

Yoga as a complementary tool in health promotion: A scoping review

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Abstract

Yoga is a way of life to evaluate its practitioner's physical, mental, moral, and spiritual progress (Sadhakas 1995). Yoga's influence on health and the quality of life has only recently started being studied during the last few decades.

This study aims to gather information on how yoga can be used as a complementary tool in health promotion together with primary care, thus optimizing patients' healthcare experience and health-related quality of life. The study accesses the benefits of yoga on health-related quality of life. It can guide nurses to understand the concepts and implement these practices when needed for personal benefits and with conventional primary care to enhance an individual's quality of life holistically. The study seeks to find answers to research questions 1. what are the benefits of yoga practices and their influence on health-related quality of life? 2. Can yoga be used as a complementary tool in health promotion together with primary care? Coleen Saylor's *The Circle of Health, A health Definition Model*, is used as a theoretical framework. Scoping review research method is used wherein fifteen (15) articles were reviewed and are summarized in four (4) themes giving answers to research questions.

The study results show a positive relation between yoga and the physical, mental, emotional well-being of an individual, which eventually improves health-related quality of life. Given the potential physical and mental benefits of yoga, it seems possible to use it as a complementary tool in health promotion. This study could not provide results of the perception of Finnish society towards yoga. Future research should attempt to measure this perception and how yoga concepts are practiced and interpreted in Finland.

Language: English

Key words: 'yoga', 'mental health', 'physical health', 'health-related quality of life', 'holistic health', 'health promotion', 'complementary and alternative medicine (CAM)', and 'scoping review'

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1 Introduction

Intrapersonal, interpersonal, and extra-personal stressors have a significant influence on the sense of well-being. It affects mood, behavior and eventually deteriorates health. Individual's ability to adapt to these potent stressors decides the future (Schneiderman, Ironson and Siegel 2005).

World Health Organization (WHO, Constitution 2020) defines that "*health is not merely the absence of sickness or disease; it is a state of complete physical, mental, and social well-being.*" While defining 12 tips for health promotion, WHO (Health promotion 2020) emphasize routine physical activity as one of the critical factors for life-long health and well-being. Positive mental health is one of the desired outcomes of all such initiatives under health promotion. As the WHO and United Nations (UN) seek a solution to health promotion and well-being, yoga seems to be recognized. Subsequently, due to its universal appeal, United Nation passed resolution 69/131 and declared 21st June as International Yoga day. Yoga is an ancient physical, mental, and spiritual practice that originated in India. The word 'yoga' derives from Sanskrit and means to join or to unite, symbolizing the union of body and consciousness (WHO 2018, UN 2014).

A widening recognition of health promotion and the term well-being resulted in a growing interest in people in exploring alternatives ways such as Complementary and Alternative Medical (CAM) therapies. Apart from experiencing the clinical effectiveness of allopathic medicines, the general experience and attitude of people towards CAM is positive. Among the other CAM therapies, significantly, the interest in "yoga" has increased during the past decades. Basford and Slevin (2003) put particular emphasis on Yoga and Healthcare. They stated that yoga is a way of life that promotes a holistic view of life, and when used in health care, can reduce the effects of modern-day stress by restoring a sense of well-being.

According to WHO (Traditional, complementary, and integrative medicine 2020), the term 'complementary or alternative medicine' refers to a set of health care practices that are not necessarily part of the country's conventional medicine and are not fully integrated into the primary healthcare system. The legal and regulatory status of CAM and CAM practices in Finland authorizes medically and non-

medically qualified personnel to practice CAM. However, there is limited knowledge and literature available on the implementation of yoga practices in the context of health promotion and thus for optimizing patient care in primary healthcare.

The objective of this study is to find out can yoga be used as a complementary tool in health promotion together with primary care, thus influencing in optimizing patient's healthcare experience. The study is further expected to access the benefits of yoga on health-related quality of life. It can guide nurses to understand the concepts and implement these practices when needed for personal benefits as well as with conventional primary care to enhance the quality of life of an individual holistically.

2 Theoretical background

In this chapter, the description is provided on the three main concepts, namely, health-related quality of life, health promotion and yoga, which forms the basis and theoretical background of this study.

The International Council of Nurses (ICN w.y.) *states that "nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles."*

Health is a concept that involves either illness or wellness. Illness prevention includes health promotion. Health promotion, illness prevention and delivery of care services were found to be priorities for nursing research (Gerrish and Lathlean 2015, 5).

According to Patanjali's Yoga Sutra, Yoga is a way of life. It does not include only physical asanas, which are physical activity but are also inclusive of thoughts, food, and one's interaction with its environment and how it applies to daily life. With this approach, it is possible to get the true potential of better living as an individual and

as a society. Yoga is a way of life to evaluate the physical, mental, moral, and spiritual progress of its practitioner (Sadhakas 1995).

However, its influences on health and the quality of life have only recently started being studied during the last few decades.

Despite a clear relationship between physical activity and health-related quality of life, measure to co-relate physical activity with health promotion is seldom targeted in research studies (Gill et al. 2010).

2.1 Health-related quality of life

When discussions take place around the health domain, then three often used concepts are the status of the health, functional status, and quality of life. The health domain itself refers to both negative and positive aspects of life. The negative element could include death, whereas the positive part could be happiness. The term quality of life itself can be viewed from different perspectives, for example, income, freedom, quality of the environment where we live etc., that are detached from medical or health concern. Health-related quality of life focuses on the effect created by health status on the quality of life. This context includes a multi-dimensional approach involving physical, mental, emotional, and social functioning. Research indicates that patients and healthcare personnel are keen on measuring the effect of these dimensions, together with the impact of medications on the health-related quality of life (Guyatt, Feeny and Patrick 1993).

WHO (Tools and toolkits 2020) defines Quality of Life (QoL) as an individual's awareness of their position in life in the context of their own culture and value systems in which they lived in and concerning their goals, beliefs, and concerns.

According to the World Health Organization (WHO 2004), there has been a noticeable increase in the cases of mental health conditions. WHO is putting more focus on the importance of the role that mental health plays in the life of an individual. Depression is found to be a leading cause, with a noticeable increase in premature deaths due to severe mental health conditions. Mental health is related to a state of well-being where a person can see his/her abilities and

manage life-related challenges, work and participate in community activities (Shroff and Asgarpour 2017).

Mental health competence includes, for example, emotional and awareness skills, life management skills, and interaction and problem-solving skills. Many external and internal factors protect our mental health. It is essential for us all to develop them. Approximately 700,000 Finns use at least a short time some psychiatric medication every year. Many patients can sustain even without psychiatric medicines through fair treatment and different therapies (Björninen 2018).

2.2 Health promotion

Prevention, as it is related to health, is about avoiding disease before it starts. There needs to be plans and measures to be taken to prevent the beginning of a disease, any other health problem or occurrence of undesirable health event. Illness prevention is a system of health education programs and activities directed at protecting patients from real or potential health threats, minimizing risk factors, and promoting healthy behavior. The action needs to be also taken by individuals to prevent illness in themselves and their families. Three different levels of prevention, namely, Primary, Secondary and Tertiary, are used to avoid diseases, to provide nurses with starting points in making significant and positive changes in the health status of a patient. Primary prevention is the process of taking actions in a way that removes the possibility that disease will ever begin or occur. This includes health promotion. This corresponds to educating self and patients, making healthy lifestyle changes, behavior modification, access to medication or other interventions that prevent disease onset (Nieminen 2018).

