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Experiences of Health Care Practitioners in caring for children with overweight and obesity

Literature Review

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Abstract

Childhood obesity has reached epidemic levels in both developed and developing countries. Overweight and obesity in childhood have a significant effect on both physical and mental health. Children's weight management result in child's well-being and healthy adulthood. The changes take place slowly and with minor lifestyle changes throughout the family.

The aim of the research is to explore experiences of Healthcare Practitioners in caring for children with overweight and obesity based on existing literature. The purpose of the study is to suggest ways to improve the quality of care in pediatric overweight and obesity based on the research outcomes.

This study was conducted as a literature review. Articles were obtained from CINAHL (Ebsco), Cochrane Library, Pubmed and Google Scholar.

Analysis and review of the relevant literature articles selected for this study resulted in four main thematic concerns; Jumping hurdles(barriers), facilitators, dilemmas and requisites.

Keywords/tags (Subjects)

Childhood, obesity, overweight, nurses' experiences, healthcare practitioners.

Miscellaneous

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1. INTRODUCTION

Childhood obesity is one of the biggest challenges for public health in the 21st century. According to World Health Organization (WHO), statistics show that the number of overweight and obese infants and young children (aged 0 to 5 years) has risen from 32 million globally in 1990 to 42 million in 2013. In the WHO African Region alone, the number of overweight or obese children increased from 4 to 9 million over the same period. (WHO, 2016.) The rate of youngsters aged 6–11 years in the United States who were obese expanded from 7% in 1980 to about 18% in 2012. In 2012, more than 33% of kids and youths were overweight or obese. If current trends continue the number of overweight or obese infants and young children globally will increase to 70 million by 2025. These perceptions confirm the requirement of essential interventions commencing as early as infancy to reverse anticipated trends. (Onis, Monika, & Borghi 2010.)

According to the Child Obesity Foundation (COF) (2015), obesity-related medical comorbidities such as hypertension, obstructive sleep apnoea and type-2 diabetes, are increasingly prevalent among children with overweight and obesity. Gilles (2006) states that paediatric obesity increases the chances for adult morbidity and premature mortality. Additionally, the weight status of overweight and obese children has been known to jeopardize their psychosocial health, thus negatively impacting their quality of life (Nelson, Vos, Walsh, & O'Brien 2015).

Health care practitioners are positioned to play a central and vital role in the successful implementation of paediatric overweight and obesity care process; with key components

involving identification, diagnosis and risk classification, care plan and treatment, and follow-up care (Larsen, Ledderer, & Jarbol 2015). In this study, we will explore the experiences of health care practitioners in paediatric practice caring for children with overweight and obesity based on existing literature. The purpose of this study is to suggest ways to improve the quality of care in paediatric overweight and obesity based on the research outcomes. Throughout this study, the term 'health care practitioner' is used to refer to skilled professionals (paediatricians, nurses, physician assistant) involved in paediatric care, regardless of their location base (community, school, hospital) or nature of practice (general, specialized).

2. OVERWEIGHT AND OBESITY IN CHILDREN

2.1 Definition and Terminology

World Health Organization states that overweight and obesity are an abnormal or excessive accumulation of body fat that can harm human health (WHO, 2019). Adiposity is defined by the medical Dictionary for the Health Profession and Nursing (Farlex, 2012), as the state of containing fat or the excessive accumulation of lipids in a site or organ.

Body Mass Index (BMI) is a simple measure of weight in relation to the size commonly used to estimate overweight and obesity. It is the weight divided by the square of the size expressed in kg/m2 (WHO,2016). Adipose tissue stores have been shown to vary due to occurring changes in physical growth and as based on an individual's sex status. With BMI having a correlation with direct measures of adiposity, BMI charts are specific for age and gender. (Hassink 2014, 7.) The American Centres for Disease Control and Prevention (CDC), states that an individual's weight is classified in accordance to their relating BMI percentile score, as illustrated on Table 1 below.

BMI	Classification
<5%	Underweight
5%-85%	Normal weight
85%-95%	Overweight
>95%	Obese

Table 1. Classification of Weight Status by Body Mass Index (BMI)

2.2 Causes of obesity

Overweight and obesity of a child is mainly explained by an increase in poor nutrition intake and a decrease in physical activity (Onis, Monika, & Borghi 2010). It is a consequence of an energy imbalance whereby caloric intake is superior to caloric output of the body. Recent epidemiological trends indicate that the primary cause in global obesity lies mainly in environmental factors and behavioural changes. An increase in adipose fat proportions and energy density in diet, along with a reduced physical activity, is considered to be the main contributor to the rise in average body weight among populations. (WHO 2000, 101.)

2.2.1 Lifestyle Preference and Media Marketing

Sedentary lifestyle is one of the main factors associated with child obesity (Sahoo, K., Sahoo, B., Choudhury, Sofi, Kumar & Bhadoria 2015). Such activities include excessive TV watching, computer use and video gaming (Galson K. 2008). An increased preference in sedentary behaviour engagement has drastically decreased the amount of physical activities among children and teens, consequently increasing the risk of obesity development (Sahoo, K. et al. 2015).

Additionally, media marketing on TV and social media platforms directly correlate with dietary choices (Sahoo, K. et al. 2015). Parents recommend that children's favourite characters could encourage a healthier option to fast food, and advertising could be used to alarm parents about the danger of their children being overweight (Pocock, Trivedi, Wills, Bunn & Magnusson 2009).

2.2.2 Dietary Factors

The macronutrient content of a diet, its energy density, portion size and sugar-sweetened beverages have been determined to be important contributors to the increased obesity trends. Binge eating/drinking of high caloric meals with lower nutritional values encourages energy imbalance consequently resulting in weight gain. (Brehm et al. 2014; Sahoo K. et al. 2015.)

2.2.3 Environmental Factors

The contemporary obesogenic environment has enabled weight gain with increased availability of convenient energy rich foods and less demands for physical activities. A rise in technology, automation, motorized transportation and sedentary occupations equally contributes to a low energy-demanding lifestyle (Brehm et al. 2014).

Safe environments and opportunities to participate in physical activities have decreased in the recent years. A study conducted in 2002 showed that unlike previous years where children would walk or bike to school, 53% of parents drive their children to and from school. (Sahoo K. et al, 2015). In pre-birth, foetal stressors, maternal diet deprivation and smoking have shown to increase the window for obesity vulnerability in the future (Trasande, Cronk, Durkin, Weiss, Schoeller, Gall, Hewitt, Carrel, Landrigan & Gillman, 2009).

In addition, studies have shown that the risks of overweight seem to be increased in children who do not get enough sleep (Knutson 2012.) Indeed, lack of rest produces less of appetite suppressant hormone (leptin) and increase the level of appetite stimulant hormone (Elaine 2016).

