

Global Knowledge Project

Perceptions and Practices of Three School Nurses on Childhood Obesity Prevention in Norway's Conditions of High Modernity

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Abstract

School nurse involvement in childhood obesity prevention (COP) has become an indispensable necessity owing to the condition's escalating prevalence across the rapidly modernizing globe. The purpose of the current study was to explore the views and practices of three school nurses in the prevention of childhood obesity in Norway's high modern society. The Health Belief Model by Becker (1974) and the Dynamism of Modernity by Giddens (1990, 1991) served as the theoretical foundation of this study. The researchers employed a qualitative study approach whereby; data was collected through a semi structured interview schedule from a convenient sample of 3 nurses involved in the provision of school health services via one health station in Norway. A group interview approach was applied and the resulting data was analyzed using qualitative content analysis. The study revealed that, the three nurses undertook both child level and school level obesity prevention activities such as counseling of parents and children on nutrition and physical activity, Body Mass Index (BMI) screening for pupils as well as assessment of overweight and obese children for complications. The nurses generally perceived that childhood obesity was a growing problem that was closely related to some aspects of modernity. Negative parental responses related to feelings of shame emerged as the biggest perceived barrier. Levels of self-efficacy were high among the three nurses. These findings suggest that: The likelihood of the three nurses to engage in COP practices is high as they viewed the condition as 'growing'; they perceived fewer barriers and more benefits in COP; and they expressed high self-efficacy. The findings further suggest that, modernity's dynamism might engender childhood obesity and that in light of this; the development of strategies for protecting children against modernity's inadvertent influences is necessary. They also suggest a need for strategies to improve parental involvement in COP.

Key words: Childhood obesity, High modernity, Perceptions, Practices

INTRODUCTION

1.1. Background

Childhood obesity is a major threat to children's health (Øen and Stormark, 2012). Its increasing prevalence is an emerging health challenge worldwide (Oellingrath, Svendsen & Brantsaeter, 2010). This is due to the characteristic plethora of physical, social and psychological problems which it often engenders. Researchers have cited increased co-morbid conditions such as type II diabetes mellitus and increased mortality as some of its physical consequences while heightened health care costs, bullying, stigmatization, depression, academic challenges and discrimination have been cited as some of its social and psychological consequences (Fox & Farrow, 2009; Puhl & Heuer, 2009; Choudhary et al, 2007 cited in Øen and Stormark, 2012;). Furthermore, the risk of adult obesity rises significantly with history of childhood obesity and overweight (Suchindran et al, 2010). Obesity has been linked to some aspects of modernity such as the fast food industry and the mass media through corporate promotion of junk foods and increased screen based activities (Furlong and Catmel, 2007). The immensity of childhood obesity as a health problem is explicit across the globe as well as in Norway. According to Dvergsnes, & Skeie (2009) and Júlíusson et al (2010), the prevalence of overweight and obesity among children in Norway has been increasing and it continues to affect younger and younger children. Additionally, Kokkvoll and others (2012) found that, the prevalence of overweight was 19% among 6-year-old children in Finnmark county of Norway. Similarly, Folkehelseinstituttet (2010) cited in Øen and Stormark, 2012 indicated that, 14–17% of Norwegian children aged eight-to-nine years old were overweight or obese, and that another 4% of Norwegian children at nine years old were obese. In response to this problem, the Health directorate in Norway recommended strengthening of the school health service and clarification of this demand to the service. It additionally called for increased knowledge generation and research on childhood obesity (Helsedirektoratet, 2010). This is similar to the approach adopted in the USA where the Institute of Medicine (IOM) (2012) recommended making schools a focal point for obesity prevention owing to the fact that most children spent a significant number of hours and consumed one third to one half of their daily calories at school. School health services have therefore been accorded an indispensable place in the fight against childhood obesity in Norway and other

developed countries. According to Helsedirektoratet (2010), it is mandatory for all municipalities in Norway to have “school health services in schools.” This implies that school nurses are uniquely positioned to engage in childhood obesity prevention because they are often the only healthcare providers in schools (Quelly, 2014). Despite the fact that School nurses have the expertise to engage in childhood obesity prevention (COP) practices (National Association of School Nurses, 2014), Quelly (2014) has argued that it is imperative to identify their key perceptions on the matter because differences in perceptions may translate to variations in COP practices. Gaining such an understanding would thus provide a knowledge base for improving COP efforts. The study of the nurses’ perceptions is further deemed significant drawing on the expanded assumptions of the labeling theory in sociology. According to Cragun and Cragun (2006), deviant labels refer to identities that are known for falling outside of cultural norms, like *loner* or *punk*. It therefore becomes significant to understand the labels which school nurses attach to the problem of childhood obesity so as to generate a knowledge base for ascertaining the impact of such labels on COP practices.

1.2.Statement of the problem

The prevalence of overweight and obesity among children and adolescents is increasing on a global basis as well as in Norway (Dvergsnes, & Skeie, 2009). This increase has been attributed to several factors among which aspects of modernity such as the mass media through the corporate promotion of junk foods are prominent (Furlong and Catmel, 2007). One of the services directly involved in tackling this problem is that of school health services in which the School nurse plays a significant role. In Norway, several studies have been conducted on the prevalence and treatment of Childhood overweight and obesity (Øen, & Stormark, 2012; Oellingrath, Svendsen, & Brantsaeter, 2010; Kokkvoll et al, 2012). However, searches in various data bases reveal that no particular attempts have been made to obtain an understanding of the perceptions of nurses who are directly involved in tackling this problem in schools. The current study therefore seeks to address this knowledge gap by exploring the perceptions and practices of three school nurses on childhood obesity prevention in Norway’s high modern society. In doing so, it shall also endeavor to unearth the perceived linkages between childhood obesity and aspects of modernity such as the mass media and the food industry. Norway along with the rest of

Scandinavia has been described by Inglehart & Baker (2000) as well as Tomasson (2002) as a highly secular rational society making it an epitome of high modernity and therefore ideal for such a study. The findings from this study will help to expand the knowledge base on the subject matter by clarifying the nature of perceptions held by school nurses on childhood obesity, the perceived linkages between modernity and obesity, as well as the challenges inherent in dealing with childhood obesity in schools.

1.3.Purpose of the study

The purpose of this study is to explore the views and practices of three school nurses in the prevention of childhood obesity in Norway's high modern society.

1.4. Research questions

- 1.4.1. What are the practices of three school nurses in the prevention of childhood obesity in Norway's conditions of high modernity?
- 1.4.2. What are the perceptions of three school nurses on the prevention of childhood obesity in Norway's conditions of high modernity?

Operational definition of key terms and concepts

School Nurse: A person who has completed a minimum of 3 years of nurse education and is directly involved in the provision of school health services – having direct contact with the pupils.

Child: Any person aged below 18 years of age (this will include adolescents). The study shall however focus on children aged 6 to 12 years.

High Modernity: The current phase of development of modern institutions marked by the radicalizing and globalizing of basic traits of modernity (Giddens 1991, p. 243)

Childhood obesity prevention (COP) practices: All the activities conducted at child level and school level with an aim of preventing, detecting and or reducing the consequences of childhood obesity. Adapted from Kubik, Story, and Davey (2007)

REVIEW OR LITERATURE

2.1. Theoretical foundations

This study shall make use of two theoretical frameworks namely; the Health Belief Model developed by Becker in (1974) and Giddens' dynamism of modernity as explained in Giddens (1990, 1991). The later shall be used to explain childhood obesity as it relates to high modernity while the former shall provide the structure for studying the perceptions of the three nurses on childhood obesity.