WHO (2016) defines Health Promotion as "*the process of enabling people to increase control over, and to improve their health.*" WHO (2016) further characterizes three main elements of health promotion. These three elements, namely, good governance for health, health literacy and healthy cities, forms the basis of health promotion process that supports people in the process of increasing control over their health.

In Finland, the process is further governed and supported by regulation of The Finnish Ministry of Social Affairs and Health, covering a wide range of general socio-economic, cultural, and environmental factors into consideration. To take care of the health and well-being of the population is one of the duties of the public sector, and these duties are expected to be performed by arranging social and health services. Government and local municipalities are responsible for organizing these services (STM w.y.).

2.3 Yoga

Yoga is a mental, physical, and spiritual discipline that explores, develops, and integrates the body, mind, and spirit. The origins of yoga have been guessed to date back to the sixth centuries BCE, in ancient India. Yoga gurus from India later introduced yoga to the west in the late 19th and early 20th century. Around the 1980s, yoga became popular as a system of physical exercise across the Western world. Yoga in Indian traditions, however, is more than physical activity; it has a meditative and spiritual core. Patanjali's Yoga Sutras is one of the significant vital texts on yoga. Ashtanga Yoga is named after the eight limbs of yoga mentioned in the Yoga Sutras of Patanjali. The primary focus put in the west is on posture that is "Asanas" in yoga which is a 3rd limb of the Ashtanga Yoga. However, it is also necessary to correlate other limbs such as moral codes, self-purification and study, control over the breath, withdrawing of the mind from the senses, concentration, deep meditation, and union with the object of meditation to Asanas to understand the life as a whole (UN 2014, Basavaraddi 2015).

Yoga practices help individual to gain a balance of mind and control of the body in one's life. The aim is to get free from stressful situations and sufferings to provide a sense of peace that comes from the practice of yogic exercises and the practice of breath control, as well as to give tools to take care of self. Yoga needs an individual's involvement, and once this is achieved, then it gives the ability to make a change and seeing that practitioner can effect change gives him/her hopes. Moreover, hope itself can be healing. (Schure, Christopher J. and Christopher, S., 2008, Telles and Naveen 1997).

"WHO's Global Action Plan on Physical Activity year 2018 to 2030 states that the routine practice of yoga is a valuable tool to make physical activity an integral part of life. It helps people of all ages to reach the level needed to promote good health" (WHO 2018).

Yoga is one of the growing trends in health and fitness. People are more attracted to it from the body postures point of view. However, yoga is a physical, mental, and spiritual practice or discipline that explores, develops, and integrates the body, mind, and spirit.

3 Theoretical framework

For this research study, Coleen Saylor's *"The Circle of Health, A Health Definition Model"* was used as a theoretical framework. This model is suitable for this thesis because it represents a holistic definition of health wherein all included factors apply to the body (physical) and mind or spirit (non-physical) dimensions and are being a part of well-being and the Quality of Life. The definition of health as represented by *"The Circle of Health"* thus create a foundation for complementary and alternative health promotion strategies.

According to Saylor (2004), health, in general terms, has been predominantly defined mainly with a focus on physical health and illness experienced by the person. However, this basis forms the weak foundation for defining strategies of holistic care. Saylor (2004) thus developed an expanded definition of health by offering the model, which is known as *"The Circle of Health"*.

According to Saylor (2004), health definition and models typically categorizes body and mind as two different functioning systems. As such, health is further analyzed from different perspectives, e.g., physical, mental, social, emotional etc. and not as a whole. Accordingly, the nursing approach toward health differs. Nurses considering health as a presence or absence of physical symptom have different strategies for patients than the holistic nurses who use the concept of mind-body integration, i.e., holistic understanding of the health.

Saylor (2004) describes health as truly holistic because, according to his circle of health, all included factors apply to the body (physical) and mind or spirit (non-physical dimensions). The circle of health, as defined by Saylor (2004), is represented in Figure 1.

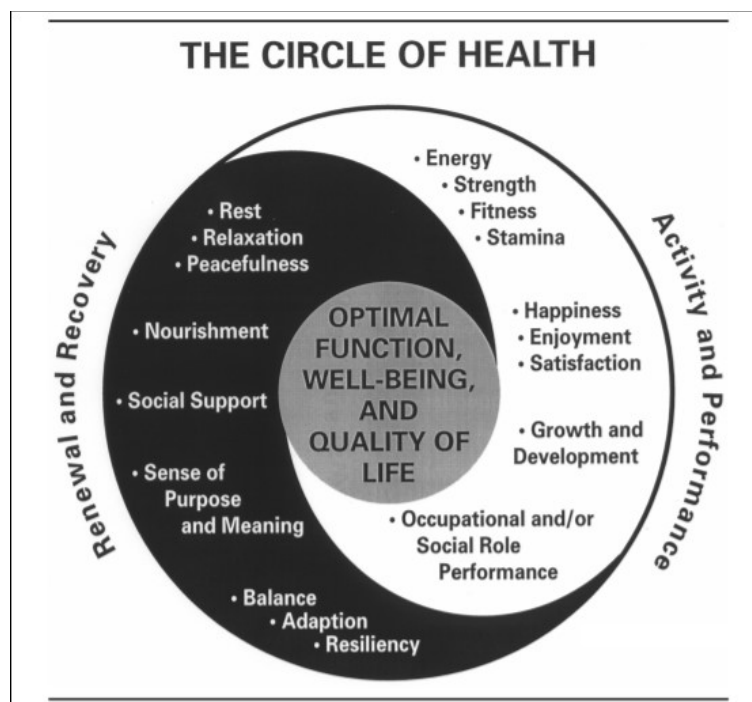


Figure 1. The circle of health. (Saylor 2004).

Health is defined in the centre, representing both ‘*Activity and Performance*’ and ‘*Renewal and Recovery*’ as necessary for well-being and quality of life. The specified components in ‘*Activity and Performance*’ and ‘*Renewal and Recovery*’ then can be matched with the health behavior and needs of a person. For example, some may increase the rest and relaxation to balance their work-life, and others may choose physical activities to improve fitness and strength (Saylor 2004).

The Circle of Health depicts mainly two principles based on Chinese philosophy, i.e., Yin (the dark side) and Yang (the light side), whose interaction and balance with each other form a dynamic system in which the ‘*whole*’ is more significant than ‘*the individual part*’. The light side represents ‘*Activity and Performance*’, going out or giving out, whereas the dark side represents ‘*Renewal and Recovery*’, taking in (Saylor 2004).

Activity and Performance:

This domain represents components of health, including (i) energy, strength, fitness, stamina; (ii) happiness, enjoyment, satisfaction; (iii) growth and development; (iv) occupational and/or social role performance. These components overlap with the central core of optimal function, well-being, and quality of life and include both physical and mental dimensions (Saylor 2004).

(i) Energy, strength, fitness, stamina:

This is applicable for both physical as well as mental, that help to develop the ability to overcome physical and mental challenges as suitable for the individual's situation and age. In a condition such as chronic diseases or physical impairment where it would be expected to have less energy and strength, health improvement aims to increase the energy and strength by enhancing mental energy by expanding the use of social support system or through nutrition, rest and so forth (Saylor 2004).