2.2.4 Socio-cultural Factors

According to Agne, Daubert, Munoz, Scarinci and Cherrington (2012), culture is understood to add to disparities in childhood obesity in various avenues. Primarily, body image growth follows in a cultural environment, and ethnic/cultural groups differ in their mutual considerations as to treasured and disvalued body image. For example, supposed best body size for African American females is considerably bigger than that of white females, and African American men are supplementary likely than non-Hispanic white men to prompt favourite for bigger body mass in females. Assuming that women naturally undertake major accountability intended for the upkeep, nursing, and teaching of children, comprising the communication of communal cultural understandings, the beliefs that women hold by means of esteem to their personal body image have effects for their opinion of and reaction to the body image of their children. This form might contrast by culture. For example, non-Hispanic white mothers' eating limit or their opinions of their daughter' possibility of overweight can have a great impact on their young daughters' weight and dieting activities. (Caprio, Daniels, Drewnowski, Kaufman, Palinkas, Rosenbloom, & Schwimmer 2008.)

Again, culture can impact on the insight of risk related with obesity. Educations of Latinos have start that a lot of mothers of obese kids consider their kid to be healthy and are unworried about their child's heaviness, even though these same parents are prospective to consider that overweight children in overall must be engaged to a nutritionist or doctor intended for assistance through weight lessening. Between African American parents, there is bigger mindfulness of acute health situations than of obesity. A revision set up that equally obese African American girls and their female caregivers stayed ignorant of

the possible health concerns connected through their contemporary body mass. (Caprio et al. 2008.)

2.3 Risks factors for the development of paediatric overweight and obesity

As stated in multiple study articles, obesity is a consequence of the imbalance in caloric intake and output levels. Vos & Welsh (2011) translate obesity as the inability to self-regulate this homeostatic process of obtaining a stable equilibrium between caloric intake and output. Predisposing factors often jeopardizes this innate ability to match intake levels to energy needs. Table 2 below describes these major predisposing factors to paediatric obesity and their sub-components.

Maternal and Foetal Factors	**Gestational diabetes**
	Macrosomia >4000grms
	Formula feeding
Environmental Factors	Race
	Single-mother households
	Lower socio-economic status
	Uneducated parents
	Lack of cognitive stimulations at home
	Lack of consistent availability of a nutritious diet
Genetic Factors	70% chance that children will be obese if both parents are obese.
	50%chance of child obesity if one parent is obese
	10%chance of child obesity if none of the parents is obese
Congenital Disorders	Alstrome syndrome

	Carpenter syndrome
	Cohen syndrome
	Laurence-Moon syndrome
	Prader-Willi syndrome
	Turner syndrome
Endocrine Disorders	Cushing syndrome
	Thyroid or growth hormone deficiency
	Polycystic ovary (Stein-Lenventhal) syndrome

Table 2. Risk factors for the development of paediatric obesity. Adapted from Gilles P. (2006)

2.4 Medical complications associated with childhood obesity

Childhood obesity is associated with the risk of developing medical comorbidities at an early age. As illustrated on Figure 1, associated medical complications could potentially affect multiple body systems causing medical complications. According to American Centres for Disease Control and Prevention (CDC) (2016), the severity of obesity and health risk factors increases in adulthood. (Baker, Olsen, & Sørensen 2007.) More precisely, it is estimated that 69% of children between ages 6 to 10 with obesity and a BMI of above the 95th percentile, will continue to be obese into adulthood, with chances increasing to 80% if either parent is obese. (Pietrobelli 2010, 18; Debasis 2010.)

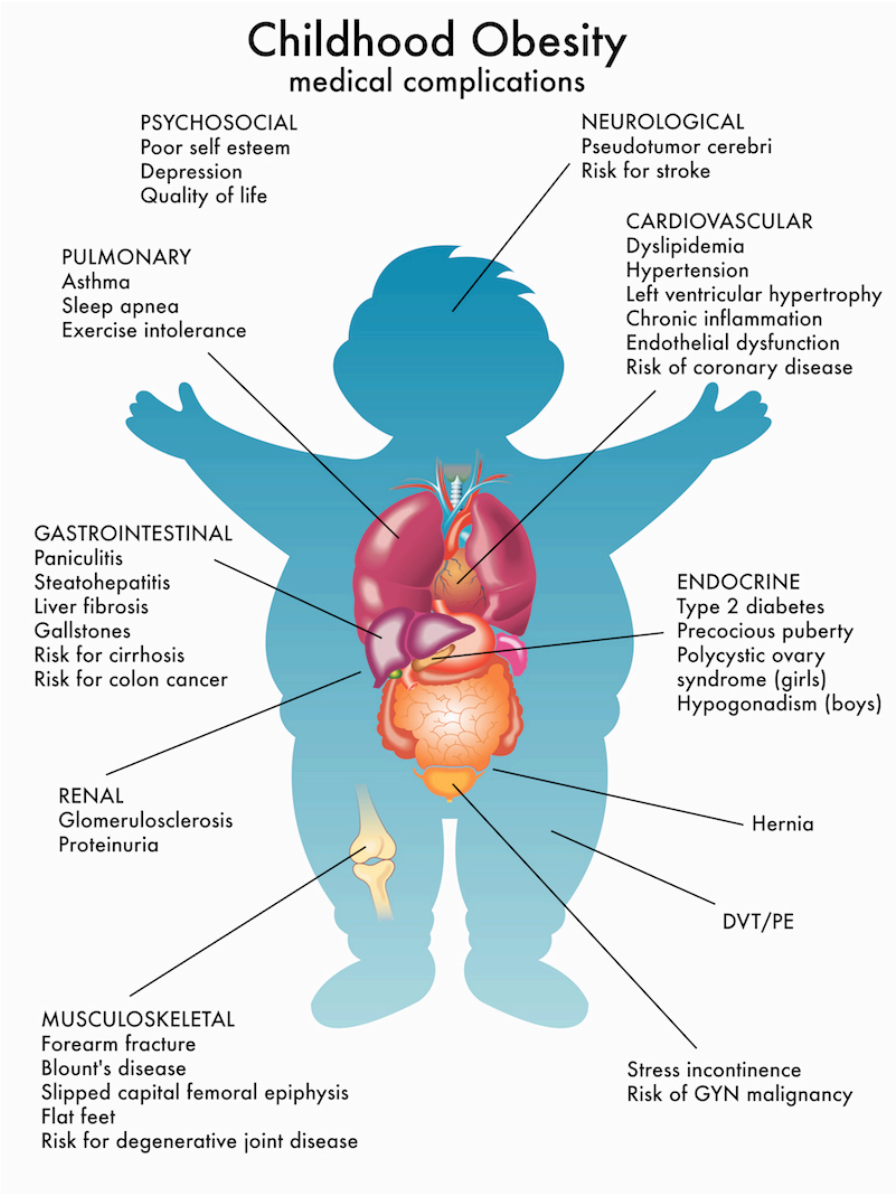

Figure 1. Complications associated with obesity in children. Adapted from Dr. Udochi (2014.

2.5 Prevention of childhood obesity

The aim of preventing child obesity is to reduce its effects on child health, minimize the development of overweight in normal child, support the affected child in weight-loss dieting and to keep down the burden of chronic diseases and disability in adulthood (Lau, Douketis, Morrison, Hramiak, Sharma, Ur, & Expert panel 2007). The effective way to obstruct obesity in children is to work on preventive actions and this requires identification and complex co-operation between parents, policy-makers, health care, schools, food industry and trade (Lobstein & Baur 2005.) This multi-disciplinary work must be taken into consideration as a care possibility within the paediatric obesity management in health care settings, since the used interventions has a great impact in child body mass index reduction (Baker, Olsen & Sørensen 2007).