2.1.1 The health belief model

The Health Belief model is useful in explaining health related behaviors. Its main components include; perceived severity, perceived susceptibility, perceived benefits, perceived barriers, cues to action and the recently added self-efficacy (National Cancer Institute, National Institutes of Health, 2005).

Perceived Severity - Refers to subjective assessment of the severity of a health problem and its potential consequences. The health belief model proposes that individuals who perceive a given health problem as serious are more likely to engage in behaviors to prevent the health problem from occurring or reducing the problem.

Perceived Susceptibility- This is the subjective assessment of risk of developing a health problem. The health belief model predicts that, individuals who perceive that they are susceptible to a particular health problem will engage in behaviors to reduce their risk of developing the health problem. The combination of perceived seriousness and perceived susceptibility is referred to as perceived threat.

Perceived Benefits – This is an individual's assessment of the value of engaging in a health-promoting behavior to decrease risk of disease. If an individual believes that a particular action will reduce susceptibility to a health problem or decrease its seriousness, then he or she is likely to engage in that behavior regardless of objective facts regarding the effectiveness of the action.

Perceived Barriers - Refers to an individual's assessment of the obstacles to behavior change. Even if an individual perceives a health condition as threatening and believes that a particular action will effectively reduce the threat, barriers may prevent engagement in the health-promoting behavior. In other words, the perceived benefits must outweigh the perceived barriers in order for behavior change to occur.

Modifying Variable – These are individual characteristics which include demographic, psychosocial, and structural variables that can affect perceptions (i.e., perceived seriousness, susceptibility, benefits, and barriers) of health-related behaviors.

Cues to Action-The health belief model suggests that a cue, or trigger, is necessary for prompting engagement in health-promoting behaviors. Cues to action can be internal or external. Physiological cues (e.g., pain, symptoms) are an example of internal cues to action. External cues include events or information from the media or health care providers promoting engagement in health-related behaviors.

Self-Efficacy-It was added to the four components of the health belief model in 1988. It refers to an individual's perception of his or her competence to successfully perform a behavior. Self-efficacy was added to the health belief model in an attempt to better explain individual differences in health behavior.

Application of the theory

The components of the Health Belief model shall be used in the current research to study the perceptions of school nurses on childhood obesity prevention. The component of perceived threat will be useful in understanding whether school nurses perceive childhood obesity to be a serious problem with severe consequences or not. It will also help understand the factors which are perceived to increase susceptibility of the modern generation of children to obesity. The component of perceived benefits will be used to understand what school nurses consider to be the benefits of their interventions in preventing childhood obesity. If nurses believe that their action will reduce susceptibility to childhood obesity, they are more likely to engage in COP. Perceived barriers will be applied to understand what nurses consider to be obstacles in providing COP services. The

study of barriers will be beneficial in developing strategies to overcome these challenges thereby promoting school nurses engagement in COP. The aspect of cues to action will help determine the factors that trigger nurses to take action in preventing childhood obesity. Finally, self-efficacy will demonstrate the levels of confidence which nurses have in their skills and actions. If nurses have high self-efficacy in COP practices, they are more likely to engage in it. The modifying variables which this study shall consider will include nurses' years of experience and training.

2.1.2 Dynamism of modernity by Giddens (1990, 1991)

Three main elements are involved in creating the peculiarly dynamic character of modern social life and these are: separation of time and space, disembedding of social institutions and reflexivity of modernity (Giddens, 1991, p. 16)

Separation of time and space: The separation of time from space involved above all the development of an empty dimension of time, the main force which also pulled space away from place (Giddens, 1991). Giddens (1991) argues that; the invention and diffusion of the mechanical clock has enabled modern social organization to presume the precise coordination of the activities of many human beings physically absent from one another. He argues that, there is an intrusion of distant events into everyday consciousness through mediated experience (p. 26); that the visual images which television, films and videos present no doubt create textures of mediated experience which are unavailable through the printed word.

Disembedding of social institutions: This refers to the lifting out of social relations from local contexts of interaction and their restructuring across indefinite spans of time-space (Giddens, 1990, p. 21). Giddens (1991, p. 18) explains that; disembedding mechanisms are of two types; symbolic tokens and expert systems. The two are collectively referred to as abstract systems. According to Giddens (1990, p. 22), "symbolic tokens are media of interchange which can be "passed around" without regard to the specific characteristics of individuals or groups that handle them at any particular juncture." Money is the prime and most pervasively important example of symbolic tokens of modern social systems (Giddens, 1991, p. 18). He further explains that, expert systems penetrate virtually all

aspects of social life in conditions of modernity - in respect of the food we eat, the medicines we take; the buildings we inhabit, the modes of transport we use and a multiplicity of other phenomena (p. 18), adding that experts such as doctors, counselors, therapists, scientists, technicians or engineers are all central to the expert systems of modernity. Giddens (1991) further explains that, people living in industrialized countries, are generally protected from some of the hazards routinely faced in pre-modern times (p. 19) adding that; on the other hand, new risks and dangers are created through the disembedding mechanisms themselves and these may be local or global.

Reflexivity of modernity: This refers to the susceptibility of most aspects of social activity and material relations with nature, to chronic revision in the light of new information or knowledge (Giddens, 1991, p. 20). The reflexivity of modernity extends into the core of the self, in the context of a post-traditional order; the self becomes a reflexive project (p. 32). This reflexivity of the self extends to the body whereby the body is part of an action system rather than just a passive object (p. 77). According to Giddens (1991), the body in late modernity becomes increasingly socialized and drawn into the reflexive organization of social life (p. 98). Body regimes and the organization of sensuality in high modernity become open to continuous reflexive attention against the back drop of plurality of choices (p. 102). Both life planning and the adoption of lifestyle options become integrated with bodily regimes (p. 102). Giddens (1991) further argues that, shame bears directly on self-identity because it is essentially anxiety about the inadequacy of the narrative by means of which the individual sustains a coherent biography, a biography which in itself is reflexively organized. The early socialization of children tends increasingly to depend on the advice and instruction of experts (pediatricians and educators) rather than on the direct initiation of one generation by another – and this advice and instruction is itself reflexively responsive to research in process (p. 33).

Application of the Theory

Giddens' dynamism of modernity shall be used to explain childhood obesity as it relates to high modernity. Its three main elements shall be used to develop a coherent sociological

understanding of the contours of modernity that impinge on childhood obesity as well as on the perceptions and practices of school nurses in childhood obesity prevention.

2.2. Review of Research

This section consists of a scrupulous review of literature on perceptions and practices of nurses and other health care professionals on childhood obesity and its prevention. The literature on perceptions has been structured according to the key components of the health belief model which are: perceived threat, perceived benefits, perceived barriers, cues to action and self-efficacy. This review of literature provides an understanding of existing knowledge on the subject matter and ascertains the deficiencies prevalent in such knowledge. Sources of reviewed literature included published research articles, Literature reviews, Conference reports and Books.