(ii) Happiness, enjoyment, satisfaction:

Although this is predominantly referred to as mental attitude still, it affects the stress response system, immune system, and health status indicators so, it is not only mental. This component includes all kind of pleasures such as but not limited to fulfilment, cheerfulness, hopefulness, bodily comfort, sexual and intellectual satisfaction etc. An individual may improve health using this component by including activities that provide pleasure and satisfaction, for example, hobbies, friends, entertainment, satisfying goals of one's occupation etc. With money or mobility as a limitation, one can still identify the pleasure such as friendship, books, music etc., to enhance their health (Saylor 2004).

(iii) Growth and development:

This component includes normal physical growth for children as well as mental, emotional, and social development for adults. Individuals may enhance their health and well-being by continual learning, new experiences, and all varieties of self-improvement activities (Saylor 2004).

(iv) Occupational and/or social role performance:

This component includes an effective performance of tasks, the ability to demonstrate the requirement of roles and socially valued levels of activities for social roles. Healthy individuals establish their roles and tasks successfully in ways that are valued socially. For example, the role of healthy parents in bringing up their children, the role of children in attaining school expectations, retired individuals enjoying the role as grandparents, the role of the employer in managing the company and employee relations etc. (Saylor 2004).

Renewal and Recovery:

This domain represents components of health, including (i) rest, relaxation, peacefulness; (ii) nourishment; (iii) social support; (iv) a sense of purpose and meaning; (v) Balance, adaption, resiliency. These components overlap each other as well as overlap with the central core of optimal function, well-being, and quality of life and include both physical and mental dimensions (Saylor 2004).

(i) Rest, relaxation, and peacefulness:

This component includes sleep, physical relaxation, and recreation activities, as well as mental peacefulness. Health can be improved by getting adequate amounts of sleep, by participating in recreational activities complementing usual family roles and responsibilities and doing things with peace of mind (Saylor 2004).

(ii) Nourishment:

This component includes proper dietary nutrients and emotional fulfilment. Our bodies need an adequate level of vitamins, calories, nutrients, minerals. This is not only related to the body, but also the mind wherein emotional satisfaction is required. The health can be improved by an adequate amount of diet as well as interesting hobbies, work, satisfying relationships (Saylor 2004).

(iii) Social support:

This component includes a good relationship between others and the social system to get assistance or offer help. The health can be improved due to decreases in the isolation, offering the possibility to find like-minded people and thereby participating in activities (Saylor 2004).

(iv) A sense of purpose and meaning:

This component refers to the individual sense of living life with some purpose. The sense of purpose varies according to the individual's perception of life. This could be, for example, having a sense of living life through religious faith, doing social service, planting trees for a better environment etc. Health can be improved by doing any of the activities that give a sense of meaningful contributions to one's life (Saylor 2004).

(v) Balance, adaption, resiliency:

This component focuses on the balance between physical and non-physical (mental) aspects and the ability to preserve existing resources and acquire new capabilities to become stronger than before. Reduction of stress and disease results from focusing on this component. Health improvement activities may include stress reduction methods such as meditation, rest, recreation, and balancing other complementary aspects of life (Saylor 2004).

The nursing philosophy has been developing for over 150 years. The main themes found in the literature are caring, naturalism, and wholism. Theory related to caring focuses more on the wholeness of the patient's situation. Philosophy involves skills, knowledge, patients' trust, and the ability to interpret, understand and manage all elements in the context of care. Wholism is similarly another philosophy of understanding the patient, but it focuses wholly on a sum of the parts. Holistic nursing recognizes that biophysical, psychological, and sociological subsystems are in interacting with each other and mind-body relation exists (Hardin and Alligood (ed.) 2014, 20)

In a traditional healthcare setting, contributing factors for a nursing approach towards the patient are health promotion activities and tools as defined by the Finnish institute for health and welfare, health as well-being, and working on multiple parts of the body to find the cause prevent disease. According to Saylor (2004), adding the dimension of holistic integration of mind and body; understanding the balance among various bodily system to the traditional healthcare setting will provide nurses with the concept of holistic health practices. Meditation, yoga, and other available Complementary Medicine Practices/tools are examples that can be used to improve mental and physical aspects.

4 Aim, research questions and limitations in the study

This chapter describes the aim, research questions, and limitations in the study.

4.1 Aim and research questions

The aim is to gather information on if and how yoga can be used as a complementary tool or therapy in health promotion in addition to primary care to enhance the optimal healing environment and to improve the quality of patients' life. This will help to understand from a nursing perspective the common goals of conventional healthcare and yoga as complementary practices/tools in the context of health-related quality of life and health promotion.

The research questions are,

- what are the benefits of yoga practices and their influence on health-related quality of life?
- can yoga be used as a complementary tool in health promotion together with primary care?

4.2 Limitations in the study

According to WHO (2020), the term "complementary alternative medicine"(CAM) refers to a comprehensive set of alternative health care practices that are not part of that country's conventional healthcare practices or medicine. CAMs are not fully integrated into the dominant healthcare system. However, they are used interchangeably with traditional medicine in some countries."

In Finland, according to Finnish Yoga Association, founded in 1967, there are 27 registered member association and 2,700 direct personals. However, data concerning how many of these registered practitioners are collaborating with Finnish healthcare services or what are the policies to include this knowledge in Nursing education could not be found during this research.

In Finland, from the business point of view, yoga is the category of "Gyms and saunas". To start these practices, one needs to do a notification (before start-up)

to the municipal health protection authority. However, yoga is mostly considered as related to body posture, and thus many gyms are organizing classes on yoga. The main interest is to do research focusing on if and how yoga is used in healthcare and health promotion, so individuals availing benefits of yoga by going to gyms or classes without intimation to the Finnish healthcare system is out of the scope of this study.

The limitation further includes narrowing down the scope, and different styles of yoga practices, their specific use and duration for lowering the symptoms of specific chronic diseases such as cancer patients etc., are not considered under the scope of this research work.

5 Thesis design and methodology

Chapter 2 described the theoretical background and motivation behind this thesis study. Chapter 3 explained the theoretical framework supporting this study's concept wherein three main domains considered are Health-related Quality of Life, Health promotion and Yoga. Chapter 4 described the focus area of the research study. The next step in the research study is to define the choice of research design and methodology.

Gerrish and Lathlean (2015, 15) defines *research* as the systematic search of information, a process of enquiry wherein it is expected that the researcher must learn the scope of existing knowledge, define own area of investigation, collect data, analyze it, and draw a conclusion.

In this chapter, the process that was followed during the research study is explained. The sub-subsequent sub-chapters describes the research method, data collection method, data analysis method and ethical consideration.

5.1 Research method

A scoping review research method was used in this study. Choice of a scoping review research design approach was based on the nature of the research question as described earlier in chapter 4.

5.1.1 Scoping review research method

A scoping review research method is one amongst many that can be used to review the literature. It tends to provide an overview of the available research on a similar research topic. It does not produce a summarized answer to a research question as well as does not assess the quality of the included studies (Arksey and O'Malley 2005).

