

Public Health Interventions for Childhood Obesity

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Abstract

One of the major public health issues in nations around the world is the increasing rate of [childhood obesity](#), alongside lacking health awareness among parents and peer groups. Over the past decade, obesity has increased in children and adolescents. Many an intervention have been associated with obesity and overweight in children, and some bad consequences of physical, psychological and social nature related to childhood obesity have been anticipated. Public health officials and social institutions have been looking for the factors that cause childhood obesity, and intervention strategies of various types are used for the prevention and control of these causes. Communication and information on health issues at the public level in society is an important concern to the government and policymakers of a nation. Official institutions, apart from academics, are putting efforts into obtaining research-based data for valid and helpful data to be used as background knowledge while devising public health policies. This manuscript aims to serve the purpose of a systematic review of validated studies on the social health phenomenon of overweight and obesity in children between 4-10 years of age. The findings suggest childhood obesity can be controlled at the public level by applying effective interventions such as nutrition practices, increased physical activities and health education for parents, teachers, peers and children themselves.

Introduction

“Public Health” is a multidisciplinary topic for research and scientific studies. It has been a concern to scholars from different fields, such as social sciences, psychology, medicine, public administration, technology, and education and communication disciplines.

This proposal is anchored in analysing the role played by health education in reducing obesity in children aged between four and ten years. Health education encompasses a variety of factors, including communication skills, cultural/social influence, decision-making ability, and so on, but not limited to functional health literacy. Demonstration of the relationship between childhood obesity and health education has been provided in several empirical studies (better health, the increased participation rate in school, and reduced obesity, among others) among children. However, this protocol will demonstrate the rationale for the study and outline the aim and objectives of the investigation. In preparing this proposal, a methodical approach has been followed to clarify the inclusion and exclusion of the findings. To assist in the execution of the database search, the PICO

format was used, as some sources were searched for relevant articles. Chosen articles have been critically appraised to find relevant and emerging themes. Finally, the events discussed in this proposal will be concluded along with the researcher's recommendations.

Chapter 1

Background of the study

Currently, the United Kingdom has a comprehensive policy on alcohol and tobacco that is considered one of the well-devised policies on health issues. Cairney investigated some of the important factors involved in the successful public health campaigns on the consumption of alcohol and analysed the hurdles causing problems to movement in the pursuit of stringent alcohol control. Both alcohol and tobacco are legal addictions in the United Kingdom. Scholars from the medical science and public health disciplines investigate the dangers associated with the use of these both, gather shreds of evidence and advocate the policies that are designed to control alcohol and cigarette consumption and the health hazards associated with it (Cairney, 2014).

Public health groups are more concerned with investigating the extent to which public health policies are contingent on solutions to the problem. They look for the positive relationship of solutions provided by the policies on the reduction of alcohol and cigarettes. However, policies have found the response to the problem to be weak or disproportionate. Policy response may take decades to make the required proportion to the problem. Cairney's investigations suggest that there is a gap between policy responses towards alcohol and cigarettes. UK health policies regarding alcohol and cigarette consumption are among the best in the world (Cairney et al., 2012).

The United Kingdom's Department of Health (2009) has devised guidelines for the healthcare sector and the general public to protect the health of young of the nation from 5-19 years old named as Healthy Child Programme. The HCP has provided recommendations on the ways in which different social institutions like family, education, and healthcare can put collective efforts into substantially improving the life chances of children and young people in the nation between 5 and 19 years. HCP has also devised guidelines as a good practice framework for interventions and prevention services in the early years of children. The Health Ministry conducted a survey in 2004 named "Every Child Matters", in which young kids and adolescents identified essentials for their lives, which became the foundation of the Healthy Child Programme. These five vitalities of children's and adolescents' lives are to be healthy, safe, enjoy, and achieve, make contributions to society, and achieve economic good.

The principle of non-maleficence in healthcare makes it obligatory for the concerns to cause and conduct no harm. This principle is considered important since the systemized healthcare practice exists. It has been advisable for healthcare professionals to act in a beneficent manner, but if it is not possible, they are encouraged not to harm others. There is a thin line of difference between the two

concepts, causing people to confuse these and consider them as the same thing. Nonmaleficence is a guideline that “one ought not to inflict evil or harm” (Beauchamp & Childress, 2013), whereas beneficence is about following the three principles: “one ought to prevent evil or harm, one ought to remove evil or harm, one ought to do or promote good” (Beauchamp & Childress, 2013).