Clinicians and parent cooperation are defined by a positive therapeutic relationship, discussion of health care delivery, and frequent observation and assessment. These components correspond to an existence of family-cantered care, emphasizing the significance of planning health services to families' necessities, consideration of parents as specialists, and recognize clinician responsiveness as the key to partnerships with families.(Farnesi, Newton, Holt & Sharma 2012.)

Schalkwijk, Nijpels, Bot and Elders (2016) emphasize that health care providers should play a role in recognising weight issues in time, discussing weight in a non-offensive way and giving information on the long-term consequences of obesity. Mercedes de Onis, &

Borghi (2010, 1263) emphasize that a routine evaluation of all children needs to turn into standard clinical practice from early childhood.

2.5.1. Diet

According to Terveyden Ja Hyvinvoinnin Laitos (Finnish Health and Wellbeing Institute) (2018), children's and families' eating habits assessment and counselling support healthy styles, promote health and prevent diseases. Therefore, parents and organizations that work with children and youth, have a duty to follow the child's development so that they can provide a favourable environment for the child to learn and accumulate new skills including heathy eating behaviour.

A comprehensive strategy to healthy eating must be reflected on the ingredients of a well-balanced nutrition where a child has a central regular eating rhythm, a varied diet and the amount of food that meets child's energy needs: cereal products(whole grain), potatoes and vegetables, fruits and berries, milk products, low-fat meat, fish, chicken and eggs (Zelman 2008).

The whole family is involved in regulating lifestyles; parent design environment that boots healthy food choices. For the health and well-being of both children and parents, it is important that the family eats all main meal as much as possible together and in regular times (five meals a day). And the eating must be done at the dining table, and not when using a computer or watching TV. (Finnish Medical Society Duodecim 2013.)

2.5.2 Physical activities and guidelines for children

Physical activity has been classified as one of the key factors for reducing and preventing diseases and controlling body weight such as cardiovascular diseases, diabetes and obesity. In addition, it prevents an increase in morbidity and mortality. Lack of maternal education on physical activities and healthy diet, however, is one of the aspects which decrease health promotion in children. Children are found to be beneficial to daily activities. There have been some articles and researches concerning how children or pre-school aged youth could gain from doing physical exercise. (World health organization, 2018.) Major improvements such as social and motor development and decreased adiposity as well as promoting healthy growth has been found in active children. However, these fitness decreases during their lifespan to adolescent age as a result of less or lack of parental activity. (Hesketh, Goodfellow, Ekelund, McMinn, Godfrey, Inskip, Cooper, Harvey, & Van Sluijs 2014.)

The first person considered a role model for children is the parent. Parents have the best influence concerning their child's health promotion (diet and physical activities), lifestyle behaviour and academic performance. (Taylor & Francis group, 2017.) Television watching, sitting and eating have become the entertainer for a lot of families. The hours spent sitting down in front of a TV in each day, is more than the rest of activities than in a whole day including sleeping. Moreover, their laziness caused them to eat as much and more than they should, adding more calories to their body and leading to overweight and obesity. Children in such families end up being influenced by this act and start to develop

the adiposity. (Hauser, Economos, Nelson, Goldberg, Hyatt, Naumova, Anderson, & Must 2014.)

A data collection regarding physical activities had been taken from 557 Swedish children and 517 adolescents from the European Youth Heart Study. The study included parent, legal guardian, children and adolescents. The main idea was to check the time of movements and lifestyle regarding their activities done per day. Activity accelerated monitor was placed around their waist for four days to measure their daily duration of movement. Sleeping and TV time were to be given verbally. At the end of the research, children with low physical activity level had four times risk of being overweight. Those having more time watching TV and less duration of movements had risk of central adiposity. To conclude the research, the result found was that, physical activity was vital for children too due to the important role it plays in their developments and weight. (Ortega, Ruiz, & Sjöström 2007.)

Physical activity can be done by anyone including babies, toddlers and all children of all age groups. The National Health Service (NHS) Choice information has provided some guidelines for parents and teachers to help the mentioned aged groups to be physically fit. Starting with babies, parent can guide their babies to be active the moment they start to crawl by moving their body such as head and limbs, playing with them by practicing stretching, pull and push. This must be done as a routine and in a safe place. (NHS 2018.)

As a toddler, walking is the easiest activity been done every day. Parent are advised to include free play such as swimming, rolling and moving around, dancing, walking and

jumping, standing and hopping, throwing and catching, climbing and riding bike. All these are light activities can be done by toddlers if parents are willing to spend time (180 minutes daily) and make sure that it's included in the child's daily activities and lifestyle. (NHS 2018; Canadian Paediatric Society 2018.)

2.5.3 Pharmacotherapy

Pharmacological agents present an alternative for childhood obesity management and treatment. Pharmacotherapy, however, is often presented as one of the latter alternatives. An expert committee, comprised of representatives from 15 professional organizations, recommend that employing of drug therapy as a tool for treatment of paediatric obesity should come only after thorough non-pharmacological, holistic and multidisciplinary interventions for treatment have failed. (Barlow S.E, 2007, 164-192; Spear, Barlow, Ervin,Ludwig, Saelens, Schetzina, & Taveras 2007, 254-288.)

Despite drug treatment being minimally recommended to children below the age of 12, it is often suggested for children with high BMI possessing underlying obesity-related physical or medical comorbidities such as obstructive sleep apnoea, insulin resistance, hypertension and psychological comorbidities (National Institute for Health and Care Excellence, 2014). It is often argued by experts that the benefits of drug therapy outweigh the potential risks in individuals presenting complications of a high BMI (Barlow S.E. 2007, 164-192).

According to multiple research articles, limited success to enhance weight loss through pharmacotherapy alone has been achieved (Pietrobelli 2010, 29). Studies suggest that a holistic approach to treatment and lifestyle modifications work in conjunction with pharmacotherapy under specialized supervision for desirable outcomes (Spear et.al 2007, 254-288).

According to Rogovik and Goldman (2011), The U.S Food and Drug Administration (FDA) approves Orlistat as the only prescription medication for children 12 years and older. See Table 3 below.

Medication	**Approved for**	**Mechanism of action**	**Common side effects**	**Effectiveness**
Orlistat (Xenical)®	Adults and children ages 12 and older	Blocks enzyme lipase, preventing digestion and absorption of dietary fats	Diarrhoea Gas Stomach pain Leakage of an oily stool	Work best in conjunction with lifestyle and diet management

Table 3. Pharmacotherapy drug

3. AIM, PURPOSE AND RESEARCH QUESTION

The aim of this research study is to explore the experiences of Health Care Practitioners in caring for children with overweight and obesity based on existing literature. The purpose of this study is to suggest ways to improve the quality of care in paediatric overweight and obesity based on the research outcomes. The research question is; What are Health Care Practitioners' experiences in caring children with obesity and overweight?

4. METHODOLOGY

4.1 Literature review

A literature review is the critical evaluation, analysis and synthesis of existing knowledge as relevant to the research question(s) (Hart 2018). This process involves meticulous scrutiny of the author's work, development of thoughts and arguments, interpretation and the evidence used to support their conclusions at an attempt to answer your research questions (Hart 2018). See Figure 2 below, which illustrates the phases in conducting a literature review.

