parents with children with chronic diseases on the perception of school nurse, students' health outcomes, school nurse-to-student ratios, and parental satisfaction in school health care, which can contribute to the policy development of school health care. This study has some limitations. The participants' interviews in the qualitative study were conducted in one country. Moreover, interviewees in the field phase were limited to mothers of children with T1D among chronic diseases. Therefore, it is necessary to compare the results of studies conducted in various countries with those of parents of children with various chronic diseases.

Conclusion

The partnership between school nurses and parents is a prerequisite for providing high-quality school health care to students with T1D. However, there is limited understanding of the school health care setting because of the multidimensional properties of the concept and the diversity of the contexts in which the concept is used. The concept analysis in this study highlights the importance

of trusting relationships, transparent and open communication, balanced responsibility, and providing tailored care to meet needs in partnership with the school nurse and parent. Based on the definition and attributes of school nurse–parent partnership identified through the results, it can be used as basic data for future scale development and various intervention programs for school nurses and parents.

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Ethics approval

This study was approved by the Institutional Review Board at the Pukyong National University (1041386-202101-HR-75-01).

Consent to participate

Written informed consent was obtained from the participants.

Data availability

The datasets analyzed during the current study are not publicly available due to ethical restrictions but are available from the corresponding author on reasonable request.

Conflict of interest

There are no conflicts of interest to declare.