Studies on parental and school awareness of health issues have shown that there is a greater need to formulate policies that are more contingent on the health and welfare of children and adolescents of the nation. The United Kingdom has given importance to the issue of public health, and scholars from various fields are coming up with their perspectives and theories on public health based on scientific research. The existing substance of research suggests and fosters further ideas to be incorporated in future investigations of public health.

A public wellbeing nutritionist and her associates composed a paper on successful general wellbeing interventions to stop the increase in obesity in children from newborn children to six years of age. The investigation question they tended to was, “What are viable general well-being intercessions to keep corpulence in youngsters from birth to six years.” It was an efficient audit of writing that utilized optional information through library research of PsycInfo, Medline, and CINAHL. The conclusion showed that specific intercessions are observed to be fruitful in trial concentrates to stop or lower the corpulence rate in kids under six years.

These intercessions included good dieting propensities, diminished stationary action, managed physical activities, socio-social and financial affectability and association of family and schools. Baillie & Black (2015) talked about the six Cs of caring developed as a result of widespread consultation exercise held by the Department of Health in England investigating the “values of nursing”, “values for nurses” published in “Comparison in Practice: Nursing, Midwifery and Care Staff: Our Vision and Strategy” in 2012. The vision advocated the incorporation of six caring values into nursing practice. Baillie & Black explored these six values: Care is the prime business of healthcare organisations in society, and the provision of care helps individuals and the community as a whole to improve health.

Caring is the definition of nursing and nurses’ work. People who seek such care expect it to serve them rightly throughout their treatments. Compassion refers to the way of delivering care based on a relationship of respect, empathy and dignity. The factor of intelligence in the provision of nursing care is also embodied in the vision revolving around the idea of how people perceive care from healthcare professionals.

Rationale

Shockingly, 51 million children were suffering from obesity in 2014, which was only 35 million in 1990; this finding can be termed an “exploding nightmare” (WHO, 2016). Many other studies have also found similar findings regarding childhood obesity, especially children aged between 4 and 10 years.

Numerous interventions have a relationship with general public health and obesity rates in children.

Developed countries have focused on this area of development as young nations are a prime concern. If the factors contributing to the increasing obesity rates in children are not addressed properly, they can further cause greater obesity in adults. Healthcare academics and professionals are putting efforts into finding the relationships of different factors with childhood obesity to provide background knowledge for policymakers to better address the public health issues in society. This paper is an attempt to provide a systematic review of the existing research substance on the relationship between health education and childhood obesity.

Methodology

PICO is a structured format which is being used for the development of research questions based on four areas (Fink, 2013). The following PICO format has been used in the case of this proposal to choose the research question: “Does health education help to reduce obesity in children aged between four and ten years?”

P= Population	I= Intervention	C= Comparison	O= Outcomes
Children aged between 4 and ten years	Health Education	Not Available	Preventing Childhood Obesity

Several combinations of keywords have been used to find the most relevant research articles. Most relevant research articles, especially on health education and childhood obesity, have been searched to find health education and its role in reducing obesity in children. To do so, several bibliographic databases, including Medline, CINAHL, Ovid, and PubMed, have been searched to find articles using PICO format. Boolean operators, including AND, NOT, and OR, have been used to connect keywords and widen the search results.

Article 1

Karnik and Kanekar carried out a twelve-year-long research on childhood obesity as a global public health crisis. The research was based on premier databases MEDLINE, ERIC, and CINAHL. The phenomenon under study was the national and international childhood obesity crisis. The researchers posited that an increase in childhood obesity had been observed in the past few years the world over. The major reason behind this phenomenon is an imbalance in the utilization and intake of calories. There are other causal factors, such as behavioural, genetic, and environmental factors, that play a role in childhood obesity. Childhood obesity subsequently causes psychological, physical, and social health problems through succeeding phases of life. Various factors contributing to the phenomenon and interventions on the community and government levels were addressed in the study. The results showed that interventions used to reduce obesity in childhood were school-based, family-based,

hospital-based and community-based. School-based interventions targeted healthy diet education and physical activity.

Article 2

The number of obese children has doubled since 1980. It was found in 2016 that sixteen per cent of children between the age of 6-19 years. The rate of obesity was higher among Mexican-American children at 25.5 per cent, Indian-American obese children at 23.2 per cent, and white adolescents and non-Hispanics who belonged to lower-income families tended to be more obese as compared to their age-mates from higher social classes. In recent years, it has been observed that weight-related health problems present in adults happen around populations. According to co-researchers, eating habits causing obesity are influenced by numerous factors such as families, health care services available, community organisations, religion, mass media and educational institutes. The study suggests that schools alone cannot help decrease the obesity rate in children, yet it cannot be stopped altogether without school-based interventions.