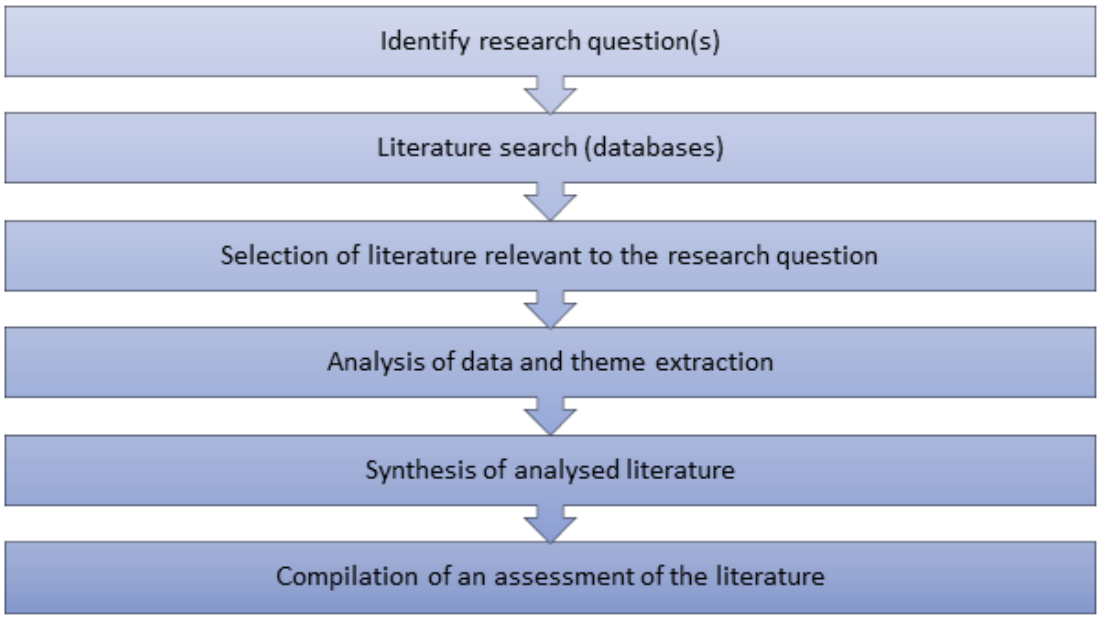

Figure 2. Phases in conducting a literature review

A literature review gives the reader easy access to research on a topic by selecting high quality articles or studies that are relevant, meaningful, important, valid and summarizing them into one complete report (University of Guelph 2019). According to Hart, the purpose for conducting a literature review include; distinguishing what has been done from what needs to be done, synthesizing and gaining new perspectives, understanding the subject's historical context and putting into perspective and establishing subject content. Additionally, a literature review identifies what is known in the subject of interest, identifies controversial perspectives subject to debate and help develop questions that require further research (Bolderston 2008, 86-92).

This study is based on literature review of selected articles for study. The study is generally engrossed on the experiences of health care practitioners caring for childhood obesity and overweight, and its prevalence across the world. A precise attention was drawn to this study representing current data on health care practitioners experience and management given by these providers.

4.2 Scientific Article Selection Process

Data used in this study was obtained from Cinahl (EBSCO), Cochrane Library, Pubmed and Google Scholar. The key words in this research were; obesity, overweight, children, nurses' experiences, health care practitioners. These key words were tested in different combinations during the search for articles, but the best results were obtained with combination of, nurses' experiences, health care practitioners and obesity/overweight in

children. Selection of articles for use in this research was based on a predetermined inclusion and exclusion criteria as shown in Table 4 below.

Inclusion Criteria	Exclusion Criteria
Language of publication in English	Literature review articles
The articles are scientific-based and may include theses (masters or doctoral)	Duplicate studies
Articles published between years 2006 and 2019	Other children health issues than obesity and overweight
The articles are peer reviewed	Other patients than children
Articles will depend on abstract content and have a full text access	
Articles are relevant to our topic	
Articles answer the research question	

Table 4. Inclusion and Exclusion Criteria

Articles that did not meet the criteria have been excluded from the data of this research. Articles whose titles and abstracts have a correlation to the research topic and research

question were selected for use in the study. The Table 5 shows the obtained results when different key words were combined.

Database	Search Words	Results	Relevance by Title	Relevance by Abstract	Relevance by Full Text
CINAHL Plus (EBSCO)	Childhood obesity	106	18	10	3
Cochrane Library	Childhood paediatrics obesity, and nursing experience, or health care practitioner	26	17	12	0
Janet Finna Online Library	Childhood paediatrics obesity and nursing	1,434	12	5	0

	experience or healthcare practitioner experience				
Google Scholar	Childhood paediatrics obesity and nursing experience	17,300	12	3	2
Pubmed		418	45	28	14
CINAHL Plus (EBSCO)	Experience, nurse or health care practitioner, childhood or paediatric obesity or overweight	29	3	3	2

Table 5. Key words, synonyms and combinations

4.3 Data Analysis

Dr. Sharma (2018, 4) describes data analysis as the process of systematically using statistical and/or logical techniques in examining and interpretation of data, to answer the research question(s). Thematic analysis, as a method of data analysis, was employed in the analysis and synthesis of data in this research.

Braun and Clarke (2006) describe thematic analysis as the process of "identifying, analysis and reporting patterns (themes) within data", to address the research question(s). Essentially, a theme captures a concept that directly relates to the research question(s).

The inductive and deductive approach in thematic analysis are the two primary methods of identifying themes within data. As the method applied in this research, inductive approach of data analysis involves developing of general theory from a set of specific pieces of information, by coding of the data to identify patterns (Braun & Clarke 2006). Blackstone (2014) suggests that inductive approach "begins with a set of empirical observations, seeks patterns in those observations, and then theorizes about those patterns".

According to Braun and Clarke, the process of analysing data using thematic analysis involves 6 main steps; as illustrated in Figure 3 below. This method of analysis has not only demonstrated a genuine engagement with the literature but also has provided us with the core to build our discussion upon.