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References

- Child and Adolescent Health Measurement Initiative [CAHMI]. National survey of children's health (NSCH) data query. 2019. [cited 2021 October 03] Available from: www.childhealthdata.org
- National Association of School Nurses [NASN]. Diabetes management in the school setting (Position Statement). In: Nurses NAOs. February 2017. Silver Spring, MD: National Association of School Nurses; 2016. [cited 2021 October 03] Available from: <https://www.nasn.org/nasn/advocacy/professional-practice-documents/position-statements/ps-diabetes>
- Willgerodt M, Johnson KH, Helmer C. Enhancing care coordination for students with type 1 diabetes. *J Sch Health*. 2020;90(8):651–7. <https://doi.org/10.1111/josh.12912>
- Lewallen TC, Hunt H, Potts-Datema W, Zaza S, Giles W. The Whole School, Whole Community, Whole Child model: a new approach for improving educational attainment and healthy development for students. *J Sch Health*. 2015;85(11):729–39. <https://doi.org/10.1111/josh.12310>
- Best NC, Nichols AO, Oppewal S, et al. An appraisal of school nurse health services and programs in North Carolina public schools, 2006–2016. *J Sch Health*. 2021;37(3):146–56. <https://doi.org/10.1177/1059840519899439>
- March CA, Nanni M, Kazmerski TM, Siminerio LM, Miller E, Libman IM. Modern diabetes devices in the school setting: perspectives from school nurses. *Pediatr Diabetes*. 2020;21(5):832–40. <https://doi.org/10.1111/peidi.13015>
- Wilt L. The relationships among school nurse to student ratios, self-efficacy, and glycemic control in adolescents with type 1 diabetes. *J Sch Health*. 2021;37(4):230–40. <https://doi.org/10.1177/1059840519870314>
- Lawrence JM, Divers J, Isom S, et al. Trends in prevalence of type 1 and type 2 diabetes in children and adolescents in the US, 2001–2017. *JAMA*. 2021;326(8):717–27. <https://doi.org/10.1111/josh.12310>
- Uhm JY, Choi MY. Barriers to and facilitators of school health care for students with chronic disease as perceived by their parents: a mixed systematic review. *Healthcare (Basel, Switzerland)*. 2020;8(4). <https://doi.org/10.3390/healthcare8040506>
- Edwards A, Street C, Rix K. In: NCs Bureau, editor. *Nursing in schools: how school nurses support pupils with long-term health condition*. London, UK: National Children's Bureau; 2016.
- Uhm JY, Kim MS. Predicting quality of life among mothers in an online health community for children with type 1 diabetes. *Children*. 2020;7(11). <https://doi.org/10.3390/children7110235>
- Nieuwesteeg A, Hartman E, Emons W, et al. Paediatric parenting stress in fathers and mothers of young children with Type 1 diabetes: a longitudinal study. *Diabet Med*. 2017;34(6):821–7. <https://doi.org/10.1111/dme.13300>
- Haugstvedt A, Wentzel-Larsen T, Rokne B, Graue M. Perceived family burden and emotional distress: similarities and differences between mothers and fathers of children with type 1 diabetes in a population-based study. *Pediatr Diabetes*. 2011;12(2):107–14. <https://doi.org/10.5172/conu.2012.40.2.258>
- McCollum DC, Mason O, Codd MB, O'Grady MJ. Management of type 1 diabetes in primary schools in Ireland: a cross-sectional survey. *Ir J Med Sci*. 2019;188(3):835–41. <https://doi.org/10.1007/s11845-018-1942-7>
- Tomé Pérez Y, Barroso Martínez V, Félix-Redondo FJ, Tobajas Belvis L, Córdón Arroyo AM. Needs of schoolchildren with type 1 diabetes in Extremadura: family perceptions. *An Pediatr*. 2019;90(3):173–9. <https://doi.org/10.1016/j.anpedi.2018.07.003>
- Ottosson AB, Akesson K, Ilvered R, Forsander G, Sarnblad S. Self-care management of type 1 diabetes has improved in Swedish schools according to children and adolescents. *Acta Paediatr*. 2017;106(12):1987–93. <https://doi.org/10.1111/apa.13949>
- ALBashtawy M, Batiha A-M, Tawalbeh L, Tubaishat A, AlAzzam M. Self-medication among school students. *J Sch Health*. 2015;31(2):110–6. <https://doi.org/10.1177/1059840514554837>
- Baker D, Anderson L, Johnson J. Building student and family-centered care coordination through ongoing delivery system design. *NASchool nurse Sch Nurse*. 2017;32(1):42–9. <https://doi.org/10.1177/1942602X16654171>
- National Association of School Nurses [NASchool nurse]. Framework for 21st century school nursing practice: national association of school nurses. *NASchool nurse Sch Nurse*. 2016;31(1):45–53. <https://doi.org/10.1177/1942602X15618644>
- Bullard JS, McAlister BS, Chilton JM. COVID-19: planning and postpandemic partnerships. *NASchool nurse Sch Nurse*; 2020. <https://doi.org/10.1177/1942602x20962213>. 1942602x20962213. 1942602x20962213.
- CDC. Health and academics [cited 2021 October 03] Available from: https://www.cdc.gov/healthyschools/health_and_academics/index.htm
- Isik E, Fredland NM. Nursing care coordination for chronic diseases in schools: a concept analysis. *Acta Sci Paediatr*. 2019;2(10):2–7. <https://doi.org/10.31080/ASPE.2019.02.0138>
- American Academy of Pediatrics. Patient- and family-centered care coordination: a framework for integrating care for children and youth across multiple systems. *Pediatrics*. 2014;133(5):e1451–60. <https://doi.org/10.1542/peds.2014-0318>
- Uhm JY, Choi MY, Lee H. School nurses' perceptions regarding barriers and facilitators in caring for children with chronic diseases in school settings: a mixed studies review. *Nurs Health Sci*. 2020;22(4):868–80. <https://doi.org/10.1111/nhs.12786>
- Smith LB, Terry A, Bollepalli S, Rechenberg K. School-based management of pediatric type 1 diabetes: recommendations, advances, and gaps in knowledge. *Curr Diabetes Rep*. 2019;19(7):37. <https://doi.org/10.1016/j.pedn.2018.06.014>
- Choi MY, Bang KS. [Development and testing of a pediatric nurse parent partnership scale]. *J Korean Acad Nurs*. 2013;43(2):194–202. <https://doi.org/10.4040/jkan.2013.43.2.194>
- Hill C, Knafel KA, Santacroce SJ. Family-centered care from the perspective of parents of children cared for in a pediatric intensive care unit: an integrative review. *J Pediatr Nurs*. Nov 16 2018. <https://doi.org/10.1016/j.pedn.2017.11.007>
- O'Connor S, Brenner M, Coyne I. Family-centred care of children and young people in the acute hospital setting: a concept analysis. *J Clin Nurs*. 2019;28(17-18):3353–67. <https://doi.org/10.1111/jocn.14913>
- McEwen M, Wills EM. *Concept development: clarifying meaning of terms*. 4th ed. Philadelphia: Lippincott Williams & Wilkins; 2014.
- Schwartz-Barcott D, Kim HS. An expansion and elaboration of the hybrid model in nursing. Philadelphia: W.B. Saunders; 2000.
- Saunders B, Sim J, Kingstone T, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Qual Quantity*. 2018;52(4):1893–907. <https://doi.org/10.1007/s11135-017-0574-8>
- Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today*. 2004;24(2):105–12. <https://doi.org/10.1016/j.nedt.2003.10.001>
- Elo S, Kyngäs H. The qualitative content analysis process. *J Adv Nurs*. 2008;62(1):107–15. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
- NVivo (release 1.5.1). QRS international. 2020 [cited 2020 Jan 15] Available from.
- Lincoln YS, Guba EG. *Naturalistic inquiry*. Newbury Park: Sage; 1985.
- Korstjens I, Moser A, Series: practical guidance to qualitative research. Part 4: trustworthiness and publishing. *Eur J Gen Pract*. Dec 2018;24(1):120–4. <https://doi.org/10.1080/13814788.2017.1375092>
- Lub V. Validity in qualitative evaluation: linking purposes, paradigms, and perspectives. *Int J Qual Methods*. 2015;14(5):1–8.
- American Heritage Dictionary [cited 2022 August 10] Available from: <https://www.ahdictionary.com/word/search.html?q=partnership>