Article 3

Zilanawala and co-researchers in 2013 attempted to investigate the risk of obesity in childhood comparatively in the United Kingdom and the United States of America. The interventions used were the ethnic classifications hand in a rate of obesity in both nations' children of five years. They obtained data on overweight five-year-old children from "Early Longitudinal Study, Birth Cohort", and "Millennium Cohort Study" and examined those. They investigated the relationship between racial disparities and body mass index compared to normal weight. The factors and variables of the study were social, demographical, cultural, and family, which indicated the disparities. The research found that in the United Kingdom, Black Children in the Caribbean had a higher ratio of odds of being overweight and obese at 1.7, Pakistani children had a lower odds ratio of 0.60, and Black Africans had the highest potential odd ratio of 1.40. In comparison, the United States had no ethnic disparities related to obesity odds in children, given that the intervention model was fully adjusted.

Article 4

Researching health communication focuses on the relationship between the communication of health-related issues and the delivery of health education and healthcare to individuals. Socio-psychological work on the ideas of diffusion of health-related problems and matters through mass-mediated messages appeared along with the advent of communication technologies and channels in contemporary society (Katz, Coleman & Menzel, 1966). Scholars from the medical and nursing fields are more interested in investigating the interactive communication between the healthcare provider and receiver, and such studies have always been published under the heading of *health communication*, often in journals such as *"Patient Education and Counselling"*.

In recent decades, a couple of new focus areas have gained a strong place in health communication research: the projection of health-related issues in media content and the role of communication technologies in the dissemination of health issues. The first focus area is how mass media, both print and broadcast, including social media, present and project health-related issues, and the second area centralises the research on information technology and healthcare technology in public health (Bowling, 2014). Analyzing the media campaigns on public health and their success or failure is another dimension of research focused on the healthcare sector and mass communication. Early research bodies on health communication tend to depict the use of quantitative methods in investigations as not very frequent. Rather, they mostly use qualitative analysis methods. Over the decades, however, health communication investigations have adopted a more sophisticated approach.

Recent research is an extension of the earlier studies or is built upon theories presented by those. Hypotheses developed recently are even narrower and focused on the respective subject of study, and the factorial design of investigations is more in vogue than in the early studies that analysed a single variable at one time. Methods of the study do matter in the production of accurate results. The method used in particular research shows our specific understanding of the health communication topic, which is apparently a sense-making instrument, the determinant of data type related to health communication and the determinant of possible knowledge details (Bowling, 2014). The use of quantitative analysis techniques in research studies helps the researcher to minimise the influence of personal perceptions on the investigations; however, assumptions are present that underlie the conceptual frameworks of the studies (Bowling, 2014).

Article 5

The overweight health phenomenon is prevailing in children under age in almost all countries around the world in an increasing manner. Renata et al. (2013) investigated the prevalence of obesity in school-going children between 6-11 years. The researcher and co-researchers took a sample of one hundred and nine schools and conducted a cross-sectional study. A survey was conducted alongside a sample of parents using 16,588 questionnaires. The study showed results that were contrary to the national average reported officially. The researchers concluded that only a moderate level of obesity prevails in school-going children, and they further recommended that the phenomenon be monitored further for a raised level of awareness and to provide participative knowledge to the policymakers for the development of prevention policies for the nation.

Article 6

Carnell and his co-researchers in 2005 investigated the perception of overweight among parents of children between 3-5 years of age. They took a large sample of 564 parents and children from the United Kingdom. They obtained the demographics of children, their height and weight. The results

indicated increased odds of perceptions of overweight among parents as only 1.9 % of them had overweight children, and 17.1% of obese children were able to be described as overweight. However, a few numbers of parents were worried about their overweight children's chances of getting obese in future. The researchers concluded that parents' awareness of the phenomenon of overweight was poor.

Research Methodology

Literature Search Strategies

Public health is a social phenomenon related to the health and well-being of the individuals residing in society and is a multidisciplinary topic of research. A substantial body of research exists on the topic, and researchers from some fields, such as sociology, medicine, public administration, communication, information technology, and psychology, have attempted investigations on the different aspects of the phenomenon. There is a vast and increasing range of research studies, and new researchers are needed to find the literature that is the most relevant and helpful to the topic and research question development. The present study aims to investigate the relationship between health education and the reduction of obesity in children between 4 and 10 years of age. Hence, the researcher attempted to break down the topic into some possible terms that could fetch the relevant literature from the huge body of existing research in the field.

i). Search terms

The public health phenomenon as a research topic incorporates some related variables that can be investigated by employing various research designs, such as exploring relationships between the variables and the differences. The existing researchers can be reviewed using different terms and "terminology of public health" distinguishing them in categories such as names of variables, number of variables, research methods used, research designs, population and sample etc. The terms used to search the literature on the proposed research topic are below.