Childhood obesity and Modernity

Childhood Obesity (CHO) emanates from an amalgamation of exposure of the child to an obesogenic environment and inadequate behavioral and biological responses to that environment. According to the WHO (2016), these responses are highly influenced by developmental or life-course factors and therefore differ among individuals. An obesogenic environment is one that promotes high energy intake and sedentary behavior. This includes the foods that are available, affordable, accessible and promoted; physical activity opportunities; and the social norms in relation to food and physical activity (WHO, 2016).

The WHO (2016) further indicated that many children today are growing up in environments that perpetuate weight gain and obesity; citing globalization and urbanization as factors that have culminated into heightened exposure to the obesogenic environment in both high-income countries and low - middle income countries and across all socioeconomic groups. Changes in food availability and type, and a decline in physical activity for transport or play, have resulted in energy imbalance whereby; children are exposed to ultra-processed, energy-dense, nutrient-poor foods, which are cheap and readily available. Compounding this is the reduction in opportunities for physical activity, both in

and out of school, resulting in more time being spent on screen based and sedentary leisure activities (WHO, 2016).

Additionally, the WHO (2016) has noted that cultural values and norms impinge on people's perception of healthy or desirable body weight and that the risk of obesity can be passed from one generation to the next, as a result of behavioral and/ or biological factors. Behavioral influences continue through generations as children inherit socioeconomic status, cultural norms and behaviors, as well as family eating and physical activity behaviors (WHO, 2016). Implicit in the deliberations of the WHO (2016) is the notion that, some attributes characteristic of modern societies such as new transport systems, advanced food processing (junk foods) and sedentary lifestyles have contributed immensely to the problem of CHO. This corroborates with the findings of Hodge, et al (1995) in a study aimed at investigating the association between individual degree of modernization and obesity in Papua New Guineans. In this study, it was found that more modern subjects had higher mean Body Mass Index (BMI) and lower levels of physical activity. It was thus concluded that; aspects of modernity, such as more sophisticated housing and greater number of years spent in an urban center, may be markers of higher income and increasing adoption of Western ways, which in turn were associated with physical inactivity and increased availability of energy-dense Western food, thus promoting obesity in the rapidly developing Pacific nation of Papua New Guineans.

It is worth noting however that, some researchers have argued that the levels of CHO are plateauing in some high income countries even though they still remain considerably high when measured against predetermined acceptable levels (WHO, 2016). This could be related to what sociologist Anthony Giddens (1991, p. 20) has termed "The reflexivity of modernity" which entails chronic revision of social activity and material relations with nature in the light of new information or knowledge. Therefore, the generation and use of new knowledge on diets and physical activity in high income countries could be culminating into lifestyle changes and a subsequent plateauing of CHO levels. Giddens (1991, p. 18) has further talked about expert systems citing doctors, counselors and therapists as some of the professionals central to the expert systems of modernity – in respect of the food we eat, the medicines we take and a plethora of other phenomena.

Nurses and indeed other health care professionals all fall within Giddens' context of expert systems. Against this pretext therefore, what are the practices and perceptions of these professional expert systems on childhood obesity?

School nurses' childhood obesity prevention practices: According to Kubik, Story, and Davey (2007), childhood obesity prevention practices can be child-level practices (targeting individual children/parents) and/or school-level practices (targeting the entire school population). The practices particularly address primary, secondary, and tertiary levels of prevention. Primary prevention practices include educating children, parents, and school staff, and monitoring or influencing policies to promote healthier lifestyles; education and recommendations regarding increased physical activity, better nutrition, less television/computer time, and adequate sleep (Crothers, Kehle, Bray, & Theodore, 2009). BMI screenings aimed at detecting children who may rip utmost benefits from COP interventions comprise secondary prevention. Results of such screening may be reported to parents to stimulate healthy lifestyle changes and refer for treatment if needed. They may also be used for purposes of surveillance to improve COP policies, practices, and services at the school level (Nihiser et al., 2007). Tertiary prevention practices are aimed at preventing or minimizing the health consequences of childhood obesity. Examples include monitoring the blood pressure of obese children and referring or recommending weight loss/management, in special circumstances (Quelly, 2014).

Perceived threat (perceived seriousness and perceived susceptibility): A number of studies have demonstrated that nurses and other health care professionals perceive childhood obesity as a serious problem requiring intervention. In Story et al's (2002) qualitative study, majority of respondents felt that childhood overweight was a serious condition that needed treatment and that it affects chronic disease risk and future quality of life. Nearly half felt that childhood or adolescent overweight was more amenable to treatment than adult overweight. This corroborates with studies by Gerards et al (2012) and Odum et al (2013) in which all but one of the participants expressed concern about the seriousness of childhood obesity and perceived its prevention as an important task of the youth health care (YHC) organization in Netherlands and the School health service in the USA respectively. Participants in the study by Odum et al (2013) cited the home

environment, poor nutrition, child control of dietary choices, child inactivity, and entertainment electronics as factors contributing to childhood obesity.

Perceived benefits: Not surprisingly, school nurses have identified a number of benefits of COP practices. In a nationwide study examining BMI screening in elementary school children, the majority of school nurses in the sample agreed that the following items were benefits: creates awareness of obesity problem, provides evidence to change policy, educates students/parents about possible problems, provides BMI information to parents so they can monitor their child's weight, and encourages increased physical activity and healthier food choices for students (Hendershot et al., 2008). Over half of the nurses in elementary and middle schools in the Moyers et al's (2005) study agreed that obese children can lose weight and maintain their weight loss with proper guidance, which suggests a perceived benefit of COP interventions. This study also found a significant positive correlation between the perceived benefit that childhood obesity was more amenable to treatment than adult obesity and the school nurse COP practice of recommending weight loss for obese children (Moyers et al., 2005)

Perceived barriers: Most school nurse perceived barriers to COP included; inadequate, inappropriate, and/or negative parental responses, insufficient time and excessive workloads as well as limited school and community resources (Hendershot et al., 2008; Moyers et al., 2005; Nauta et al., 2009; Stalter, Chaudry, & Polivka, 2011; Morrison-Sandberg, Kubik, & Johnson, 2011; Steele et al., 2011). Negative parental responses were typically associated with parental notification of a child's BMI and/or discussions of a child's weight problem (Hendershot et al., 2008; Moyers et al., 2005; Nauta et al., 2009; Stalter et al., 2011; Steele et al., 2011). Lack of time and heavy workloads have been identified as barriers to measuring BMI and other COP practices, with increased responsibilities for the care of students with chronic illnesses and serious health conditions receiving higher priority (Morrison-Sandberg et al., 2011; Stalter et al., 2011).