39. Mohr J, Spekman R. Characteristics of partnership success: partnership attributes, communication behavior, and conflict resolution techniques. *Strat Manag J*. 1994;15(2):135–52. <https://doi.org/10.1002/smj.4250150205>
40. Kernaghan K. Partnership and public administration: conceptual and practical considerations. *Can Publ Adm*. 1993;36(1):57–76. <https://doi.org/10.1111/j.1754-7121.1993.tb02166.x>
41. Haines SJ, Gross JMS, Blue-Banning M, Francis GL, Turnbull AP. Fostering family–school and community–school partnerships in inclusive schools: using practice as a guide. *Res Pract Persons Severe Disabil*. 2015;40(3):227–39. <https://doi.org/10.1177/1540796915594141>
42. Mapp KL, Kuttner PJ. Partners in education: a dual capacity-building framework for family–school partnerships. U.S. Department of Education; 2013.
43. Bidmead C, Davis H, Day C. Partnership working: what does it really mean? *Community Pract*. 2002;75(7):256–9.
44. Bidmead C, Cowley S. A concept analysis of partnership with clients. *Community Pract*. 2005;78(6):203–8.
45. Gallant MH, Beaulieu MC, Carnevale FA. Partnership: an analysis of the concept within the nurse–client relationship. *J Adv Nurs*. 2002;40(2):149–57. <https://doi.org/10.1046/j.1365-2648.2002.02357.x>
46. Hook ML. Partnering with patients—a concept ready for action. *J Adv Nurs*. 2006;56(2):133–43. <https://doi.org/10.1111/j.1365-2648.2006.03993.x>
47. Lee P. Partnership in care: a critical exploration of how this may be applied to children attending the Accident and Emergency department. *Accid Emerg Nurs*. 1999;7(2):119–23.
48. Casey A. A partnership with child and family. *Sr Nurse*. 1988;8(4):8–9.
49. Coyne I, O'Neill C, Murphy M, Costello T, O'Shea R. What does family-centred care mean to nurses and how do they think it could be enhanced in practice. *J Adv Nurs*. 2011;67(12):2561–73. <https://doi.org/10.1111/j.1365-2648.2011.05768.x>
50. Bobo N, Maughan ED, Carr D, Tillman A. School nurse-led care coordination: proceedings from the national strategy to action roundtable. *NAschool nurse Sch Nurse*. 2019;34(4):229–34. <https://doi.org/10.1177/1942602x19825617>
51. Jackson CC, Albanese-O'Neill A. Supporting the student's graduated independence in diabetes care. *NAschool nurse Sch Nurse*. 2016;31(4):202–4. <https://doi.org/10.1177/1942602x16651749>
52. Kakumanu S, Antos N, Szeffler SJ, Lemanske Jr RF. Building school health partnerships to improve pediatric asthma care: the school-based asthma management program. *Curr Opin Allergy Clin Immunol*. 2017;17(2):160–6. <https://doi.org/10.1097/aci.0000000000000347>
53. Smith J, Swallow V, Coyne I. Involving parents in managing their child's long-term condition—a concept synthesis of family-centered care and partnership-in-care. *J Pediatr Nurs*. 2015;30(1):143–59. <https://doi.org/10.1016/j.pedn.2014.10.014>
54. Smith W. Concept analysis of family-centered care of hospitalized pediatric patients. *J Pediatr Nurs*. 2018;42:57–64. <https://doi.org/10.1016/j.pedn.2018.06.014>
55. Chae HW, Seo GH, Song K, et al. Incidence and prevalence of type 1 diabetes mellitus among Korean children and adolescents between 2007 and 2017: an epidemiologic study based on a national database. *Diabetes Metab J*. 2020;44(6):866–74. <https://doi.org/10.4093/dmj.2020.0212>
56. Krischer JP, Liu X, Lernmark Å, et al. Characteristics of children diagnosed with type 1 diabetes before vs after 6 years of age in the TEDDY cohort study. *Diabetologia*. 2021;64(10):2247–57. <https://doi.org/10.1007/s00125-021-05514-3>
57. Jang HY. Partnership between staff and family in long-term care facility: a hybrid concept analysis. *Int J Qual Stud Health Well-Being*. 2020;15(1):1801179. <https://doi.org/10.1080/17482631.2020.1801179>
58. Kennedy AP. Systematic ethnography of school-age children with bleeding disorders and other chronic illnesses: exploring children's perceptions of partnership roles in family-centred care of their chronic illness. *Child Care Health Dev*. 2012;38(6):863–9. <https://doi.org/10.1111/j.1365-2214.2011.01310.x>