The subject topic "Public Health" was searched for an understanding of the topic and the variables of the present research topic were broken down into possible different arrangements such as "obesity in children", "obesity and Children" and were used to search the literature of the topic. The terms used to search the literature on the proposed research topic are used below.

- "Public Health"
- "Obesity in Children"
- "Obesity and Children"
- "Health Education"
- "Health education for Children."

- “Government Policies in Children’s Health”
- “Health Education in Schools

ii). Inclusion Criteria

The researcher developed fundamental criteria of inclusion for the search for relevant research previously conducted on the topic. The search to be done;

- In English
- About humans
- The topics that are most relevant to the topic are “Children’s health, public health, care, health education through mass communication, obesity in children below ten years of age and its relationship to obesity reduction.”
- Assessment of every article consisting of the topic of research
- Prevention policies by the government must include the additional criteria;
- Evidently, based on public health by the regulatory bodies
- Background knowledge of research in the development of public policies
- Policies particularly catering to the health of children under age
- The research articles and systematic reviews included the following additional criteria for inclusion
- Systematic (scientific) research
- Using either qualitative or/and quantitative methods of research
- Involves public health education and official policies on health and human subjects.
- Outcome measures of a known factor of public health

iii). Exclusion criteria.

“Public health” understandably can have a range of meanings associated with it as it is a broad concept involving various disciplines. Scholars have different views on the concept that constitutes “public health” as a term for an academic and professional research project. That makes it necessary for the researcher to derive an exclusion criterion for the study design so that it is clear and narrowed down to the exact aim of the study. The inclusion and exclusion criteria of this research are exclusively for the present study and may not represent the views of professionals and scholars or any other on public health. The researcher recognises that the development of these criteria is not a perfect science and is based on the researcher’s understanding of the topic. The following exclusion criteria have been derived for the present study.

Research published in any other language than English

Research published before 2005

iv). Relevant sources.

Statistics on public health-related issues and sources for obtaining are increasingly available on the internet. Many data sources, sorted neatly, are available to find the most relevant information on the research topic. Governmental studies and official data from practising and academic scholars are considered the most reliable sources. The articles for this paper were searched to fulfil the requirements of the background knowledge, and the following relevant sources were used;

CDC Wonder

A handy data source presents a list of data sets on health-related issues. A collection of documents is there, including CDC Prevention guidelines and such documents are presented in the form of a table of contents. Full-text articles can be searched through this data source.

HSRIC: Health services research Information Central

Health Services Research Information Central is a great source of data relevant to the health services field of practice and academics. It is a portal where internet links to research resources such as reports, articles, and group discussions are provided. A massive body of health services research resources can be explored here to base further research and investigation into the public health field. Federal and non-federal data repositories, health statistics, surveys and international resources are included in the portal.

Fast Stats

Instant access to the statistics on the topic of public health and its importance is available on this site, arranged alphabetically. A huge number of publications is available on the site, which leads to more data sources, existing statistics and relevant material containing web pages.

Minnesota Public Health Data Access

This is also a website portal that gives access to data resources on various public health topics, including environmental topics. All the topics on which data is available are listed arrayed in alphabetical arrangement right on the home page for the ease of use of articles. A separate tab for access to the relevant topics is there, such as environmental health topics, which are available under one tab, such as health behaviours, public health and risk factors. Besides, the definitions of words are available to read at the hover of a mouse pointer; also, it shows the numbers of data in charts.

Child Health: World Health Organization

World Health Organisation has vast data resources available on public health in general and child health specifically. Researchers can find an enormous number of data resources through the World Health Organization's data centre.

Data Resource Center for Child and Adolescent Health

The Data Resource Center for Child and Adolescent Health provides data resources on the topics of child health and adolescent health and health care.

NCBI.GOV

This website was beneficial for the search of relevant sources for this paper; a few of the most pertinent links were obtained from this site to study the public health publications in the United Kingdom.

International Journal of Obesity

A couple of articles studied in the paper were obtained from the works listed in the International Journal of Obesity. This Journal also has a vast range of papers on the topic of obesity in children and adolescents.

v) Data Extraction

Data extraction from the selected data sources proved a challenging task for the paper. As the paper is a systematic review of the literature, the standardised format of the data extraction table was used to extract key relevant information from the studies reviewed.