According to Arksey and O'Malley (2005), there are few common reasons to undertake a scoping review. One reason is to examine the range and nature of research activity but not to describe the findings in detail. This is related to the study, where it is difficult to measure the range of available material. The second reason is to do a feasibility study by mapping the available literature to evaluate whether a systematic review can be done or not. The third reason is to support others, for example, policymakers, consumers etc., by offering them detailed findings and source of all available information on the research topic. This might be required when there is a lack of time for those policymakers or consumers to review this by themselves. The fourth reason is going one step further after review and identify research gaps. It is, however, essential to know that identifying the research gap does not relate to the identification of quality because the quality assessment is not a form of scoping review.

Scoping review method is thus used in a variety of research topics from various disciplines such as business, public services, education, health care and nursing (Rumrill, Fitzgerald and Merchant 2010).

Scoping studies can generally be done in five stages, namely, identifying the research question, identifying the relevant studies, study selection, charting the data and collating, summarizing and reporting the results. (Arksey and O'Malley 2005).

5.1.2 Scoping review research method in this study

The systematic review research design method addresses both the depth and the breadth of the research topic. Scoping review, on the other hand, is non-systematic and addresses the only breadth of the available literature on the research topic. Accordingly, scoping review allows the researcher to use a wide

range of material, including scientific articles, non-scientific material, information from quantitative and qualitative studies, formal or informal meetings proceedings, clinical reports, another thesis work etc. As such, there is no limit on gathering and analyzing the information, which eventually is not evaluating the quality of those studies considered for review (Rumrill, Fitzgerald and Merchant 2010).

It was observed that several primary and secondary source literatures is available on keywords such as "*yoga practices*", "*health promotion*", "*complementary alternative medicine*", etc. each with different degree of insights and relevance with the purpose of the respective review topic. In the context of the research question, it was, therefore, necessary to do this study with a scoping review that allows keeping a broad focus on the topic.

In the context of this study, the purpose of doing a scoping review is to examine the range and nature of the material in the field of the research question and to determine if a full systematic review is needed for policymakers to implement yoga practices in health promotion.

Reviews focusing on examining the range and nature are described further as literature mapping, conceptual mapping, and policy-making assessments. The most common type of review, literature mapping, is used in this study. Two primary objectives of using literature mapping are to understand the location of the research done on a similar topic and to understand its magnitude. Specific criteria concerning location (country), researcher (individual, researcher etc.), publishing source (peer-reviewed or non-peer-reviewed journals, conference papers etc.) can be defined for the literature mapping (Rumrill, Fitzgerald and Merchant 2010).

Stages of the framework for conducting scoping review were followed, which includes identifying the research question, identifying relevant studies, study selection, data charting & documentation, and summarizing & reporting the results. (Arksey and O'Malley 2005). Research question identification is explained in chapter 4.1 Aim and research questions. Methods for identification of the relevant studies and study selection is explained further in chapter 5.2: Data collection method. A brief explanation about data charting and the final stage of summarizing & reporting the results is explained in chapter 5.3 Data analysis.

5.2 Data collection method

The research design or methodology is different from the data collection methods. Wide ranges of other data collection methods such as interviews, surveys, observation, clinical measurement are available. The use of documents as data is considered as appropriate methods for data collection in this research study.

A scoping review enables the researcher to examine all relevant literature on the research topic regardless of the design of the study, publication, also the 'grey literature' instead of peer review or scientific literature. Apart from a holistic approach, a scoping review research design allows the collection of data freely that can give a better understanding of the research aim of this study (Arksey and O'Malley 2005).

With the growth of literature in nursing and healthcare, an individual need to develop the skills to search for the needed information more effectively. There is a broad category of resources available, for example, electronic information resources on the internet, the research literature, journals and journal articles, books, reports, theses, conference proceedings, government circulars, grey literature and several international databases that may be accessible via the Internet (Gerrish and Lathlean 2015, 89-94).

Search keywords were chosen mainly in the context of this study and the research question. Keywords used were '*yoga*', '*mental health*', '*physical health*', '*health-related quality of life*', '*holistic health*', '*health promotion*', '*complementary and alternative medicine (CAM)*' and '*scoping review*'. AND OR logics were used during the electronic database search to derive optimum results.

The search strategy involved the use of different electronic databases such as the Cumulative Index of Nursing and Allied Health Literature (CINAHL), National Center for biotechnology information/PMC (<https://www.ncbi.nlm.nih.gov/>), Researchgate (<https://www.researchgate.net/>), SAGE Journals (<https://journals.sagepub.com/>), PubMed (<https://pubmed.ncbi.nlm.nih.gov/>), Cochrane Library (<https://www.cochranelibrary.com/>), Springer

(<https://www.springer.com/gp/>) and additional records identified through other sources such as but not limited to reference lists; key journals; textbooks; relevant organization website, and conference papers etc.

The decision was taken to review the other sources of material in the Marathi and Hindi language. This is because of the language competency to be able to understand the concepts and assumption of having more material available in the Indian local language considering India is the origin of yoga. However, during the final selection of articles, it was decided not to use these materials because they were not available as open-source or in the library for the readers who would like to refer to these further.

Another inclusion condition for electronic database searching was the period '2011-2020' and 'Open Access Content' and in some cases 'Journal'. This is because the benefits of yoga and its relationship with health-related quality of life was assumed to get more focus during recent scientific studies and in view that content would be available to read for anyone interested in going into the details further with no registration and/or purchase formalities. The criteria were to exclude articles that are focusing on a specific disease, specific yoga practice such as only ashtanga or only meditation or only spiritual aspects.

The search generated many hundreds of results which then needed evaluation to see whether they should be included in the final study selection or be excluded (Arksey and O'Malley 2005).

The electronic database search method with keywords used in this scoping study generated a total of one thousand one hundred and fourteen (1,114) articles out of which one thousand and fifty (1,050) articles were removed because of non-suitability for this study and duplication of results. Sixty-four (64) references were selected, out of which about twenty-four (24) of which were identified as relevant references in the context of the research question, and finally, sixteen (16) were included for the analysis study. Few steps were taken to select the articles for final data analysis. First, the title of the article was read, and 64 articles were chosen. Then 40 articles were rejected based on abstract content, and due to its focus on

specific diseases, that was not the aim of this thesis. Chosen twenty-four (24) articles were reviewed for eligibility, out of which nine (9) were rejected due to a more spiritual aspect of yoga, and the content was not found suitable to answer research questions. The remaining 15 articles were selected for the data analysis, so; they were saved to the folder with file name representing the author and year.

Although scoping review allowed to use of a wide range of material, including non-scientific articles and grey material, selected references were chosen through the electronic databases to enable the reader to find and access them later for detailed study. The final selected material for the analysis appeared to be scientific articles that were not intentional and were the result of fine selection after the broad search.

Some of the selected articles chosen were found to be following the literature review method. It is difficult to compare one particular study or reference used in review articles to the selected similar article because of variation in data analysis, sample setting, type of yoga practices and the aim itself. Checks were performed to find data saturation, and data were not considered for analysis for such observations.

The search process is explained in Appendix 1 as Prisma Flow Diagram. PRISMA refers to PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) and is used to formulate the references used in the research study. This way, it helps authors to report identification, screening, eligibility and finally, included material in the research study. It is, however, not the tool to access the quality of the review (Moher et al., 2009). The PRISMA flow diagram is represented in Appendix 1 is simplified according to the requirement of the thesis study. Detail description of the electronic database search history is provided in Appendix 2.