Self-Efficacy: Studies have demonstrated that a person with higher self-efficacy engaged in the related behavior more frequently and tended to perceive more benefits and fewer barriers associated with the behavior (Quelly, 2014). Fisher (2006) found that, as self-efficacy increased, school nurses spent more time educating patients about diabetes

management. In a study by Hendershot et al (2008), most school nurses reported moderate to high levels of confidence in their ability to calculate, track and help parents interpret the BMI of children as well as in making dietary and physical activity recommendations. Majority of school nurses further reported moderate to very high self-efficacy for using data to convince school administrators to implement programs. On the other hand, studies by Moyers et al (2005) and Nauta et al (2009) demonstrated a lack of self-efficacy in school nurses' perceived ability to initiate and competently conduct a discussion or make recommendations regarding weight with an obese child or the child's parent. Steele et al (2011) also found that school nurses perceived they were less competent when counseling families from cultures other than their own because of differences in languages, dietary habits, perceptions about normal body size/ shape, and prevalence of weight problems in the other's culture. A focus group of Swedish school nurses working with 6–12 years old children reported high self-efficacy recommending appropriate diet, exercise, and other facts to obese children and their parents yet indicated low confidence in their ability to conduct a motivating conversation about a child's weight problem (Mu"llersdorf, Zuccato, Nimborg, & Eriksson, 2010).

Cues to action: According to Park (2011), cues to action refer to influences of social environment such as family, friends and mass media. In the case of school nurses, factors that may trigger their involvement in Childhood obesity prevention include: written directives from health authorities, various publications on the prevalence of childhood obesity, personal experiences and many others.

Conclusion of review of research

The various pieces of research material that were analyzed generally suggested that; most school nurses perceive childhood obesity to be a serious problem, that it might be linked to aspects of modernity and that there exists both barriers and benefits in COP. Levels of self-efficacy have been variable from one activity to another. Notable however is the phenomenon that, only scarcely have studies been conducted in Norway on the perceptions of school nurses on childhood obesity: A knowledge gap which the current study seeks to address.

METHODS AND PROCEDURES

3.1. Study design

A qualitative study design was selected for this study. According to Flick (2014), qualitative research is interested in analyzing the subjective meaning or the social production of issues, events or practices by collecting non standardized data and analyzing texts and images rather than numbers and statistics. Given the subjective nature of the phenomenon under scrutiny therefore, i.e. Perspectives of nurses, the researchers selected a qualitative approach as it allowed for collection of profound personal views and socially constructed aspects of the subject matter. Use of the qualitative approach was also resource convenient as it allowed for a smaller sample and demanded less time and material resources. However, the researchers were aware of the pitfalls of this method as highlighted by Mack et al (2011), some of which include difficulty in generalization of results to other people or other settings and the researchers own personal biases serving as an intervening variable.

3.2. Study setting

The study was conducted at one of the health stations in Norway that is involved in the provision of school health services in the locality. In this study, the health station was referred to as “Station A” for purposes of maintaining confidentiality. It was during their practical placement at this health station that the two researchers observed the provision of school health services by nurses and consequently developed an interest in studying the perceptions and practices of school nurses on childhood obesity prevention.

3.3. Data Collection Method and data collection tool

A group interview was done in a quiet and private room for confidentiality purposes. The respondent data was collected through a group interview using a semi structured interview schedule (see appendix 1). The motivation behind the use of a group interview in this study was the limitedness of time for individual interviews. Furthermore, according to Flick (2014, p. 243), group interviews are advantageous in that, they are low cost and rich in data, that they stimulate the respondents and support them in remembering events and that they can lead beyond the answers of a single interviewee. The researchers are however

aware of the downsides of this method which include the limitedness of questions one can address and the problem of taking notes during the interview (Flick, 2014, p. 243). The researchers addressed the problem of taking notes during the interview by having one interviewer managing the interview and the group while the other focused on documenting the responses. This approach has been recommended by Patton (2002).

3.4. Population and Sample selection

The study targeted 3 nurses who were involved in the provision of school health services via one health station. The sample in this study was selected via the use of convenience sampling. This was because convenience sampling requires very little preparation time, it is cheap and easy to carry out, with minimal rules governing how the sample should be collected. The disadvantage is that Convenience samples do not produce representative results and are hard to replicate (Brink, 2007).

3.5. Data Analysis Procedures

Qualitative content analysis procedure was applied in the analysis of data. Foremost, audio recordings were transcribed verbatim by the two researchers independently, culminating into two transcriptions. The two transcriptions were then compared and merged into one. This was done as a means of investigator triangulation to ensure credibility in the study. The health belief model then served as the coding frame allowing data to be categorized into its main components. According to Flick (2014), the coding frame and the use of theory based categories makes content analysis more systematic than other methods of qualitative data analysis.

3.6. Ethical Consideration

It is imperative that ethical issues are considered when conducting a research to protect the rights of the participants. Consent was obtained from the authorities at the health station. Participants were made aware of the nature, purpose of the project and their rights concerning the study. The purpose of doing so was to enable the participants to make an informed and voluntary decision to participate in the study or not to. Participants were also made aware that they were free to withdraw from the study if they so wished at any given

time. Confidentiality was maintained at all costs, i.e. the interview did not bear any identifying features of participants like names and physical codes. Furthermore, the interview notes and tape were kept inaccessible to people other than the researchers.

3.7. Methodical strengths and weakens

3.7.1 Strengths

The qualitative approach allowed for collection of profound personal views from the nurses. Furthermore, the group interview approach was advantageous in that; it was low cost and rich in data; it stimulated the respondents and supported them in remembering events. The generation of two independent interview transcriptions was a form of triangulation and that improved the credibility of the study. The focus on one municipality meant that the data was homogenous thereby reducing the influence of extraneous variables.

3.7.2 Weaknesses

The sample size in this research was small making it difficult to generalize the findings. Patton (2002, p. 385) has recommended that a group interview typically comprises 6 to 8 people. In the current study however, the study setting only had 4 school nurses working under it. One of the nurses could not manage to attend the interview. The study could not be extended to another municipality because counties and municipalities in Norway might have different characteristics (Europe, W. H. O, 2013) and that could have been an extraneous variable. Language was yet another limitation in that, the participants' first language was Norwegian while English (the language used in the interview) was their second language thereby making it difficult for them to fully express their views. To overcome this challenge, the interviewers used probing questions.

RESULTS

4.1. Presentation and Analysis of Data

This chapter consists of a presentation of empirical data obtained from the group interview using a semi structured interview schedule. It further describes how data was processed and analyzed in the current study. According to Polit and Hungler (2010), data analysis is the systematic organization and synthesis of research data to elicit meaning from the research data. Following the interview, audio recordings were transcribed verbatim by the two researchers independently, resulting into two distinct transcriptions. The two transcriptions were then compared in light of the recordings and written record of interview then merged into one. Qualitative content analysis method was then used to analyze the data. According to Scheier (2014, p. 170 cited in Flick, 2014), qualitative content analysis is a method for systematically describing the meaning of qualitative data, this is done by assigning successive parts of the material to categories of the coding frame. Furthermore, Flick (2014, p. 429) has argued that an essential feature of qualitative content analysis is the use of categories that are often derived from theoretical models; that is, categories are brought to the empirical material and not necessarily derived from it. In this regard therefore, the health belief model served as the coding frame allowing data to be categorized into its main components (perceived threat, perceived benefits, perceived barriers, cues to action and self-efficacy). According to Flick (2014), the coding frame and the use of theory based categories makes content analysis more systematic than other methods of qualitative data analysis. Participants' own words were used to list the key statements and ideas expressed under each category. The most useful information that emerged from the interview was selected to illustrate the main ideas. A total of 3 nurses from one health station in Norway participated in the group interview. All the three nurses had undergone specialized training as Public health nurses and had worked as such for periods ranging from 16 to 29 years. All the three were involved in the provision of school health services in the locality.