Study Reviewed	Design	Setting and Participants	Interventions	Study objective	Summary results
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Karnik and Kanekar, 2013	Systematic Review	Library-based research	Community and Government interventions and activities	Reviewing the research works of school-based interventions in a relationship with education on childhood and adolescent obesity	Interventions used to reduce obesity in childhood were school-based, family-based, hospital-based and community-based.
Howel et al., 2015.	Longitudinal study	2120 families raising children until 13years of age	Risk factors	To investigate if childhood overweight has an association with mental health in pre-adolescence age	Ross-lagged links, an association between variables, differed depending on the child's development trajectory.
Inglis et al., 2012	Systematic Review	Post-March and Pre-March Reviews	Physical activity, nutritional habits	The success of school-based education on nutrition	School-based education reduced the outcomes in the compared groups.
Haynes, B. and Browne, N. (2016)	Survey study	N/A	Childhood Obesity, Health Literacy, and the Newest Vital Sign		The results of this study indicated that children with high obesity were partly due to parent's low health literacy. This study suggested that both child and parent must have health literacy to reduce obesity among children less than ten years of age.

Renata et al., 2013	Cross-sectional survey study	One hundred and nine schools	Level of awareness among parents and schools on health issues	Investigation of prevalence in 6-11-year-olds	Only moderate levels of obesity prevailed among kids
Lobstein et al., 2015	Systematic review	N/A	Overconsumption of food and low nutritional quality of food	To analyse the level of obesity in children	Obesity in the United States and worldwide children has increased over the years.
Carnel et al., 2005	Survey study	Parents and children from the United Kingdom	Parents ' perception of overweight children	To assess the parents' perception accuracy of overweight	1.9 % of parents of overweight children and 17.1% of parents of children with obesity could describe the phenomenon of overweight. The odds of perceptions were increased.
Zilanawala et al., 2015	Comparative quantitative study	Overweight children of five years from the United Kingdom and the United States	Racial/ethnic disparities	To investigate ethnic disparities among the United Kingdom and the United States kids' odds of overweight and obesity	The United Kingdom had more minority kids' obesity odds, whereas in the United States, obesity was not related to ethnic/racial disparities.

Chapter 3

Methodology

The selected articles were studied to construct the present paper. The topic was broken down to search for relevant research material on public health specifically related to childhood and adolescent

obesity. Some interventions are associated with the obesity in children phenomenon of public health, and assessment of these interventions proves to be of a complex nature and context-based, demanding a programmatic, scientific approach for research. Not a single research approach may be considered efficient enough in an assessment of interventions related to childhood and adolescent obesity.

A variety of research designs were found in the existing literature, and the research methods most often used were quantitative. The evaluation of the evidence is highly dependent on the assessment criteria based on the failure or success of the interventions. The current paper looked into the studies that were close to the topic and found that researchers have attempted some methods to come up with accurate results. Survey articles used a quantitative approach, but some of them used a combination of qualitative and quantitative techniques. Longitudinal studies especially used a high combo of research methods and analysis techniques as the studies were big and involved interventions demanding both qualitative and quantitative analysis for their assessment.

It is not always the use of research techniques applied to the interventions that cause the failure of evidence; sometimes, the interventions are inherently faulty. Study design wholly or solely is not adequate in determining the success or failure of public health interventions.

Chapter 4

Analysis of Evidence

Studying and evaluating the given number of studies on public health issues, especially related to kids and adolescents, is invaluable to research scholars as a systematic review of the literature. The evidence-based researchers have fostered some conceptual frameworks within which rigour and validity can evaluate the research. However, there is developing acknowledgement that even evidence-based rules from firmly controlled investigations, in a perfect world controlled by arbitrary tasks, may not be an adequate system to measure the majority of the data expected to outline a mediation suitable for a group of people.

How best to place evidence into powerful practice to accomplish a planned reduction of obesity has for quite some time been an issue of worry in inquiring about the damage field. Research-to-practice holes have dependably existed, and advances in this subject have been moderate. Variables that add to this issue incorporate passes in communication amongst analysts and specialists, as well as administration conveyance issues, such as the absence of open mindfulness, poor financing, and a non-supportive political air. Logical distributions of research on intercession viability, which don't give data valuable to wide-scale general health spread, likewise add to the problem.¹ Additional issues referred to by general health experts are that mediations might be too barely engaged, mind-boggling, troublesome and expensive, or may not draw in or meet the apparent needs of the community.^{2,3,4} Once settled, anticipation programs must be managed with adequate foundation

and long-term force, requiring significant asset venture. The articles studied in the present paper are one by one summarised as below;

Article 1

Karnik and Kanekar, in their study, posited that childhood obesity had taken a form of national and international obesity the world over. The phenomenon has not only prevailed as an issue of public health to the governments and the general public. Rather, it has increased over the past few decades. The major cause of the problem is an imbalance of diet intake and exertion. Childhood obesity entails certain health problems throughout the life of an individual, such as psychological, physical, and social problems. The examination was library-based research and depended on main databases, including MEDLINE, ERIC, and CINAHL. The review studied some research based on different research techniques.