5.3 Data analysis

The researcher collects all kind of qualitative data; however, to be useful, this data needs to be turned into results. The process of transforming these data into research results is called analysis (LeCompte 2000).

This chapter describes the final two stages of the study, namely, data charting and summarizing & reporting the results.

Two main types of analysis methods used in research are deductive (generally associated with quantitative research) and inductive (typically associated with qualitative research). These two methods are often addressing the same question but with different techniques. The inductive approach is using the research question to narrow the scope of the study (Soiferman 2010).

The analysis process involves preparation, organization and reporting the results. While using the inductive analysis approach, data was collected with specific observations and then segregated into themes or patterns in the data (Elo et al. 2014).

According to Arksey and O'Malley (2005), a scoping study may need some analytic framework, or thematic construction to present a narrative account of existing literature. However, scoping study does not seek to assess quality of evidence and consequently cannot determine whether studies provide strong and generalized findings.

An inductive analysis approach was used in this study. Literature data collected was qualitatively presenting the data in words and descriptions. Data was gathered according to the data collection method, as described earlier in chapter 5.2.

The next step of the work involved was charting the data and data documentation from the final references being reviewed. The charting approach considers a broader view and can include information that would be more easily understandable to readers. The 'descriptive-analytical method was adopted by applying a common framework for all the final selected references (Arksey and O'Malley, 2005).

The aim was to create a descriptive summary of the results, which delivers the scoping review's objectives, and if possible, answers the questions of the review.

The below-mentioned standard information on each study was then collected and maintained in table format.

- Bibliographic data (authors, publication year, title journal, volume, issue number, page numbers, retrieved on)
- Place where the study was carried out / keywords
- Aim of the study
- Sample (data material, informants, setting, and context)
- Research methodology including data collection method(s), analysis method(s)
- Result

Appendix 3 provides a table of included studies which forms the basis of the analysis.

Due to data charting in table format with specific information, it was possible to segregate the material according to research questions. Each of the selected articles was then thoroughly reviewed and analyzed with a focus on answering the research questions. Themes were derived while analyzing the selected material. With the scoping study review approach, the overview of all the studied material is reported in defined themes in chapter 6: Summarizing and reporting results. In chapter 7: Discussions, the results were then discussed in view of the theoretical framework, as described earlier in chapter 3.

5.4 Ethical consideration

Ethics is a branch of philosophy that deals with decision-making dynamics concerning what is right and wrong. Behaving ethically means doing the right things at the right time. In the context of research studies, the researcher must follow moral principles in their respective research field. The Foundation of ethics in the research process is based on ethical principles defined in a different area of studies (Fouka and Mantzourou 2011, TENK 2009).

Regardless of the thesis design methods, the researcher needs to consider ethical issues while doing the research. Finland's Ministry of Education and Culture has appointed The Finnish Advisory Board on Research Integrity (TENK) to advise and

update the guidelines for the responsible conduct of research. The thesis study has followed TENK's guidelines.

Research must be done according to the responsible conduct of research. It assures the quality of the study. Only then it would be ethically acceptable, reliable, and the results derived from the research study would be trustworthy. While researching and evaluating outcomes for presentation, the researcher must follow three main principles: integrity, meticulousness, and accuracy. It is essential to follow scientific criteria while using methods to collect and analyze the data. The researcher should clearly define the source of information and respect the work done by another researcher by citing the same while publishing the research work. The derived results must be communicated in a responsible manner (TENK 2012, 30).

Violation against the responsible conduct of research refers to the unethical and dishonest practices, either intentionally or unintentionally, that makes the research invalid. The misconduct done during research activity misleads the research community and further also misleads the decision-makers. Typical examples of such misconduct are representing false data, using other researcher's work without citing and presenting it as their research work etc. Accordingly, misconduct can be classified into four subcategories: fabrication, falsification/misrepresentation, plagiarism, and misappropriation. Fabrication means presenting the already invented results and, in that sense, not using methods as claimed in the own research. Falsification or misrepresentation means omitting the information that otherwise would be useful in decision making. Plagiarism means using other researchers' material and presenting it as its research. This includes results, any other form such as text, article, visual material, translation etc. Misappropriation means the presentation of other researchers works as their research. There are many other irresponsible practices, such as expanding the reference list by false citation etc., that refers to disregard for the responsible conduct of research (TENK 2012, 32-33).

A large number of data has been reviewed while doing this research study with a scoping review. Careful attention was paid to the TENK guidelines and has

appropriately cited the source of information and other researcher's work, wherever used. All used resources are reported in the 'References' chapter, and care is taken not to expand the list artificially to increase the number of citations. Results are presented transparently without any falsification. This way, care is taken to the best of knowledge to arrive at a trustworthy research outcome.

6 Summarizing and reporting results

In this chapter, results are summarized and reported by keeping the focus on the research questions. Four main themes were identified during the analysis, and answers to the research question were explored through themes, namely, theme one as Physical health benefits of yoga practices, theme two as Mental health benefits of yoga practices, theme three as the influence of yoga on health-related quality of life, finally theme four as use and acceptance of yoga in primary care.

6.1 Physical health benefits of yoga practices

Yoga improves physical conditions, balance, and posture. Physical conditions include low-back pain, arthritis, cardiovascular diseases. The asanas (physical postures) done during yoga practices improves flexibility and helps to restore injuries, for example, sports-related injuries. Generally, yoga practitioners experienced lowered blood pressure, improved breathing control, enhanced muscular strength and flexibility (Atkinson and Permut-Levine 2009).

Global physical health scores are associated with a longer duration of yoga practices and especially has a positive relation with breathing techniques (Birdee et al. 2017).

In recent years, there has been increasing evidence of finding that yoga practices offer physiological benefits. Physical benefits of yoga practices extend further, leading to intervention in the treatment of various other diseases, including eating disorders, chronic urological conditions, sleep/mood/psychiatric disorders that are associated with cancer. It was found that yoga practitioners are less likely exposed to smoking, be considered obese and more like to live a healthy life. Yoga practice is associated with weight loss and maintenance of BMI, especially important in the

case of patients having coronary artery diseases. Yoga is effective in lowering blood sugar, lowering blood pressure, lowering cholesterol, in reducing chronic low back pain. The evidence further suggests the use of yoga as therapy brings positive physiological and psychological changes in breast cancer patients and helped improve their quality of life. Results further showed decreases in gastrointestinal symptoms, diarrhea, cognitive disorganization, emotional irritability, and cardiopulmonary symptoms (Chapman and Bredin, 2010).

Studies show that yoga can make positive physical changes. Yoga asanas are observed to be effective in managing signs associated with musculoskeletal disorders, osteoarthritis, carpal tunnel syndrome, hyperkyphosis, and lower back pain. Significant improvements were observed in muscular strength, flexibility, muscular endurance, and cardiorespiratory endurance. Improvements were also observed in motor skills and physiological measures such as blood pressure, heart rate, BMI. Cardiopulmonary benefits were observed that includes improved cardiorespiratory fitness, improved forced expiratory volume, and increased vital capacity (Cowen and Adams 2005).

Regular yoga practitioners showed improvement in physical functioning and capacity (Grensman et al. 2018).