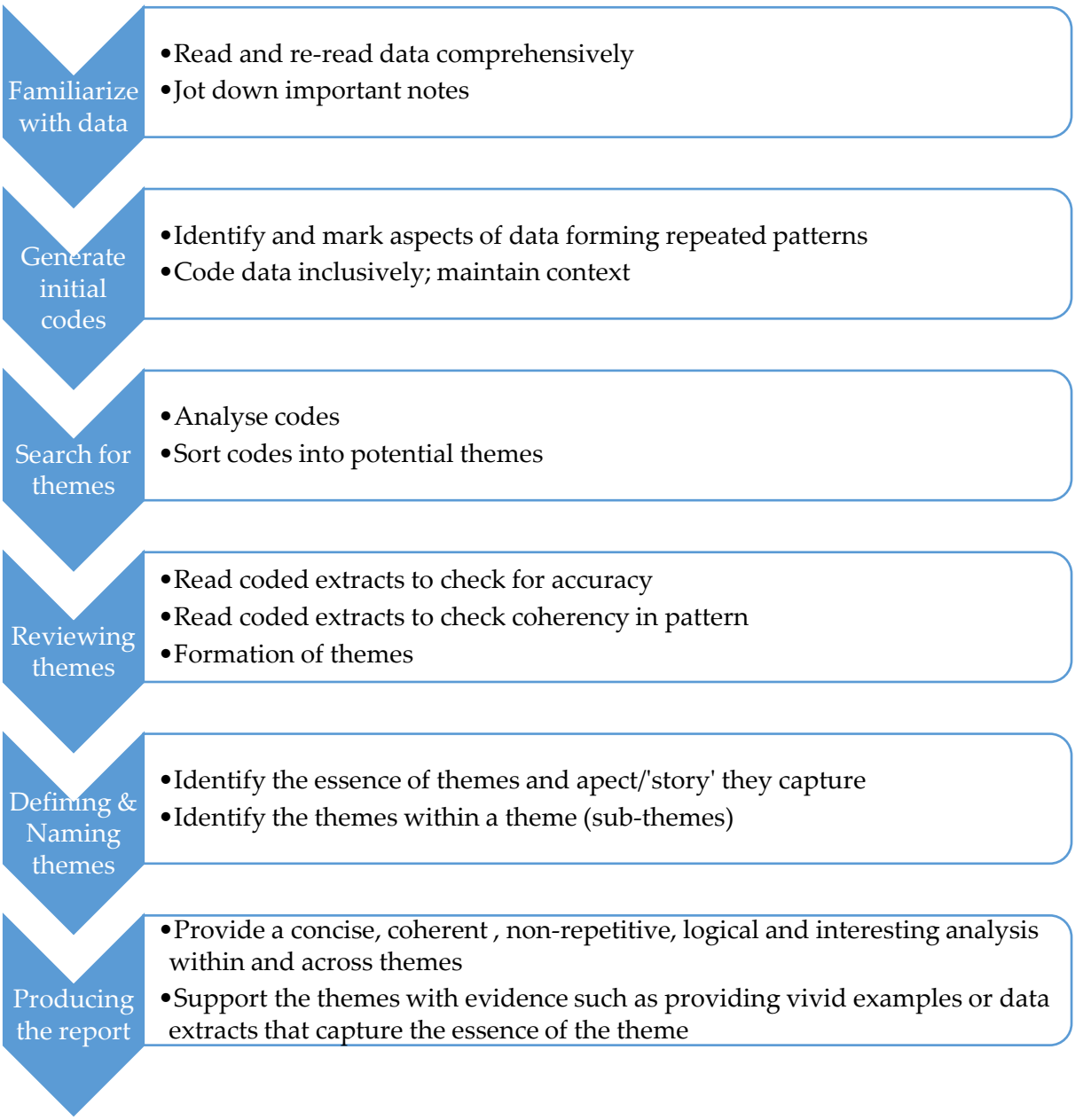

Figure 3. Phases involved in thematic analysis of data.

5. RESULTS

Analysis and review of the relevant literature articles selected for this study resulted in four main thematic concerns; Jumping hurdles, facilitators, dilemmas and requisites. Table 6 below illustrates the categories of themes and subthemes, answering the research question, under the three main umbrellas; individual (factors emanating from the practitioner), social setting (factors as influenced and controlled by the general society) and system setting (factors stemming from the professional organization).

	Experience of Health Care Practitioners in caring for children with obesity & overweight			
	Jumping hurdles (Barriers)	**Facilitators**	**Dilemma**	**Requisites**
Individual (Health Care Practitioner)	Time constraints (important priorities) Expertise & training Communication Perceptions	Initiative, creativity and support	Moral and ethical	Education and training
Social setting	Parents/Guardians Culture	Rapport		Awareness Family-based treatment
System setting	Resources Organizational structure (support and follow-up, multidisciplinary integration)	Teamwork		Department re-modelling

Table 6. Themes and Sub-themes

5.1 Jumping Hurdles

5.1.1 Time constraints

Time as a barrier to implementing and managing of obesity and overweight emerged in most of the reviewed literature. Majority of the health care practitioners indicated a lack of time to plan and oversee an implementation of optimal care and rehabilitation for children with obesity. (Schalkwijk, Nijpels, Bot & Elders 2016.) With limited time and resources, practitioners often opt to prioritize acute situations they deem to be higher up the tier of importance. Often, health care practitioners had little time to attend to children with overweight as they felt pressured by superiors to attend to more demanding issues such as parental smoking and child autism. Poor staffing (workload) emerged in most articles as a major contributing factor to time constraints as a barrier. (Isma, Bramhagen, Ahlstrom & Östman 2012; Powell, Engelke, & Neil 2018)

5.1.2 Expertise and Training

Emerging findings point to a scarcity of appropriate training and expertise on child obesity identification, diagnosis and risk classification, individual healthcare plan and treatment and continuity of care among health care practitioners (Isma et al. 2012). Research by Gies, AlSaleem, Olang, Karima, Samy, Husain, Vandenplas, Y. et al. (2017) exuded a lack of consensus in the use of growth charts by health care practitioners. Weight-related counselling often proved a challenge to conduct due to inadequate training and low self-efficacy (Nelson, Vos, Walsh & O'Brien 2015). Health care practitioners

reported a deficiency in the focus of management and prevention of child obesity (with family integration & behavioral approach) during prior undergraduate education and in-service training (Isma et al. 2012; Holt, Schetzina , Dalton, Tudiver, Fulton Robinson & Wu 2011).

5.1.3 Communication

Owing to the sensitivity and delicate nature of the current subject, communication ought to bear qualities of respect, diplomacy, confidentiality and uphold the principle of parental/family autonomy. Findings show a mild phobia amongst health care practitioners in addressing matters related to overweight and obesity to children and their family. This phobia is linked in part by factors such as fear of offending the receiver of information, fear of breaking the integrity of the existing rapport between the health care practitioners and the family and the fear of inducing low self-esteem and risk of stigmatization among the children involved. (Isma et al, 2012.)

Additionally, communication proved a challenge due to cultural incompetence amongst health care practitioners when encountering clients of a different/conflicting cultural perspective with regard to child overweight and obesity (Isma et al, 2012).

5.1.4 Perceptions

According to many of the health care practitioners, parents carry the main responsibility when it comes to child overweight and obesity prevention (Sakarya, Ünalan, Tursun,

Özen, Kul, & Gültekin, Ü. 2018). Consequently, parents are often judged as lazy or of poor judgment when their child becomes overweight or obese. This perception often tends to cloud the quality of overall treatment provided by the health practitioners. (Isma et al, 2012.)

Additionally, findings show that overweight in children below the age of five is often perceived as 'cute' rather than a heath concern. This hinders approach to addressing the issue; unless the weight status presents an obvious health hazard. (Isma et al, 2012.) Weight perception and self-efficacy of the health care practitioner on the subject of child overweight and obesity usually determines whether they will bring the issue forth or not (Holt et al. 2011).

5.1.5 Parents/guardians

Parental perception of their child's weight influences their action plan towards the approach of prevention and treatment of overweight and obesity. Holding full autonomy and responsibility on their children's lifestyle, parents play a crucial role in shaping the trajectory of their child's weight pattern. Such is evidenced by an immense success rate of obesity treatment in family-based tailored programs. (Sugiyama, Horino, Inoue, Kobayashi, Shapiro, & McCarthy 2016.) However, findings show that most parents are unable to correctly classify their children's weight status, as they often rely on subjective observations (Schalkwijk et al. 2016).