The interventions used in the studies were mostly based on factors such as family, community, schools, hospitals and play. As far as the school-based interventions were concerned, the successful ones were those focusing on the physical activities of children and education on nutrition and diet. Different elements adding to the marvel and mediations at the group and government levels were tended to in the examination. The outcomes demonstrated that mediations used to lessen heftiness in youth were school-based, family-based, healing facility-based and group-based. School-based intercessions focused on sound eating routine instruction and physical action. In the conclusive notes, the researchers suggested that on a public level, the childhood obesity problem can be reduced with the use of appropriate interventions such as health education, sustainable nutritional habits, prevention measures, and increased physical activity.

Article 2

The quantity of obese youngsters, especially children, has multiplied since 1980. The study by Wechsler and his colleagues was aimed at the assessment of the cost-effectiveness of school-based interventions to prevent obesity in children of middle school-age children. The methods for the analysis of cost-effectiveness were used to target the costs involved with interventions, medical care associated with overweight people, and productivity loss. Outcome measures included some cases of overweight, and quality-adjusted measures saved years of life. The cost involved with a total number of interventions was measured by the net quality-adjusted number of years saved.

The results indicated that at the cost of an intervention amounting to 33677 per student per year, the program designed to prevent obesity could stop 1.9% of female students from becoming an overweight person in adulthood. Approximately 4.1 years of quality-adjusted years can be added to life at this cost, as well as the medical care cost of 15, 887 and 25104 costs of loss of productivity. The intervention program was called The Planet Health Program, and a controlled trial with a random sample was carried out to assess the program's efficacy. It was found to be cost-saving and cost-

effective. Such interventional activities and programs tend to be more cost-effective when utilising public money and can assist public health program planners and policymakers in carefully considering the cost associated with obesity prevention programs. It was found that sixteen per cent of youngsters between the ages of 6-19 years were obese in 2016.

Article 3

Zilanawala and co-analysts in 2013 endeavoured to research the danger of obesity in childhood nearly in the United Kingdom and the United States of America. The intercessions utilised were the ethnic characterisations deliver the rate of obesity in the two countries' children of five years. They acquired information on overweight five-year-old children from the "Early Longitudinal Study, Birth Cohort", and "Thousand Years Cohort Study" and analysed those. They essentially examined the racial differences' association with Body Mass Index similar to the typical weight. The components and factors of the study were social, demographical, social and family to demonstrate the aberrations.

The exploration found that in the United Kingdom, Black Children in the Caribbean had a higher proportion of changes in overweight and obesity at 1.7, Pakistani children had brought down chances proportion of 0.60, and Black Africans had the most noteworthy potential odd proportion at 1.40. In the examination, the United States had no ethnic inconsistencies identified with obesity chances in children given that intercessions display completely balanced. The rate of bulkiness was higher among the Mexican-American youngsters at 25.5 per cent; the Indian-American heavy kids were 23.2 per cent, and white teenagers, non-Hispanic who had a place with low-wage families had a tendency to have fatter kids as contrasted with their age-mates from higher social classes.

Late years have seen weight-related medical issues introduced in grown-ups show up in a younger populace. As indicated by Howel and co-scientists, dietary patterns causing obesity are affected by various factors, such as family, social insurance administrations, group associations, religion, mass media, and instructive organisations such as schools. The investigation recommends that schools alone can't help diminish the flab rate in kids, yet it can't be halted by and large without school-based mediation.

Article 4

Looking into the health interventions associated with correspondence of health-related issues and the education of health training and healthcare to people. Socio-mental work on the thoughts of dissemination of health-related problems and matters through mass intervention messages showed up alongside the appearance of technological advancements and diverts in contemporary society (Katz, Coleman and Menzel, 1966). Researchers from the pharmaceutical and nursing fields are more keen on examining the intuitive correspondence between the health mind supplier and recipient. Such investigations have dependably been distributed under the head of health correspondence frequently in diaries, such as "Persistent training and Counseling". In recent decades, two or three

new concentration zones have increased hospitable places in health correspondence exploration, projection of health-related issues in media content, and the part of correspondence innovations in the spread of health issues.