Several literatures reviews have been conducted to examine the effect of yoga practices on health, and they approve several benefits with respect to physical and mental health. Studies indicate positive effects of yoga such as reversing the negative impact of stress on the immune system by increasing levels of immunoglobulin A12 as well as natural killer cells, decreases levels of salivary cortisol, controlling blood glucose as well as plasma renin levels, 24-hour urine norepinephrine and epinephrine levels, decreases heart rate, decreases blood pressure, decrease markers of inflammation. The study further indicates the positive impact of yoga on conditions such as cardiovascular disease, metabolic syndrome, diabetes, cancer, and anxiety. Yoga seems to be equal or even better than exercises in reducing certain symptoms associated with diabetes, multiple sclerosis, menopause, kidney disease, and schizophrenia (Ross and Thomas 2010).

Yoga practices improve signs linked with a number of chronic illnesses such as type 2 diabetes, cardiovascular disease, metabolic syndrome, and cancer. Yoga also seems to be decreasing inflammation and improves immune system function (Ross et al. 2013).

Regular practice of yoga's traditional asanas, such as *Suryanamaskara*, has significant physiological effects. This gave positive results to the participants, especially in the areas of physical relaxation, improved strength, awareness and joy, more peace of mind and mental calmness (Stephens 2017).

Yoga practices improve the muscular strength and flexibility of the body. It further improves respiratory and cardiovascular function and encourages recovery from and treatment of addiction (Woodyard 2011).

6.2 Mental health benefits of yoga practices

Research shows that stress is the origin of many diseases, and so, there is an increasing focus on stress reduction and stress management strategies. The study revealed that people are choosing Complementary and Alternative methods, for example, yoga practices, to promote health and cope with stress-related issues. Yoga is viewed as a holistic process, offering techniques for stress management. Yoga practices improve the physiological sequence of events in the body which helps in improving psychological conditions, for example, stress, anxiety, chronic fatigue syndrome (Atkinson and Permuth-Levine 2009).

Global mental health scores are associated with regular yoga practices such as meditation, breathing and especially has a positive relation with breathing techniques. Regular yoga practices have shown a reduction in stress level, and practitioners reveal a higher level of mindfulness than non-practitioners resulting in higher mental health scores. Those who are doing regular meditation techniques, especially in the community group, showed a unique relationship with mental health status and higher global mental health scores (Birdee et al. 2017).

In recent years, there has been increasing evidence of finding that yoga practices offer psychological benefits. Yoga is observed to be an effective relaxing therapy

in decreasing chronic stress, anxiety, mood disorders, tension, depression, negative mood, fatigue, and confusion, thereby improving mental health (Chapman and Bredin 2010).

Yoga helps to improve self-awareness. Yoga makes a positive impact on well-being, anxiety, perceived stress, and mood. Participants who are doing yoga practices reported improved body awareness, well-being, and perception of physical functioning. They also felt motivated for continuing yoga because sessions had a positive impact on the feeling of relaxation, reducing stress and self-awareness. (Cowen and Adams 2005).

Several research studies indicate that different kind of yoga techniques, practices may improve physical and mental health. Yoga has been demonstrated to have immediate psychologic effects such as decreasing anxiety and increasing feelings of emotional, social, and spiritual well-being. It has been observed further that yoga is effective in relieving symptoms concerning mental illness such as depression, anxiety, obsessive-compulsive disorder, and schizophrenia. Yoga practitioners performed significantly better in reducing psychotic symptoms in social and occupational functioning compared to the conventional exercise group (Ross and Thomas 2010).

Yoga positively affects mental health by reducing depression and anxiety. Participants having chronic or serious health problems, reported significant improvement in their health, together with mental health (Ross et al. 2013).

Concerns about mental health are rising globally, and there is a need for effective mental health promotion to achieve mental well-being. Ways to reduce stress level can promote mental well-being and prevent illness. Yoga is recognized globally as one of the cost-effective and easily accessible ways of getting both physical and mental benefits. No clinical intervention, ability to decide self, improved self-awareness, encouragement in self-reliance, improved fitness, lack of response to medication, cost-effectiveness, no side effects are some of the reasons that are naturally attracting people to practice yoga and improve mental health. World Health Organization predicts depression, anxiety as the greatest contributors to the global disease burden by 2020. Pharmaceutical therapies are not sufficient to

prevent mental illness and promote well-being. Multiple studies confirm that yoga helps to improve mild to severe depressive symptoms in Major Depressive Disorder (MDD). Yoga, in combination with anti-depressants, found to be better and effective than using anti-depressants alone for depression symptoms (Shroff and Asgarpour 2017).

A study performed on a group of 54 patients with depression at tertiary care psychiatric hospital indicated that patients had a higher level of serum cortisol compared to a healthy group of participants. Fifty-four patients were divided into three groups; namely, 1st group received conventional medical therapy, 2nd group received yoga therapy, and the 3rd group received medicine together with yoga. The results revealed that cortisol levels were found to be decreased significantly in both the 2nd and 3rd group, wherein yoga practices were followed (Stephens 2017).

Evidence shows that stress is the reason for many illness conditions such as heart disease, cancer, stroke etc., as well as other chronic conditions and diseases. As such, when stress is the main concern for numerous diseases so, it is a high priority to pay much attention to stress management, thereby reducing negative emotional state and reduce the burden of diseases. One of the forms of CAM, Yoga, is viewed as a holistic stress management technique that creates mental well-being. Regular yoga practice produces a physiological sequence of events in the body that reduces the stress response. Many scientific studies revealed that the most common reason why people choose yoga is mental health problems such as anxiety, depression, stress, sleep-related issues etc. Yoga is helping one to relax and improve optimism. It further helps in reducing breathing and heart rate, blood pressure, cortisol level and increases blood flow to the intestine and vital organs (Woodyard 2011).

6.3 Influence of yoga on health-related quality of life

Yoga practitioners reported significant improvement in the scores related to self-care, mindfulness, emotional exhaustion, and depersonalization. These factors eventually influence Health-Related Quality of Life - HRQOL (Alexander et al. 2015).

Yoga practitioners experienced an improvement in quality of health with more healthy eating habit. Practitioners believed that there is a connection between yoga and an immune response that prevents illness. Practitioners who reported specific health conditions, for example, fibromyalgia, depression, headache, and migraines, confirmed the improvement in their condition after yoga sessions. Thus, yoga leads to improved Health-Related Quality of Life - HRQOL (Atkinson and Permuth-Levine 2009).

Studies show that people prefer yoga practices for general well-being. The study also reveals that yoga practices improve the Health-Related Quality of Life (HRQOL), including both physical and mental benefits. However, more research is required to establish a relationship between different yoga practices, techniques, duration, and their potential effects on HRQOL (Birdee et al. 2017).

Evidence indicates that regular practice of yoga improves the ability to make healthy lifestyle changes. Yoga improves relaxation, flexibility, and improvements in quality of sleep. Practitioners are of the opinion that yoga is effective in inspiring one's spirit, improves optimism and brings them peace of mind by decreasing negative thoughts. This improves the Health-Related Quality of Life - HRQOL (Chapman and Bredin 2010).

Union of mind, body and spirit is difficult to evaluate; however, evidence suggests increasing benefits of yoga practice at a physical and psychological level. Data supported the earlier finding that yoga practice can decrease stress, improve strength and flexibility over a short time. Findings suggest that depending on the different styles of yoga, the more vigorous asanas are a good alternative to other physical exercises (Cowen and Adams 2005).