Findings show an attrition in target group's participation in obesity prevention and treatment programs as organized by various institutions. Parents are often accredited for this attrition; as they bear barriers that contribute to this. Such include; the fear of ostracization and being subject to ridicule; lack of time with responsibilities they deem more important, for example professional responsibility; discouragement due to a previous failure at an attempt; financial constraints as a healthy diet is often perceived as expensive; a preference of a sedentary lifestyle; accessibility of facilities such as safe play areas and culturally appropriate programs; lack of support and motivation from health care practitioners. (Staiano, Marker, Comeaux, Frelier, Hsia & Broyles 2017; Turner, Shield, & Salisbury 2009)

5.1.6 Culture

Health care practitioners indicated that a child's cultural and socio-economic status influenced their diet and lifestyle choices. For example, children from Hispanic backgrounds have a diet preference consisting of mainly rice and beans; hence the need for tailoring treatment programs based on an individual's cultural background. (Schroeder & Smaldone 2017.)

Cultural notions often dictated the perception of weight, especially in children. A study in Malawi, for example, showed that parents do not recognize stunting in growth as a health concern (Flax, Thakwalakwa, & Ashorn). In the Western culture, a slender body structure is considered as ideal for girls and overweight in boys is more acceptable compared to their female counterparts (Nemecek, Sebelefsky, Woditschka, & Voitl 2017).

5.1.7 Resources

Limited human resource is often mentioned by health care practitioners as a barrier to implementing and managing of obesity and overweight. Workload as a stress factor results to straining and demotivation consequently prioritizing on more acute cases that were deemed of more importance. (Isma et al. 2012.)

Standard, uniform and explicit guidelines on management of overweight and obesity in children is a prerequisite to successful interventions, a lack of which renders treatment approach solely on an individual practitioner's level of initiative. A lack of these proper guidelines has been consistently noted in this study. (Isma et al. 2012.)

5.1.8 Organizational structure

Study shows a discord in integration between primary and secondary caregivers with poor collaboration within the multidisciplinary team of care. Often health care practitioners stated structural barriers such as unclear task arrangement and delegation and incoherent referral processes. (Schalkwijk et al. 2016; Isma et al. 2012.)

5.2 Facilitators

5.2.1 Initiative, creativity and support

Owing to the strenuous and challenging work environment, a health care practitioner's unique and intentional effort towards initiative and creativity in obesity program tailoring and administration often facilitates program outcome and goal achievements. Such effort is illustrated by practitioners practicing group therapy as opposed to individualized interventions to maximize reach, considering the limited time; inventing fun group exercises and provision of incentives for motivation and support; tips on meal preparation and healthy food substitutions. (Staiano et al. 2017; Schroeder et al. 2017.)

Incorporation of motivational interviewing technique, which basically aims at influencing change in a patient's behavioural attitude, by the health care practitioner often improves outcome. Involvement of family behavioural treatment, on the other hand has shown significant success in child overweight and obesity prevention and treatment. (Nelson et al. 2015; (Sugiyama et al. 2016.)

5.2.2 Rapport

Culturing and fostering of a safe and trustworthy relationship/environment between the health care practitioner and the family is essential in long management of child

overweight and obesity. Safeguarding and maintenance of a healthy, ongoing relationship has shown to positively impact the longevity of weight management program attendance. (Larsen, Ledderer, & Jarbol 2015.)

5.2.3 Teamwork

Effective interdisciplinary collaboration in the prevention and management process of child overweight and obesity facilitated sustained desired outcomes. Importantly, equal focus on therapist/counsellor sessions ensured the protection of mental health integrity and holistic wellness in the targeted groups. (Staiano et al. 2017.)

5.3 Dilemmas

Occasionally, conflicting interests arise between the health care practitioners and the child/family. The multiple parties involved in treatment often bare varied opinions and perceptions on their state of wellbeing in relation to weight diagnosis and the approach towards prevention and treatment. Approaching children/families in denial of their weight status often poses a risk of inflicting undesired outcomes such as subdued confidence and self-esteem and damaging of existing rapport, hence the dilemma. Additionally, the ethical principles of parental autonomy and practitioner's beneficence often compete, creating the dilemma. (Bonde, Bentse & Hindedhe, 2014.)

Additionally, some health care practitioners find it difficult to deal with, and counsel parents who are obese or overweight themselves, on their children's weight issues because they feel ashamed. Therefore, they try to avoid the topic of overweight and obesity. (Isma et al. 2012.)

5.4 Requisites

5.4.1 Education and training

As one of the major barriers to effective identification, management and treatment, health care practitioners reported the need for in-depth specialty education and training on the subject of child overweight and obesity (Schalkwijk et al. 2016; Isma et al. 2012).

Health care practitioners often lack self-efficacy in successfully implementing specific mechanisms of long-term treatment success such as behavioural counselling, goal setting and effective follow up, hence the need for focused in-service training on the same (Nelson et al. 2015; Sugiyama et al. 2016).

5.4.2 Awareness

Pre-emptive treatment by the creation of public education and awareness on child overweight and obesity, its identification and consequences, empowers the community

(especially parents) and alleviates overweight and obesity case developments (Sakarya et al. 2018).

5.4.3 Family-based treatment

Findings have pointed that family-based behavioural treatment models offer one of the most long-term successful treatment and management of child overweight and obesity. Encouraging and supporting the parent on taking up the pre-emptive approach and responsibility over their children's weight-related wellbeing influences their impact towards the child's lifestyle modifications and sustainability. (Sugiyama et al. 2016.)

5.4.4 Department re-modelling

Health departments involved in child overweight and obesity management are called out to perform necessary actions that support and encourage their staff towards successfully fulfilling this intricate, rewarding process. Such include, but not limited to, financial reimbursements and incentives to the staff; provision of tools and resources that complement and assist in this process at their disposal; creating a coherent interdisciplinary correlation and explicit task description and delegation. (Sugiyama et al. 2016.)

6.DISCUSSION

6.1 Discussion of the results

Health care practitioners play an integral role in paediatric overweight and obesity care process, whose key components involve identification, diagnosis and risk classification, care plan and treatment and follow-up care (Larsen, Ledderer, & Jarbol 2015). For the effective development and implementation of child overweight and obesity management programs, it is essential that we gain an insight on the experiences of the professionals involved in this care process. Therefore, the aim of this research study was to find out the experiences of health care practitioners during this care process. A review of literature from 8 different countries, across 4 continental (and transcontinental) territories, was conducted through analysis and synthetization of data to obtain results. 1 study research focused on 17 countries in the MENA (Middle East & North Africa) region.

As supported by the results of this research study, health care practitioners often encountered hurdles that significantly challenged their role in the intervening process (Schalkwijk, Nijpels, Bot & Elders 2016). This emerged in 14 research studies of the reviewed literature. Such barriers included time constraints; lack of enough expertise and training on the subject; communication between the health care providers and parties involved in treatment (parents); poor resources availability; social, cultural and organizational influencing factors. Successful intervention and implementation of quality and holistic care towards the management of paediatric overweight and obesity is highly

dependent upon the identification and addressing of these barriers. (Schalkwijk et al. 2016.)