To begin with, the central territory is how broad communications, both print and communicate, including web-based social networking, present and task health-related issues and the second region brings together the exploration of data innovation and health mind innovation in general health (Bowling, 2014). Breaking down the media crusade on general health and their prosperity or disappointment is another measurement of a research centre in the healthcare division and mass correspondence. Early research body on health correspondence tends to delineate not an all-time utilisation of quantitative techniques in examinations. Rather, they were utilising subjective investigation strategies. Throughout the decades, be that as it may, health correspondence examinations have received a more refined approach. Late explores are expansions of the prior reviews or are based upon hypotheses exhibited by those.

Theories that have grown as of late are much smaller and concentrated on separate subjects of study, and factorial outlines of examinations are more in vogue when contrasted with the early investigations that broke down single variables at one time. Techniques for the study to make a difference in the creation of specific outcomes. A method utilized as a part of specific research demonstrates our particular comprehension of the health correspondence. Davies, in 1990, posited that *"The process of obtaining systematic knowledge and technology... can be used for the improvement of the health of individual groups. It provides the basic information on the state of health and disease of the population; it aims to develop tools to prevent and cure illness and mitigate its effects, and it attempts to devise better approaches to health care for the individual and the community."*

The knowledge of the existing research obtained ought to be developed into an action program if there is a need to address a subject; the general focus of research in public health is to find an association between the demand for certain health services and the population's need for the service, its usage, supply and acceptability. Another focus targets the structures and processes of the health services, including the efficiency and quality of the services, and the third focus of the public health research has been the investigation of the effectiveness and appropriateness of various interventions that can assist in the improvement of health phenomenon and cost-effectiveness including that what the patients think about the effects on their health. Measurement of health outcomes has been scaled on toxicity, symptom rates, survival periods, quality-adjusted years saved, biochemical indicators, and numerous psychological and physical morbidity and relapses. Social scales of measurement of health-related interventions' success rate are generally off days from school or work, admission rates in hospitals and the number of days spent in bed.

Article 5

The overweight health phenomenon is winning in children under age in all nations around the globe in an undeniable way. Renata et al. (2013) explored the pervasiveness of obesity in school-going children between 6-11 years. The analyst and co-scientists took an example of one hundred and nine schools and directed a cross-sectional study. Nearby, on a sample of parents utilising 16,588 polls, a review was directed. The study indicated that those who were in opposition to the national normal were revealed formally. The scientists reasoned that an exclusive direct level of obesity wins in the school-going children, and they additionally prescribed that the phenomenon might be screen assist for a raised level of mindfulness and give participative information to the arrangement creators for the advancement of anticipation strategies for the country. Obesity has reached an epidemic proportion.

Every fifth child in South Africa is estimated to be an overweight or obese child. 20% of youngsters younger than six are overweight. This is essential because of a terrible eating routine and an absence of activity. The point of this investigation is to determine the pervasiveness of overweight/heftiness among review-one students at chosen schools in West Rand, Mogale City. The weight and tallness of each subject were to be physically estimated by the analyst and contrasted with standards for that age class. This examination additionally expects to decide their folk's learning/recognition in regard to youth sustenance and physical movement. To this end, a poll was built so parental learning/convictions could be evaluated. This examination has discovered both overweight and underweight people in a similar populace.

The outcomes demonstrate overweight/heftiness in seventeen subjects (3.7%). Eleven young ladies (4.8%) and six young men (3%) were overweight, speaking to a kid-to young lady, with a proportion of 1;1.8 among the overweight gathering. Among the overweight subjects, young ladies spoke to 65% while young men spoke to 35%. This examination has likewise discovered underweight/hindering development among the eight and nine-year-old subjects as their weight for stature fell underneath the 25th percentile. Promote the characterisation of the examination test as indicated by the school-charge structure, which revealed that all subjects with overweight/heftiness were found inside low-expense schools, speaking to 4%. One kid and one young lady were found to be stout among the overweight group, with a weight list (BMI) of 23.8 and 24.8, respectively. This corpulence was found in 12% of the overweight gathering and inside low-charge structure schools.

Article 6

Carnell and his co-specialty, in 2005, researched the impression of being overweight among parents of children between 3 and 5 years old. They took a substantial example of 564 parents and children from the United Kingdom. They got the socioeconomics of children, their stature and weight. The outcomes showed expanded chances of an impression of overweight among parents as just 1.9 % of them have overweight children, and 17.1% of stout children could be overweight. However, some

parents were stressed over their overweight children's odds of getting stout in future. The scientists inferred that parents' mindfulness of the phenomenon of being overweight was poor.