Research indicates that the Health-Related Quality of Life (HRQOL) can be improved by using Complementary and Alternative Medicine practices. The higher the use of CAM, the higher the effect on health and health preventive lifestyle. Utilization of CAM resulted in a number of findings such as healthy lifestyle, no use of prescribed medication, reduced rate of heart disorders, allergies, stress, depression, headache, fatigue, general weakness etc., that resulted in improved Health-Related Quality of Life (HRQOL). In general, a higher population is using

CAM. However, it is observed that users of CAM therapist are in better shape than users of physicians as CAM provider (Frass et al. 2012).

The focus on Health-Related Quality of Life (HRQOL) has increased in recent years because it provides patients' perspective about his or her own health and supports defining better treatment and prevention. The quality of life decreases due to burnouts. Patients with burnouts have an increased risk of having somatic or psychiatric diseases that may lead to long-term sick leaves. They report declining health signs such as physical and mental health. A high level of burnout, especially in the emotional exhaustion area, leads to worsening health-related quality of life, both physically and mentally. HRQOL predicts an indication of future health. After regular yoga practices, the measure of HRQOL was better in emotional well-being, cognitive function, sleep, and physical well-being. Traditional Yoga practices can be used in rehabilitation in a different context of health care to increase health-related quality of life (Grensman et al. 2018).

Domains of Health-Related Quality of Life (HRQOL) such as general health, psychological, physical, neuromuscular performance, muscle strength and flexibility, social and environmental well-being, level of depression, anxiety and stress showed significant improvements after regular yoga practice. Compared to this, the group of people who were not doing yoga did not show any improvements in these domains. Yoga practitioners reported their individual observation and significant improvement in physical and mental health-related quality of life. There were no negative or side effects of doing yoga practices. Integration of body movements and breathing techniques were found to be supported by results of heart rate, blood pressure and muscle hypertonia. Additionally, social benefits, e.g., socialization opportunities, were observed between participants attending yoga classes. This is due to improvement in physical, psychological, and emotional awareness of individual that encouraged them to the tendency of social interaction (Ponte et al. 2019).

There was observed a positive relationship between yoga and health. Most practitioners (all races and both genders) agreed that yoga practices improved their general health, energy level, happiness, sleep quality, interpersonal relationship, healthier weight and diet pattern. This eventually influenced the

Health-Related Quality of Life (HRQOL). A number of randomized control trials have provided satisfactory results having a positive relation between yoga and health, including improvement in chronic diseases symptoms, but these studies were carried out with a short duration of yoga practices. It would be advantageous to do studies with a longer duration of yoga practices to fully understand other significant benefits of yoga practices (Ross et al. 2013).

Yoga has been proven to enhance the Health-Related Quality of Life (HRQOL) of both healthy and ill individual. Thirty (30) review articles revealed yoga as one of CAM treatments for various mental health issues, especially related to depression, anxiety, obsessive-compulsive disorder, schizophrenia, and others. Yoga was found to be better than an exercise in improving physical and mental health measures such as stress, quality of life, mood states, heart rate variability, pulmonary function and so on. Regular practice of yoga promises to promote a better quality of life. It is also an acceptable, available, easily accessible, low-cost, and self-dependent alternative for the general population. Because yoga practice can be done in groups so, it includes social or community component. Doing yoga practices together in a group, e.g., at the workplace, schools, or any other setting, helps improve mental health (Shroff and Asgarpour 2017).

Regular practice of yoga reduces anxiety, stress, depression, chronic pain, improves the quality of sleep, and thereby enhances overall well-being and Health-Related Quality of Life - HRQOL (Woodyard, C. 2011).

6.4 Use and acceptance of yoga in primary care

Yoga practices may be an effective strategy for health promotion. This also benefits nurses and may lead to a decrease in experiences of burnout among healthcare personnel (Alexander et al. 2015).

People are inclined towards using Complementary and Alternative methods such as yoga to either enhance or replace conventional treatment. Clinical trials suggest that yoga can be presented to the public seeking guidance on health practices. Educators and policy developers thus can consider using CAM practices such as yoga while discussing the holistic health approach. Yoga is recognized as effective mind-body medicine that enriches several aspects of health and thus may play a

key role in health promotion, disease prevention by offering social and psychological benefits (Atkinson and Permuth-Levine 2009).

An increasing number of research indicates the use of yoga practices is a beneficial alternative for various chronic illnesses issues such as reducing chronic lower back pain and for a various population of patients. Yoga is effective for weight loss, lowering levels of blood sugar, controlling blood pressure, cholesterol, decreasing stress, anxiety, and depression, as well as lowering the risks and improving the situation related to coronary heart disease, diabetes, breast cancer, asthma, and arthritis. Research indicates that the benefits of doing yoga practice surpass the benefits of using pharmaceutical drugs alone. Yoga is a holistic way of doing patient care that offers physical, mental, social, and spiritual well-being that can eventually improve quality of life. Due to these and several other reasons, yoga offers a unique approach to disease prevention, patient care and health promotion. Today, medical practitioners are recommending yoga practices to their patients to improve their quality of life. Yoga education in the medical sector is needed for this reason. Integration of complementary and alternative medicine or methods into health promotion and disease prevention strategies is needed for population having varying needs, diverse culture & abilities, and health states (Chapman and Bredin 2010).

An increasing number of populations is attracted towards Complementary and Alternative Medicine practices, and thus it is natural that also a number of physicians within the healthcare also having knowledge of CAM are growing (Frass et al. 2012).

In recent studies, both traditional and various styles of yoga have been found getting increasing popularity in the West to improve physical, mental, and emotional well-being. Yoga has been recently introduced in health care to improve mental health. This was adopted by implementing mindfulness-based stress reduction techniques wherein yoga practices were found to be suggested for a better outcome. Combination of different kind of asanas, breathing techniques and meditations were found to be an effective and alternative treatment for patients with reduced quality of life and diverse symptoms. It is assumed that these results are applicable and can be generalized to the general population that are using

occupational medicine and primary health care facilities irrespective of the reasons, whether for physical or mental health problem symptoms. The use of different techniques of yoga practices will improve the quality of life and can be used as an early intervention to prevent diseases or lessen the severity. Further, yoga can be used in health promotion and burnout prevention (Grensman et al. 2018).

In recent decades, different kind of CAM therapies, including yoga practices, is recommended to minimize the negative effects of medications. In Brazil, the population has access to yoga and other CAM practices in the public health care setting. It is found that yoga is gaining popularity due to minimal side effects, low-cost alternative and, more importantly, due to the fact that it is a self-regulation tool. This is mainly used to manage psychological distress and to promote quality of life. In this context, the sustainability of the health care system can be maintained by integrating yoga as a complementary therapy in primary care. The only needed things that health centers can provide is an empty room, low-cost equipment such as mats with a certified instructor. Free yoga classes at a central location, free car parking, access to public transportation, the comfort of the space, professionalism of instructor and their sympathy and availability/consistency were some of the factors that ensured the sustainability of participation in yoga classes. Furthermore, the sense of security as a service offered by primary care contributed to the success of the integration of yoga in health care. This indicates that the integration of yoga in primary health care is safe and feasible with a satisfactory level of acceptance from the general population. Yet, a larger and longer duration of studies is required to access the needs and feasibility in different countries and communities to access the effects of yoga and its further integration in health care. Research indicates that general practitioners should be involved in referring or supervising CAM treatments. Yoga is recognized worldwide as a means to promote health and well-being. It is observed in one of the Australian surveys that general practitioners are recommending yoga and meditation as a safe and effective health promotion technique (Ponte et al. 2019).