As often noted in the study findings, the main health care ethical principles of autonomy and beneficence often competed. With emerging conflicting interests and perceptions between involved parties, health care practitioners occasionally wound up in situations of dilemma. (Bonde, Bentse and Hindedhe, 2014.) With family-based motivational and behavioural counselling presenting as one of the most important intervention tool, (hence the inflating chances of encountering dilemmatic situations), majority of the respondents in the reviewed literature agreed to the evident need for in-depth training at undergraduate level and in-service level to impart knowledge and a high self-efficacy level in the implementation of these intricate yet immensely rewarding intervention techniques (Nelson, Vos, Walsh & O'Brien 2015).

Despite the emerging challenges, facilitators to paediatric overweight and obesity programs were consistently noted in the study research. Ranging from the maintenance of healthy relationships and ongoing professional rapport between caregivers and the families; the unique creative ability of an individual health care practitioner to create and develop strategies of successfully reaching and impacting the target groups with the limited available resources; a successful professional collaboration and teamwork within the involved interdisciplinary team and the families/children, these facilitating factors are a unique requisite to quality and successful intervention that ought to be fully capitalized on and fostered by the relevant organization stakeholders. (Staiano, Marker, Comeaux, Frelier, Hsia & Broyles 2017; (Larsen, Ledderer, & Jarbol 2015.)

Based on their experiences, participants in the study speculated on requisites they believed would significantly elicit the necessary change and modifications at the different interfaces of interaction and caregiving. These are inclusive of; the need for staff training and expertise development considering the flourishing multicultural environment of work and patient encounters; the need for vast public awareness campaigns, utilizing modern and creative forms of knowledge spreading, on the subject of child overweight and obesity; the need for structural and organizational remodelling to accommodate, support and encourage their staff towards successfully fulfilling this intricate, rewarding process. (Nelson et al. 2015; Sugiyama, Horino, Inoue, Kobayashi, Shapiro, & McCarthy 2016.)

Based on information from the searched data, it seems that overweight and obese children are more exposed to the risk of staying obese into adulthood and to develop obesity-related medical comorbidities such as hypertension, obstructive sleep apnoea, cardiovascular diseases, type-2 diabetes, and an impaired psychosocial health at a younger age (Nelson et al. 2015). Additionally, study researches point to an increased risk for adult morbidity and premature mortality in overweight and obese children (Gilles 2006). Reviewed literature studies suggest that an effective way to impede obesity in children is to focus on the pre-emptive approach of care with a steadfast collaboration between parents, policy-makers, the health care, schools, food and trade industries (Lobstein & Baur 2005).

6.2 Strengths and Limitations

The selected articles for this study sought to explore the experiences of not only health care practitioners in clinical settings but focused widely on school nurses. The findings, however, are useful and transferrable as they reflect on the general spectrum of outcome and easily relates with all paediatric health care practitioners, working in different professional settings, as findings of this study show.

Additionally, the obtained articles were limited, with the exclusion of pay-to-access articles. Regardless, the selected articles for study effectively addressed the aim of the study. Research outcomes can purposefully suggest ways to develop and improve the quality of care in paediatric overweight and obesity.

Demographic characteristics of the participants selected for the conducted research study was diverse and varied extensively; with inclusions of, but not limited to, vast age groups, ethnical backgrounds, gender and level of professional experience. Therefore, the research results bear perspectives that resonate among all paediatric health care practitioners encountering children with overweight and obesity regardless of their demographic characteristic, hence a strength.

6.3 Ethical consideration

Honesty is an integral part of research and publication. It ensures that the information is transmitted truthfully, and that the accuracy of the scientific record is maintained. Abuses have many harmful consequences for human health, institutions and colleagues. Research publications can be pulled back and the researchers themselves can withdraw from the institutions that have been approved or even imprisoned by the regulators. (Margaret 2018.)

According to U.S. Office of Research Integrity (2019), significant research misconduct issues include data fabrication and falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. Fabrication is making up data or results and recording or reporting them. Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record. Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit. (U.S Office of Research Integrity 2019.)

The research being a literature review, some ethical considerations like informed consent, confidentiality, anonymity and beneficence were not put into consideration since this research has used published articles during data collection. However, to avoid any potential research misconduct (plagiarism and fabrication), copyright of sources was respected. Secondary data was clearly referenced both in-text citation and on the list of

references. Additionally, the authors of this research carefully and accurately documented emerging themes of interest, presentation of data and results, avoiding falsification.

Articles for this study were selected from student-access databases provided for JAMK University of Applied Sciences (JAMK) students, with the exclusion of pay-to-access and restricted literature, thus contributing to the inevitable selection and access bias. The selected articles were filtered to English language only, creating a language bias, and literature that contains full text and abstract, thus limiting the scope of availability (availability bias).

Cinahl (EBSCO) Plus, Pubmed and Google Scholar were the 3 databases, available to JAMK students, used to select scientific, evidence-based and credible information for use in this research study. The credibility of these sources ensures the validity and reliability of this study. The use of recent and up-to-date material with studies conducted in 8 different countries, across 4 continental (and transcontinental) territories, 1 study focusing on 17 countries in the MENA (Middle East & North Africa) region ranging from the years 2006 to 2019, massively enhances reliability and transferability.

Additionally, research studies conducted in the original literature used for this study strictly and evidently adhered to the principles of ethics, as authors of this study did not encounter any ethical problems during the review of these literature.

6.4 Conclusion and Recommendations

This research study sought to explore the experiences of health care practitioners in caring for children with overweight and obesity, with the purpose of utilizing obtained research outcomes in developing feasible and sustainable techniques and approaches towards enhancement of the quality of care provided for the affected group. A review of literature from 8 different countries, across 4 continental (and transcontinental) territories, was conducted through analysis and synthetization of data to obtain results. 1 study research focused on 17 countries in the MENA (Middle East & North Africa) region.

Research outcomes conclusively point out that health care practitioners indeed encounter challenges in their attempt at providing care for children with obesity and overweight, regardless of their individual demographic

characteristic. The hurdles stemmed from across the individual, social and organizational settings. Despite this, they often encountered facilitators to the implementation process. Such facilitators were suggested to be fully capitalized on to enhance outcomes. Participants unanimously agreed to the need for in-depth expertise training on paediatric overweight and obesity.

Parents were considered by health care practitioners across all reviewed articles to be the most fundamental figure in the provision of pre-emptive care to their children, as they were perceived to possess the resounding and unique ability to influence their children. Therefore, parental involvement in care and management post diagnosis was considered by the practitioners to be of central importance. However, throughout this study, there

was a consistent discrepancy between parental perception of their child's weight and their actual weight status. (Sugiyama et al. 2016.) Multiple research studies have categorically supported this claim (Tarasenko, Rossen, & Schoendorf 2014).

Consequently, a valuable recommendation for further studies would be, for instance, a study focusing on parental denial, its prompts and coping mechanisms post child-obesity diagnosis. The purpose would be to develop ways to enhance parental awareness on the subject and empower them in their fundamental role in overweight and obesity management; in the quest to curb child overweight and obesity prevalence.