Right now, the United Kingdom has an exhaustive approach to liquor and tobacco that is viewed as a standout amongst the most all-around conceived strategies on health issues. Cairney explored a portion of the critical components associated with the active general health crusades on the fulfilment of liquor and examined the obstacles that are making issues develop in the quest for stringent liquor control. Both liquor and tobacco are legal addictions in the United Kingdom. Researchers from the restorative science and general health disciplines examine the risks related to the utilisation of these both, assemble evidence and promote the arrangements that are intended to control liquor and cigarette utilisation and the health dangers associated with it (Cairney, 2014).

General health groups are more worried about examining the degree to which the public health arrangements are unforeseen as answers to the issue. They search for the positive relationship of mechanisms given by the strategies on the lessening of liquor and cigarettes. Be that as it may, the reaction has been discovered to be feeble or lopsided towards the issue by approaches. Strategy reaction may take a very long time to reach the expected extent of the issue. Cairney's examinations propose that there is a hole between the arrangement's reaction towards liquor and cigarettes. UK health approaches concerning alcohol and cigarette utilisation are among the best far and wide (Cairney et al., 2012).

The United Kingdom's Department of Health (2009) has contrived rules for the healthcare segment and overall population to ensure the health of the youth of the country from 5-19 years old, named the Healthy Child Program. The HCP has furnished the proposals in what ways distinctive social establishments like family, instruction, and healthcare can put aggregate endeavours to considerably enhance the life odds of children and youth of the country between 5 and 19 years. HCP has additionally concocted rules as a great practice system for intercessions and anticipation benefits in the early years of children. The Health Ministry led a review in 2004 named "Each Child Matters" in which youthful children and teenagers recognised basics for their lives which turned into the establishment of Healthy Child Program. These five vitalities of children and young people's lives are to be healthy, well-being, appreciate and accomplish, make commitments to the general public and gain economic success.

The rule of nonmaleficence in healthcare makes it compulsory for the worries to cause and direct no damage. This guideline is viewed as imperative since the systemized healthcare rehearse exists. It has fitted for healthcare experts to act in a helpful way, yet if that isn't conceivable, they are urged to make no mischief in any event. There is a thin line of distinction between the two ideas, making individuals confound amongst these and think about them as one and a similar thing. Nonmaleficence is a rule that "one should not to perpetrate shrewdness or damage" (Beauchamp and Childress, 2013), though helpfulness is tied in with following the three standards: "one should avoid underhandedness or hurt, one should evacuate malice or mischief, one should do or advance great" (Beauchamp and Childress, 2013).

Conclusion

Public health has attracted scholars from various fields, and a huge body of research has been established in this area. Many public health phenomena associated with social science, psychology, medicine, education, communication and information and public administration have been studied and investigated. Research provides a great deal of help to social and official concerns of public health. Obesity in children has become a public health crisis around the world, and effective interventions are associated with it as prevention and control strategies. Present systematic review attempted to review the government documents and research investigations on the topic.

It is concluded that there are some causes found in the evidence giving rise to childhood obesity, but several interventions applied at the public level by government and social establishments can help significantly in the prevention and control of obesity in children and adolescents. The primary and extended knowledge of health issues in parents and peers is hugely important to reduce or eliminate the causes and prevent the consequences. Studies reviewed suggest that there is a gap between practice and research suggestions as per educating the parents, teachers and other social peers on the subject of overweight, its causes and consequences. Centre for Community Child Health Royal Children's Hospital's research team prepared a report for OzChild: Children Australia titled "To promote awareness of the risk factors that contribute to childhood obesity and assess the ability of parents to develop shared strategies to reduce such risks."

The researchers posited that the change in lifestyles of children and adolescents in developed countries had changed their physical activity as well as their eating and nutritional habits. The interventions studied were physical activity and eating behaviours developed by influences from family, schools, and socio-economic factors. The report suggested that the nutrition education provided in schools focuses not only on educating the kids on nutrition but they should also on developing the behaviours and skills related to food preparation, preservation, sociocultural aspects of eating and eating habits linked with personal grooming and positive body image.

Parents are found to be least aware of the overweight and obesity illness in children; the majority of them perceive it as either wrong or normal health. They are also unaware of the effects of obesity on a child's mental health and growth, self-esteem, behavioural modes and social relationships with their fellow kids in schools and playgrounds. Children themselves are not aware that they are suffering from a certain kind of illness, which is obesity. Studies also suggest the use of effective communication strategies at the public level to raise awareness of health issues. Mass-mediated education through effective channels and technology as per the needs of communities and social sectors is an enormous potential intervention strategy that can raise the health education levels in society. The systematic review helps formulate the research questions for further studies.

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