School nurses' childhood obesity prevention practices: Under this theme, the nurses responded to the questions; "what criteria are you using to grade childhood obesity? What activities are you undertaking to prevent and treat child hood obesity? And how do you

communicate with parents about childhood obesity?” Regarding criteria, the group unanimously indicated that all school health services were using guidelines given by the Norwegian health directorate which are based on BMI calculation. The activities narrated by the nurses included: General nutritional counseling and health education for parents (health promotion), screening for overweight and obesity at 3rd and 8th grades through BMI calculation, sending of letters to parents both before the screening and after the screening informing them of the activity and summoning of those parents whose children fell within the risk group respectively.

“In the schools, we have screening at 3rd grade and 8th grade according to the health directorate’s recommendations.” “After the screening, we write the parents a letter informing them about the child’s overweight or obesity and requesting to meet with them.”

Another participant indicated that the nurses talked to the children to establish their health habits at home and whether they experienced any physical or psychosocial problems.

“.....Then we look at how the child’s weight has been progressing, chronic diseases, whether the child experiences any psychosocial pressure, any musculoskeletal problems, physical capacity, are you tired, how do you go to and from school? Do you ride a bicycle, come by bus or parents bring you, or do you walk? Are the meals regular, how about snacks, do you eat in front of the T.V, are you eating breakfast, are you always hungry, how much do you eat....as much as your mother and or father, how about lemonade and juice, snacks, how do you use food...is it a comfort thing or a reward? So it’s quite a wide variety of things we talk about”

When asked whether they prescribed any diets to obese children, the participants said they did not. *“No we don’t recommend any diets, when we talk about these snacks and juice and lemonade, we talk about how to minimize the sugar consumption, the size of the food portion, how much and how often do you eat,is there something to improve there.... and that is not a diet.”* Another added saying, *“If they are very obese, then we refer to the doctor because the health directorate has given guidelines on when to refer to the doctor and other specialist type of care so we have these criteria.”*

Perceived Threat: This theme was used in the interview where the nurses elaborated the seriousness of childhood obesity, the factors contributing to it being a problem and the potential problems that children may face due to being obese. One of the nurses narrated that childhood obesity was a slowly growing problem, she said;

.....umh I think its about 16 to 18% at the 3rd grade and about 20 - 22% in the whole country. I think we have a small population so it varies. As a kommune, at 8th grade, I think we are higher. She further said; "I don't think the problem is reducing in our commune, it's not reducing. But we haven't had this survey since 2010. However, when recruiting into the military, recruits from our komune have been found to weigh more than the rest of the country so we have this red label on our statistics. So yes it is a problem that needs to be dealt with."

The nurse further narrated that it was a growing problem due to factors like, lack of exercise, sedentary lifestyle, consumption of unhealthy food or diet. She said;

Umh....its not one reason, many of them.....lots of snacks, not so much activity, Smart Phones, laptop, a lot of that I think.... and we have so much energy rich food which is so easily accessible, and we can get it every day, and so much sugar available and that's cheap.

Another nurse said: *"And we have a lot of money, the parents give their children a lot of money and they don't know what the children are buying, they can go to the store and buy what they want and I think that's a big problem."*

Another nurse added that; *"Parents are driving them to the activity and to school. And here in this area, I think a lot of kids go for these activities but the parents bring them by car and pick them up afterwards instead of allowing them to walk which might just take 10-15 minutes."*

With regards to whether parents' level of education and ethnicity had an influence on childhood obesity, the nurses felt that, despite statistics indicating an association between childhood obesity and parent's level of education as well as ethnicity, this association was not visible in their practice. *"Well, statistics say that, but I don't see anything like that*

here, I can't see it, we have this problem in all types of families. "Statistically, you can see the difference but not in our practice."

Regarding the physical and social consequences of childhood obesity, the participants cited the following; social stigma, failure to identify with peers, difficulties with physical activity and play, challenges with dressing and physical appearance as well as physical illness later in life.

"Socially, it's difficult to be with friends in the afternoon because they can't do the same as the others; the others are just running passed them. I heard a boy say that he was afraid of the summer because he said - when it's time to swim, he couldn't have on he's shorts because he was so fat." ".....They are so big, so they remain at the school when others are out having fun in the mountains. When you're so big, I think then it's a real problem, you don't get friends" added another.

"The biggest ones, they can't use the same clothes as the others because they can't get clothes to fit their weight so they roll up the sleeves.... It's difficult to get them nice clothes and I think that's a problem and then because of this they say 'we are not like the others' they are different and they feel it. I have some of them now and it's terrible," added another.

Another participant said; *"And I think it gets worse the older they get but then it's also more and more difficult to talk about it for them as they get old. I have one girl and she just cries, she can't stop crying when we talk about it. So it's quite a problem for them."* *"But I think they try so hard to not think of it so she doesn't like to talk about it."*

Perceived Barriers: This theme was discussed to bring up what the nurses considered to be obstacles in providing childhood obesity prevention services. Barriers like not having enough time with the children and parents refusing to accept that the child is obese. Nurses said; *"However, occasionally we receive telephone calls from angry parents saying they don't see this as a problem, they don't think it is a problem."* *"I have had some mothers who have said "I don't want this consultation; I don't think it's a problem". So this is the biggest problem. But we don't force them to come for consultation, it's their choice"*

It was indicated by one of the participants that the best approach was to help the parents to brainstorm for solutions on their own through dialogue rather than enforcing solutions on them. *“I think the best has been to listen to the parents as they are talking, if they say that ‘oh here we can do something, here we can make some changes in our lifestyle,’ allow them to come up with things that they can change and not just being forced... The best is if the parents can see that yes we can do this, this is really a problem.*

On parents expressing shame that their child is obese, the nurses narrated;

“Oh yes...they think the society thinks they have failed to be good parents or maybe they themselves put this label on themselves.”

When asked if they had enough time to deal with the problem as prescribed by the directorate, the nurses responded; *“No, they have said something about how much time we should spend on doing these extra practices when the new guidelines were released, but we haven’t had some extra time resource to do it...”*

Another said: *“I think it’s not taking the weight and height that is a problem.....because that’s easy and fast.... but I think the problem is to get the support from their parents if they are going to make changes, that we don’t have enough time for....”*

Perceived Benefits: This component of perceived benefits was discussed to bring out what school nurses consider to be the benefits/positive outcomes of their interventions in preventing childhood obesity. The nurses explained; *“We have this as a theme and so we can talk about it so, it’s not scary I think ... so it’s more legal to talk about it, and I think that they are getting used to it more and more.”* *“Now they know that in the 3rd and 8th class, we are taking weight and they are okay with that.”*

She went on to narrate the benefit of early detection of overweight; *“....the first time for this 3rd grader I could see that the child’s weight was going up but it was not so much so I took this card to the parents and we talked about it and they appreciated it so that they don’t have to wait until 8th grade and by then it could be too late.”*

Another said, *“When I encountered a child in 6th grade and he was very obese, and the doctor was saying - this is very bad, your child will have heart problems and the mother*

was saying (ok).....she's helpless.” “It was so hopeless that the mother couldn't do anything about it, she had had help from the hospital, from her doctor, we could help her but we can't make the food, we can't exercise her boy, she has to do it, but.....she couldn't do it, she had said I can't do it any more....and that's the problem. So I think we need to intervene early before the problem is too much.”