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APPENDICES

Appendix 1. The Reviewed Articles

Author(s)	Publishing year and country	Title	Research method	Main findings
Sakarya, S., Ünalan, P. C., Tursun, N., Özen, A., Kul, S., & Gültekin, Ü.	2018 Istanbul Turkey	A Family Physician's view on their Role in the Management of Childhood Obesity	Qualitative and quantitative research; mixed method approach	Challenges and limitations perceived as barriers to implementation of child obesity care and management.
Nemecek, D., Sebelefsky, C., Woditschka, A., & Voitl, P.	2017 Vienna Austria	Overweight in Children and its Perception by Parents; Cross-sectional Observation in a general paediatric	Quantitative research	Perceptions of children's weight status and the existing disparities among target groups.

		outpatient clinic.		
Isma, G., Bramhagen, A., Ahlstrom, G., Östman, M., & Dykes, A	2012 Sweden	Swedish Child Health Care nurses' conceptions of overweight in children: a qualitative study.	A qualitative study using a phenomenographic approach	Perception of childhood overweight changes, Overweight in younger children a neglected concern, Overweight as a delicate issue, and the importance of family lifestyle modification
Gies, I., AlSaleem, B., Olang, B., Karima, B., Samy, G.,	2017 Middle East & North Africa	Early Childhood Obesity; a Survey of Knowledge and	Quantitative research	The scope of knowledge and expertise on child obesity management

Husain, K., Vandenplas, Y. Singhal, A., Rohani, P., Mouane, N., Salah, M., Rawashdeh, M., Miqdady, M. & Elhalik, M.		Practices of Physicians from the Middle East and North Africa		practices among health care practitioners and the warranted needs thereof.
Staiano, A. E., Marker, A. M., Comeaux, J., Frelier, J. M., Hsia, D. S., & Broyles, S. T.	2017 Louisiana, USA	Family-Based Behavioral Treatment of Childhood Obesity; Caretaker-reported barriers and facilitators	Qualitative Research	Parental concerns and perceptions on family involvement in child obesity prevention and management; challenges and facilitators to intervention programs as perceived by parents/guardians.

Redsell, S.A., Philippa J Atkinson, P.J., Nathan, D., Siriwardena, A.N., Swift, J.A & Glazebrook, C.	2011 UK	Preventing childhood obesity during infancy in UK primary care	Survey of UK Health Care Practitioners & Semi-structured interviews	Perceptions of GPs and nurses about childhood obesity during infancy, chalenges in recognizing and preventing infants' obesity
Sugiyama, T., Horino, M., Inoue, K., Kobayashi, Y., Shapiro, M. F., & McCarthy, W. J.	2016 USA	Trends of Child's Weight perception by Children, Parents and Health Care Professionals during the Time of Terminology Change in Childhood Obesity in the	Quantitative research	Perceptions of child's weight by involved groups; Challenges in addressing of childhood obesity in clinical settings.

		United States, 2005-2014.		
Flax, V. L., Thakwalakwa, C., & Ashorn, U.	2016 Malawi	Perception of Child Body Size and Healthcare Seeking for Undernourished Children in Southern Malawi.	Quantitative and qualitative research; mixed method approach	Parental perceptions on child overweight and obesity and its implications thereof, in Malawi.
Schalkwijk, A.A.H., Nijpels, G., Bot, S.G.M. & Elders, P.J.M.	2016 Netherlands	Health Care Providers' Perceived Barriers to and the Need for the Implementation of National Integrated Health are Standard of Childhood Obesity in the Netherlands.	Quantitative & Qualitative research; mixed method approach.	Challenges experienced by health care providers in the management of child obesity; requisites for obesity prevention program implementation.

Larsen, L.M., Ledderer, M.I. & Jarbol, D.E.	2015 Denmark	Management of Overweight during Childhood; A focus study on health professionals' experiences.	Qualitative research	Health professionals acknowledge the integral role they possess in the management of child obesity and recognize its intricate nature. Barriers and facilitators to successful implementation of care discussed.
Nelson JM., Vos MB., Walsh SM. & O'Brien LA.	2015 Georgia, USA	Weight Management-Related Assessment and Counselling by Primary Care Providers in	Open ended questionnaires and quantitative method used	Practitioners recognize the importance of incorporating motivational counselling techniques in their practice.

		Ares of High Childhood Obesity Prevalence; Current Practices and Areas of Opportunity.		However, these efforts require improvement. Barriers, facilitators and requisites to successful implementation of care discussed.
Tarasenko, Y. N., Rossen, L. M., & Schoendorf, K. C.	2014 USA	Children's, their Guardians' and Health Care Professionals' Perceptions of Child Overweight in Relation to Children's Weight Loss Attempts	Cross-sectional study based on 2005-2010 National Health and Nutrition Examination Survey	Discrepancies existed in the perceptions of child overweight among the children, parents and health professionals, with often underestimation of child's weight status.

				Accurate and shared perceptions between the involved groups in caregiving resulted in weight-loss attempts.
Regber, S., Mårild, S. & Hanse. J	2013 Sweden	Barriers to and facilitators of nurse-parent interaction intended to promote healthy weight gain and prevent childhood obesity at Swedish child health centers	Semi-structured interviews	Barriers and facilitators for the prevention of childhood obesity at Child Health Centers.

Holt, N., Schetzina, K. E., Dalton, W. T., Tudiver, F., Fulton-Robinson, H., & Wu, T.	2011 Southern Appalachia, USA	Primary Care Practice Addressing Child Overweight and Obesity; A Survey of Primary Care Physicians at Four Clinics in Southern Appalachia.	Quantitative survey using questionnaires	Health practitioners lack self-efficacy in child overweight and obesity management. Practitioner's self-perceived level of expertise influenced their practice in care and management. Barriers to and requisites for enhancing optimal care discussed.
Howard-Drake, E. J. & Halliday, V.	2016 UK	Exploring primary school headteachers' perspectives on	A qualitative study	Headteachers' perspectives of the facilitators and barriers to

		the barriers and facilitators of preventing childhood obesity.		preventing childhood obesity in primary school settings:
Turner, K. M., Shield, J. P., & Salisbury, C.	2009 Bristol England	Practitioner's Views on Managing Childhood Obesity in Primary Care; A qualitative study.	A qualitative study	Barriers to and requisites for enhancing optimal care discussed. Uncertainty to whether the primary care setting is appropriate for child overweight and obesity treatment.
Bonde, A. H., Bentsen, P., & Hindhede, A. L.	2014 Copenhagen Denmark	School Nurses' Experiences with Motivational	A qualitative study	Adapting and integrating motivational interviewing

		Interviewing for Preventing Childhood Obesity.		into practice. Dilemmas in motivational interviewing discussed.
Powell, S. B., Engelke, M. K., & Neil, J. A.	2018 North Carolina USA	Seizing the Moment: Experiences of School Nurses Caring for Students with Overweight and Obesity.	A qualitative research	Identifying common barriers to school nurse practices and interventions related to obesity and describing the school nurse's approach that is successful in providing interventions to students with overweight or obesity concerns.

Schroeder, K., & Smaldone, A.	2017 New York USA	What Barriers and Facilitators Do School Nurses Experience When Implementing an Obesity Intervention?	Semi-structured Interviews	Participants discussed the barriers and facilitators they encountered during the implementation of child obesity intervention. Based on the acquired results, recommendations for school nursing were made to improve the quality of service.