59. Holmström MR, Häggström M, Söderberg S. Being facilitators in a challenging context—school personnel's experiences of caring for youth with diabetes type 1. *J Pediatr Nurs*. 2018;43:e114–9. <https://doi.org/10.1016/j.pedn.2018.08.007>
60. Hutchinson L, John WS. Creating connections: strategies to improve adolescent boys' access and engagement with school-based health services. *Contemp Nurse*. 2012;40(2):258–68. <https://doi.org/10.5172/conu.2012.40.2.258>
61. Thorstensson S, Fröden M, Vikström V, Andersson S. Swedish school nurses' experiences in supporting students with type 1 diabetes in their school environment. *Nord J Nurs Res*. 2016;36(3):142–7. <https://doi.org/10.1177/0107408315615020>
62. Kise SS, Hopkins A, Burke S. Improving school experiences for adolescents with type 1 diabetes. *J Sch Health*. 2017;87(5):363–75. <https://doi.org/10.1111/josh.12507>
63. Benson A, O'Toole S, Lambert V, Gallagher P, Shahwan A, Austin JK. To tell or not to tell: a systematic review of the disclosure practices of children living with epilepsy and their parents. *Epilepsy Behav*. 2015;51:73–95. <https://doi.org/10.1016/j.yebeh.2015.07.013>
64. Davis H, Meltzer L. Working in Partnership through Early Support: distance learning text: working with parents in partnership (book chapter). Department of Education; July, 03, 2012 [cited 2020 Jan 15] Available from: <http://dera.ioe.ac.uk/id/eprint/1928>
65. Terry D, Trott K. A qualitative analysis of school nurses' experience caring for students with psychogenic nonepileptic events. *J Sch Nurs*. 2021;37(6):441–8. <https://doi.org/10.1177/1059840519889395>
66. Slas E, Nguyen Y, McIltrout K. Communication between schools nurses and health care providers on students with asthma: an integrative review. *J Sch Nurs*. 2022;38(1):48–60. <https://doi.org/10.1177/10598405211045693>
67. McClanahan R, Weismuller PC. School nurses and care coordination for children with complex needs: an integrative review. *J Sch Nurs*. 2015;31(1):34–43. <https://doi.org/10.1177/1059840514550484>
68. Klein NJ, Evans-Agnew R. Flying by the seat of their pants: a grounded theory of school nurse case management. *J Adv Nurs*. 2019;75(12):3677–88. <https://doi.org/10.1111/jan.14204>
69. Corlett J, Twycross A. Negotiation of parental roles within family-centred care: a review of the research. *J Clin Nurs*. 2006;15(10):1308–16. <https://doi.org/10.1111/j.1365-2702.2006.01407.x>
70. Smith J, Kendal S. Parents' and health professionals' views of collaboration in the management of childhood long-term conditions. *J Pediatr Nurs*. 2018;43:36–44. <https://doi.org/10.1016/j.pedn.2018.08.011>
71. Sousa P, Antunes A, Carvalho J, Casey A. Parental perspectives on negotiation of their child's care in hospital. *Nurs Child Young People*. 2013;25(2):24–8. <https://doi.org/10.7748/ncyp.2013.03.25.2.24.e142>
72. AADE. Management of children with diabetes in the school setting. *Diabetes Educat*. 2016;45(1):54–9.
73. Stefanowicz A, Stefanowicz J. The role of a school nurse in the care of a child with diabetes mellitus type 1 - the perspectives of patients and their parents: literature review. *Zdr Varst*. 2018;57(3):166–74.
74. Alaqeel AA. Are children and adolescents with type 1 diabetes in Saudi Arabia safe at school? *Saudi Med J*. 2019;40(10):1019–26. <https://doi.org/10.15537/smj.2019.10.24582>
75. Haegele JA, Holland SK, Hill E. Understanding parents' experiences with children with type 1 diabetes: a qualitative inquiry. *Int J Environ Res Publ Health*. 2022;19(1). <https://doi.org/10.3390/ijerph19010554>
76. Montali L, Zulato E, Cornara M, Ausili D, Luciani M. Barriers and facilitators of type 1 diabetes self-care in adolescents and young adults. *J Pediatr Nurs*. 2022;62:136–43. <https://doi.org/10.1016/j.pedn.2021.09.014>