When asked if parents were learning more about the problem through school health services, the nurses responded; *“I think they know about it but it's to do something about it that is a problem.”* Another added: *“But our interventions are a reminder to say oh we have to do something, it's like a wakeup call.”*

Self-efficacy: To determine how confident the nurses felt regarding their ability to engage in childhood obesity prevention, the nurses were asked the question; *“How would you describe your level of competence in preventing and treating childhood obesity?”* they unequivocally expressed high levels of confidence in their skills and experience. *“I think we are quite competent in dealing with this problem, both to have a dialogue, a talk with the child and the parents, and we have some extra training and that is beneficial...”* *“Yes we are,”* added another.

“And our education as a primary health nurse, we are trained to think about how we can prevent further problems, we have of course a lot of experience and knowledge about what is needed to prevent it and bring about some change,” said another.

Cues to action: During the interview, the nurses cited guidelines and requirements from the Norwegian health Directorate and statistics on childhood obesity as factors that trigger their actions in childhood obesity prevention: *“In the schools, we have screening at 3rd grade and 8th grade according to the health directorate's recommendations.”* Another said: *“Statistics are there ... I don't think the problem is reducing in our kommune, it's not reducing so..... So yes it is a problem that needs to be dealt with.”*

DISCUSSION OF FINDINGS AND CONCLUSION

5.1. Discussion of findings

The aim of the current study was to explore the views and practices of three school nurses in the prevention of childhood obesity in Norway's high modern society. This chapter therefore commences with a discussion of the characteristics of the study sample, followed by a systematic discussion of the practices and perceptions of the 3 school nurses in the prevention of childhood obesity.

Sample characteristics

The study targeted 3 nurses from one health station in Norway. All the three nurses had undergone basic nurse training followed by specialized training in Public Health Nursing and they reported having worked as such for periods ranging from 16 to 29 years. Furthermore, all the three were actively involved in the provision of school health services. This finding suggests that, the 3 nurses had vast experience and specialized competence in dealing with the health of school aged children. According to a study by Blegen, Vaughn, & Goode (2001), nurses with more experience provided higher-quality care. This could also explain why the 3 nurses expressed high levels of self-efficacy in dealing with childhood obesity. Additionally, according to Giddens (1991, p. 30), specialization is the key to the character of modern abstract systems. He argues that modern expertise unlike pre-modern expertise is highly reflexively mobilized and is generally oriented towards continual internal improvements or effectiveness. Therefore, the reflexive nature of modern expertise could be a factor compelling the three nurses to attain specialized training and to constantly strive for efficiency. Based on the assumption of the health belief model, specialization and years of experience could be modifying variables affecting the practices of school nurses in childhood obesity prevention.

Childhood Obesity Prevention Practices of Three School Nurses: The three nurses in this study explicitly indicated their participation in both child level and school level COP practices with a strategic integration of primary, secondary and tertiary level prevention activities. Primary prevention activities included; counseling and education for all parents and children on the need for physical activity, better nutrition and the need to reduce time

spent on screen based activities. Secondary prevention activities encompassed BMI screening for overweight and obesity among 3rd and 8th grade pupils as well as sending of notification letters to parents of children falling within risk groups. Tertiary prevention activities on the other hand included; assessment of overweight and obese children for susceptibility to and/or presence of complications (such as, Diabetes mellitus, Hypertension, hyperlipidemia, heart problems and psychosocial pressures), as well as appropriate referral for further management. This range of practices was similar to that demonstrated by school nurses in studies by Nihiser et al., (2007); Crothers, Kehle, Bray, & Theodore, (2009); Quelly, (2014). Notable however was that, the three nurses in the current study did not prescribe any diets but referred those in need of such management to doctors and other specialists. This could further be indicative of the profound character of specialization in high modernity as described by Giddens (1991, p. 30). Of further interest was that, contrary to Hendershot's (2008) study in which majority of nurses reported using data to convince school administrators to implement programs, the nurses in the current study did not report taking measures to influence policy. The aspect of influencing change is critical as it fosters continued improvements.

The COP practices undertaken by the three nurses in the current study such as counseling of parents and children exemplify the pervasive role of abstract systems in child upbringing under conditions of modernity. According to Giddens (1991, p. 33), abstract systems have become centrally involved not only in the institutional order of modernity but also in the formation and continuity of the self. He argues that; the early socialization of children tends increasingly to depend on the advice and instruction of experts (pediatricians and educators) rather than on the direct initiation of one generation by another – and this advice and instruction is itself reflexively responsive to research in process.

Perceived threat: The component of perceived threat in the health belief model is a combination of perceived severity and perceived susceptibility. Consequently, it was used in the current study to understand how serious the nurses thought the problem of childhood obesity was, the factors thought to be contributing to the problem in conditions of high modernity as well as its consequences. The nurses indicated that childhood obesity was a

growing problem, that its incidence was not reducing and that it needed intervention. Availability and consumption of energy dense foods, high income among parents (*And we have a lot of money, the parents give their children a lot of money and they don't know what the children are buying, they can go to the store and buy what they want and I think that's a big problem..*), increased time spent on screen based activities (time spent on computers, Smart phones, Television and other entertainment electronics) and reduced physical activity for both work and play (Children being driven by car to all activities) were some of the factors cited as contributing to the problem of childhood obesity. This is consistent with studies by Story et al (2002); Gerards et al (2012) and Odum et al (2013) in which the participants indicated that childhood obesity was a serious problem requiring treatment and that the home environment, poor nutrition, child control of dietary choices, child inactivity, and entertainment electronics were contributing to childhood obesity.

It was intriguing to note that, certain features typically characteristic of modernity's abstract systems (such as computers, entertainment electronics, advanced transport systems and advanced food processing) were implicated in increasing susceptibility to obesity among children living in conditions of modernity. These systems reduce children's opportunity for physical activity while increasing the availability of energy dense foods; a combination that typifies the obesogenic environment described by the WHO (2016). This further corroborates with Giddens' (1991, p. 19) who argued that; new risks and dangers are on the other hand created through the disembedding mechanisms themselves...that; food stuffs purchased with artificial ingredients may have toxic characteristics absent from more traditional foods. This further tallies with a study by Hodge et al (1995) in which it was found that more modern subjects had higher mean Body Mass Index (BMI) and lower levels of physical activity leading to the conclusion that; aspects of modernity, such as more sophisticated housing and greater number of years spent in an urban center, may be markers of higher income and increasing adoption of Western ways, which in turn were associated with physical inactivity and increased availability of energy-dense food, thus promoting obesity in Papua New Guineans. The aspect of increased income among parents which further trickled down to the children, enabling them to buy energy dense foods may also signify yet another pervasive effect of symbolic tokens inherent in high modernity. According to Giddens (1991, p. 18), money is the prime and most pervasively

important example of symbolic tokens of modern social systems. The marked availability of money (a symbolic token) to children superimposes the influence of mediated experience on these children. This is because, through the mass media, children are exposed to adverts showing attractive energy dense foods, once availed with money by their parents, the children then take the opportunity to bring their mediated experience into reality by buying the food. Giddens (1991) has argued that; “the visual images which television, films and videos present no doubt create textures of mediated experience....” (p. 26), that “the prevalence of mediated experience undoubtedly also influences pluralism of choices in obvious and also in more subtle ways.” (p. 84). The aforesaid may suggest that, certain features of modernity such as abstract systems may carry childhood obesity as an inadvertent offshoot.

It is however worth considering that, modernity also has a reflexive character as argued by Giddens (1991, p. 20), It has an inclination towards constant revision in light of new information. This could be the reason why the problem of obesity in general has been given much attention by the three nurses in the current study as well as the general population in Norway. According to Malterud & Ulriksen (2010)’s study entitled “Norwegians fear fatness more than anything else”, it was found that; messages in Norwegian newspapers increasingly promulgated notions that; beauty would suffer when weight increases due to reduced attractiveness - linking leanness with attractiveness and delight, suggesting that fat people are ugly and unhappy; that obese people lacked control and that obesity was linked to greediness, lack of responsibility and bad health. Fat people were displayed as undisciplined and greedy individuals who should be ashamed. These notions conform greatly to patterns resulting from extension of modernity’s reflexivity to the self and subsequent extension of the reflexivity of the self to the body. People in modernity try to adapt their bodies and those of their children to their reflexive identity (Giddens, 1991).

Little wonder that from the perspective of the three nurses in the current study, the social repercussions of childhood obesity were hefty. They included: social stigma, failure to identify with peers, difficulties with physical activity and play, challenges with dressing and physical appearance, depression as well as physical illness later in life. These

consequences are consistent with those expressed in studies by Fox & Farrow, (2009); Puhl & Heuer, (2009) as well as Choudhary et al, (2007) cited in Øen and Stormark, (2012). Indeed from the nature of newspaper messages conveyed in Norway about obesity, the social price that a child may have to pay for being obese as they approach teenage is heavy. Children have been reported crying, “*She just can’t stop crying....*” due to the heftiness of labels they may assume owing to their obese status. According to Giddens (1991, p. 98), the body in late modernity becomes increasingly socialized and drawn into the reflexive organization of social life. The reflexivity of modernity therefore, imposes considerable pressure on the self and the body and those who seem to fall out of the ideals of this reflexivity (such as the obese) may suffer immense consequences as they are considered to have failed to handle their selves.

Contrary to findings by Kumar et al (2006) and the Europe, WHO (2013) that; People aged 40 years with a high education level were less obese than those with a lower level of education and that; obesity in Norway was more prevalent among young immigrants from other western countries, Eastern Europe and the middle east/north Africa; the three participants in the current study felt that childhood obesity was prevalent in all types of families in comparable proportions. This perspective however could be due to the fact that, the proportion of those who are overweight and obese varies from county to county in Norway (Europe, W. H. O., 2013); the aforementioned study was conducted in Oslo which might have characteristics different from the county in which the current study was conducted. It could also be that, there is a difference in prevalence patterns between childhood obesity and adult obesity.

Perceive Benefits: Perceived benefits are perceptions of the positive consequences that are caused by a specific action (Becker 1974 cited in National Cancer Institute, National Institutes of Health., 2005). Childhood obesity prevention interventions by the nurses in this study had positive outcomes. Early detection of obesity was one of the benefits cited by the nurses in this study, the earlier the detection of obesity, the easier it is to intervene. This finding is similar to a study conducted by Moyers et al (2005), which found a significant positive correlation between the perceived benefit that childhood obesity was more amenable to treatment than adult obesity and the school nurse COP practice of

recommending weight loss for obese children. Participants in the current study further indicated that, childhood obesity prevention services had facilitated in making it more culturally acceptable to talk about obesity with both school children and their parents; it is no longer considered offensive to talk about obesity. Furthermore, the nurses in this study indicated that COP services were beneficial as they served as a wakeup call to parents. Parents play an important role in properly guiding the child to prevent and treat childhood obesity as was expressed by over half of the nurses in elementary and middle schools in the Moyers et al.'s. (2005) study. The assumptions of the health belief model as well as the studies cited above suggest that; if nurses believe that their action will reduce susceptibility to childhood obesity, they are more likely to engage in childhood obesity prevention. The nurses in the current study clearly indicated that they thought their actions were helping to prevent childhood obesity. The benefits reaped from COP practices such as early detection and treatment epitomize the explicit attempts of modernity's abstract systems to protect people from the novel risks and dangers of modernity. Giddens (1991, p. 19) explains that, people living in the industrialized countries and to some extent elsewhere today, are generally protected from some of the hazards routinely faced in pre-modern times by disembedding mechanisms - although the same mechanism produce further novel risks.

Perceived Barriers: An individual's assessment of the obstacles to behavior change is what is referred to as perceived barriers (Becker., 1974 cited in National Cancer Institute, National Institutes of Health., 2005). Findings of the current study revealed that, childhood obesity prevention interventions did not proceed without obstacles. The biggest obstacle of all was negative responses from parents, such as refusing to accept that their child is obese, not supporting the child and feeling ashamed that their child has been labeled as obese. This correlates with a study by Steele et al., (2011) which demonstrated negative parental responses and that such responses were typically associated with parental notification of a child's BMI and/or discussions of a child's weight problem. Insufficiency of time to engage and dialogue with parents so as to help them deal with the problem was another barrier cited by nurses in the current study. This barrier was also expressed by participants in studies by Morrison-Sandberg et al., (2011) and Stalter et al., (2011) who stated that, due to limitedness of time, they gave a higher priority to caring for students with chronic

illnesses and serious health conditions. It is apparent in the current study that, the nurses perceived fewer barriers in their provision of COP services. This was a positive phenomenon and it could be related to their high self-efficacy, specialized training and many years of work experience.

It was however interesting to note that, negative parental responses related to feelings of shame constituted a major barrier to the provision of COP services. It is not surprising that parents of obese children may feel ashamed because the messages promulgated in Norwegian newspapers impose highly negative labels on the condition, labels such as unhappy, ugly, greedy, lazy (Malterud & Ulriksen, 2010). Furthermore, modernity's reflexivity has a tendency to strive towards efficiency and control, control not only of the future but also of the body. Giddens (1991, p. 107) argues that in high modernity, a tightly controlled body is an emblem of a safe existence in an open social environment. Parents of obese children therefore may encounter feelings of having lost control of their child's body, that they are not efficient enough to achieve their reflexively organized lifestyle, a lifestyle devoid of obese children. The shame they experience could be related to the perceived failed narrative of the self. Giddens (1991, p. 65) has explained that; shame bears directly on self-identity because it is essentially anxiety about the inadequacy of the narrative by means of which the individual sustains a coherent biography. Having an obese child in one's narrative of life coupled with massive social antagonism against obesity may render such a narrative inadequate resulting in shame.

Self-efficacy: The three nurses in the current study expressed high levels of self-efficacy in having a dialogue with parents and children regarding obesity. They attributed this self-efficacy to their specialized training and vast years of work experience as public health nurses. This is consistent with findings in studies by Hendershot et al (2008) and Fisher (2006) in which school nurses also expressed moderate to high self-efficacy. This is a positive phenomenon because studies have demonstrated that a person with higher self-efficacy engaged in the related behavior more frequently and tended to perceive more benefits and fewer barriers associated with the behavior (Quelly et al, 2014). Two of the nurses in the current study further expressed high levels of confidence in dealing with parents from other cultures while one of them said she had not had any experience with

parents from other cultures. This lack of experience with parents from other cultures could be attributed to the non-cosmopolitan nature of the municipality serviced by health station 'A' where the current study was conducted. On the other hand, the high level of self-efficacy expressed by participants in the current study contrasted findings in studies by Moyers et al (2005); Nauta et al (2009) and Steele et al (2011); in which school nurses articulated a lack of self-efficacy in their ability to initiate and competently conduct a discussion or make recommendations regarding weight with an obese child or the child's parent; and that they felt less competent when counseling families from cultures other than their own. Additionally, according to Giddens (1991, p. 30), specialization is the key to the character of modern abstract systems. He argues that modern expertise unlike pre-modern expertise is highly reflexively mobilized and is generally oriented towards continual internal improvements or effectiveness. Therefore, the high levels of self-efficacy expressed by the nurses in the current study could be related to the reflexive nature of modern expertise. That such reflexivity could be a factor compelling the three nurses to attain specialized training and to constantly strive for efficiency leading to high perceptions of self-efficacy.

Cues to action: In the current study, the cues to action that were elicited included; guidelines and requirements from the Norwegian health Directorate as well as statistics on childhood obesity. This inclination towards obtaining guidance from literature by the health directorate and towards taking action based on empirical findings is characteristic of the reflexivity of modernity's abstract systems as described by Giddens (1991, p. 20). Due to constant revision of information in modernity, nurses may be compelled to rely heavily on standardized national guidelines. Even their personal definitions of obesity were based on national guidelines. This could also signify a quest for efficiency and elimination of error because information in high modernity is dynamic. Reliance on empirical data and scientifically generated guidelines further exemplifies the secular rational character of perceptions held by people living under conditions of modernity as described by Inglehart & Baker (2000).

5.2. Conclusion

The study revealed that, the three nurses undertook both child level and school level obesity prevention activities such as counseling of parents and children on nutrition and physical activity, BMI screening for pupils as well as assessment of overweight and obese children for susceptibility to and/ or presence of complications. The nurses generally perceived that childhood obesity was a growing problem that was closely related to some aspects of modernity such as increased consumption of energy dense foods, reduced physical activity among children and increased availability of money to children through their parents. On the other hand, the nurses cited negative parental responses related to feelings of shame as a major barrier to their provision of COP services. This barrier has been expressed in studies by (Hendershot et al., 2008; Moyers et al., 2005; Nauta et al., 2009; Steele et al., 2011) and may require further investigation. The levels of self-efficacy reported by the three nurses were high and this was interesting as it contrasted studies by (Hendershot et al., 2008; Moyers et al., 2005; Nauta et al., 2009; Stalter et al., 2011; Steele et al., 2011) in which nurses expressed low self-efficacy in one or two areas. Based on the assumptions of the health belief model, the likelihood of the three nurses to engage in COP practices is high as they viewed the condition as ‘serious’; they perceived fewer barriers and more benefits in COP, and they expressed high self-efficacy. The findings also suggest that, the development of strategies aimed at protecting children from modernity’s inadvertent influences is indispensable and that the need for strategies to improve parental involvement in COP is an inevitable imperative.

5.3. Recommendations

There is need for research on factors that influence parental involvement in childhood obesity prevention. Such information would help in developing strategies for enhancing parental involvement in childhood obesity prevention.

There is need to develop mechanisms and strategies that will serve as means through which school nurses can influence policies dealing with childhood obesity prevention. Their experience can play a significant role in shaping policies dealing with childhood obesity.

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Appendix I: Interview Schedule

Section A: Nurses Practices on childhood obesity prevention and treatment

Nurses will discuss their practices in the prevention and treatment of childhood obesity

1. What criteria are you using to grade childhood obesity?
2. What activities are you undertaking to prevent childhood obesity?
3. What activities are you undertaking to treat childhood obesity?
4. How do you communicate with parents about childhood obesity?

Section B: Perceptions

Nurses will discuss their thoughts on childhood obesity prevention and treatment

5. In your own opinion, what is obesity?
6. How serious do you think the problem of childhood obesity is here in Norway?
7. What factors do you think are contributing to the problem of childhood obesity in Norway?
8. Why do you think childhood obesity is more common in some families than others ? (Do you believe obesity is mainly biological or mainly related to lifestyle and type of food? Economic background, levels of education etc....)
9. What problems do obese children face socially and physically (Health-wise)
10. What barriers are you facing in the prevention and treatment of childhood obesity?
11. Have you any experiences with parents denying the fact of obesity or feeling shame because of their children's obesity?
12. What do you think are the positive outcomes or benefits of your interventions in childhood obesity prevention and treatment?
13. How would you describe your level of competence in preventing and treating childhood obesity?
14. Where did you acquire your competence on prevention and treatment of childhood obesity?
15. What do you recommend should be done to further reduce childhood obesity in Norway?

Appendix II: Participant Information Sheet

Research study

Perceptions and practices of school nurses on childhood obesity prevention in Norway's conditions of high modernity

Introduction

We are (Josephine Kancheya Chiwoni and Michael Mumba Kanyanta), students of global knowledge at Høgskulen i Sogn og Fjordane conducting a study entitled "Perceptions and practices of school nurses on childhood obesity prevention in Norway's conditions of high modernity."

We are kindly bidding for your participation in the above mentioned study. Prior to your decision to participate in the study or not to, we wish to inform you of the purpose of this study, possible risks to you and what is expected of you.

Research question

1. What are the practices of school nurses in the prevention of childhood obesity in Norway's conditions of high modernity?
2. What are the perceptions of school nurses on the prevention of childhood obesity in Norway's conditions of high modernity?

Purpose of the study

The purpose of this study is to explore the views and practices of three school nurses in the prevention of childhood obesity in Norway's high modern society.

Procedure

A group interview will be conducted consisting of a series of questions, which will be recorded and will last about 45 minutes.

Risks and discomforts: No risks or discomfort is involved.

Benefits: This study comes with no material benefits to the participants. However, the group interview will serve as a forum for the participants to share experiences in dealing with childhood obesity.

Confidentiality: All the information that you will provide will be kept confidential to the extent permitted by law. Your identity will be concealed by use of a neutral code and personal information will not be released without your written permission, except when required by law. The health station herein will also be called by a neutral code

Appendix III: Consent Form

I have been fully informed of the purpose of the study; the benefits, risks and confidentiality, and I agree to participate voluntarily.

Sign: ----- Date -----

Witness (Name): ----- Sign -----

PLEASE NOTE

1. Your participation in this study is entirely voluntary.
2. You are free to refuse or withdraw from participation at any time.

Person to contact for problems or Questions

1. Josephine Kancheya Chiwoni Høgskulen i Sogn Og Fjordane, Postboks: Elvatunet 212, 6856 Sogndal, Mobile: 46350088
2. Michael Mumba Kanyanta, Høgskulen i Sogn Og Fjordane, Postboks: Elvatunet 421, 6856 Sogndal, Mobile: 46350037
3. Ane Bergersen, førstelektor ved Høgskulen i Sogn og Fjordane, Avdeling for lærarutdanning og idrett. E-post: ane.bergersen@hisf.no