Research indicates that in past decades, CAM alternatives such as yoga has been integrated into hundreds of health care facilities, most often in university medical

centers. In health institute under study, clinical yoga specialist is always made available together with other health care service providers in giving treatment and care to a variety of patients. The most observed conditions related to yoga therapy were hypertension, headaches, anxiety, depression, and sleep-related issues. Continuously maintain the records of treatment and results – before and after the yoga treatment provided the evidence of getting acceptance of yoga as an alternative therapy and even getting it accepted for insurance reimbursement. CAM therapies are not generally considered a part of conventional medicine. So, Integrative medicine is referring to the practice where both conventional and CAM treatments are combined and offered to the patient. Yoga was viewed as the safest CAM therapy so, the University of Arizona or Stanford Medical Center, the Cleveland Clinic, Duke University, and George Washington University have begun to include yoga therapy into their integrative medicine programs. Despite several benefits, the inclusion of yoga in primary care sees less progress (Ross et al. 2015).

Sufficient evidence exists to say that family physicians can safely recommend yoga to their patients. Multiple studies and research indicate that varied forms of yoga interventions help in improving physical, mental, and emotional well-being. Yoga practices are accessible at low cost and for all irrespective of gender, race etc., thereby giving an opportunity to a larger group of population to get physical and mental health benefits (Shroff and Asgarpour 2017).

Research indicates a positive relation between yoga practices and physical, mental well-being. This includes regulating blood glucose level, keeping the cardiovascular system healthy, increase alertness and positive feeling, decrease negative feeling, depression, anxiety etc. Yoga as a natural, low-tech, low cost and safe alternative is getting popularity and is in demand by the population seeking health care services. This is enabling many health care service providers to integrate yoga as CAM into their conventional practices. Yoga not only helps in improving the physical and mental state but also helps individual to understand the basic cause of illness. Medical yoga therapy is the field wherein holistic approach is considered not only from patient's mind, body and spirit point of view but also considers family, support network, work situation, culture etc. while defining patient

individualized treatment plan. Therapy offers benefits in the long term, even after ending a relationship with a service provider (Stephens 2017).

One of the main goals of integrative health care is to provide a complete range and combinations of services to the general population that seeks reduced sickness and want to improve health-related quality of life. To make the integrative practice happen in health care, the general population need to be in partnership with a health service provider, health professionals and policymakers. It is possible that public health care professionals can facilitate this because they have rich experience in health promotion and community orientation. Primary care is observed to be more technology-centered, hospital centered, disease-centered. A patient-centered approach by integrating CAM practices in primary health care shall satisfy individual needs and desires to improve health-related quality of life. This is a multidimensional approach encouraging service provider and the population to work together for the greater benefits. There is a need to support conventional health care professionals to learn about CAM and also to help CAM professional to work more effectively with these medical health care professionals. In the context of public health care, CAM and primary health care can better be integrated through public health promotion initiatives. The main objective of such health promotion is to improve the existing level of health by implementing various effective programs together with CAM initiatives. CAM is already used in many developed countries. It is expected to increase this further due to the increasing use of CAM practices together with conventional medicine practices. Primary health cares' health promotion strategies play an important role in establishing initiatives such as CAM or integrative medicine (Willison, Mitmaker and Andrews 2005).

7 Discussion

This chapter is divided in two parts namely, 'discussion of results' and 'discussion of method'. In 'discussion of results', the relationship between the finding of the study and the theoretical framework will be discussed. In 'discussion of method', the research method will be reviewed, and credibility, dependability, confirmability, transferability, and authenticity will be discussed.

7.1 Discussion of results

For this thesis study, Coleen Saylor's "*The Circle of Health, A Health Definition Model*" was used as a theoretical framework. Both '*Activity and Performance*' and '*Renewal and Recovery*' is necessary for health and is part of wellbeing and quality of life. The specified components in '*Activity and Performance*' and '*Renewal and Recovery*' then can be matched with the health behavior and needs of a person, thereby increasing the self-awareness and decision-making capability of an individual. '*Activity and Performance*' represent components of health, including (i) energy, strength, fitness, stamina; (ii) happiness, enjoyment, satisfaction; (iii) growth and development; (iv) occupational and/or social role performance. Whereas, '*Renewal and Recovery*' domain represents components of health, including (i) rest, relaxation, peacefulness; (ii) nourishment; (iii) social support; (iv) a sense of purpose and meaning; (v) Balance, adaption, resiliency. All these components overlap each other as well as overlap with the central core of optimal function, wellbeing, and quality of life and include both physical and mental dimensions. This was the foundation of promoting CAM, such as yoga.

In complementary and alternative medicine therapies, yoga is categorized as a mind-body therapy (Frass et al. 2012).

The summarized and reported results complement the theory of components as defined by Saylor wherein yoga, as one of the Complementary and Alternative Medicine therapies, supports the idea of a holistic definition of health wherein all included factors apply to the body (physical) and mind or spirit (non-physical) dimensions. The findings from the study are described below in the context of Coleen Saylor's components in "*The Circle of Health*".

Energy, strength, fitness, stamina:

It is important to make conscious efforts and adopt discipline (also one of the limbs of yoga) to increase our energy, strength, fitness, stamina to tackle stressful situations in our everyday life.

Exercise in any form is one of the acceptable ways to improve physical and mental health. Yoga asanas as a form of exercise are found to be very effective, giving

physical and mental health benefits (Ross and Thomas, 2010). Physical and mental health benefits are explained in chapter 6.1.1 and chapter 6.1.2, respectively.

Results indicate that regular yoga practices are suitable for everyone irrespective of age, race, gender, financial status etc. Yoga practices are associated with physical, mental, and emotional benefits, thereby developing an individual's ability to face challenges with respect to physical and mental health. This helps an individual to improve their quality of life and supports the rehabilitation of patients with chronic disabilities (Ponte et al., 2019).

Happiness, enjoyment, satisfaction:

Happiness is a feeling is a state of mind that is affected mainly by stress, anxiety and thus deteriorates mental health.

The largest improvement after yoga practice was observed in emotional wellbeing. Emotional wellbeing is a crucial factor in burnout (Grensman et al., 2018). Mental health benefits are explained in chapter 6.1.2.

Regular yoga practice seems to improve happiness and interpersonal relationship. This influences the Health-Related Quality of Life (HRQOL) (Ross et al., 2013).

Growth and development:

Three main factors attributed to health and in specific related to obesity-related health conditions are decreased physical activities, stress, and increased consumption of non-healthy diets, such as high caloric, high fat, nutrient-poor food. Yoga practitioners of all races, genders, ages agreed that yoga practices improved their diet pattern and helped to maintain healthier weight (Ross et al., 2013).

Occupational and/or social role performance:

Yoga helps in improving self-awareness and being aware of the present moment. This non-judgmental awareness becomes the foundation to lower anxiety, stress, and sadness. Such self-awareness helps both patients as well as service providers wherein service provider, can pay attention to self and can advise patient to pay

attention to him or herself. Health care should start recommending yoga as a complement to the patient's medical treatment (Stephens, 2017).

Rest, relaxation, and peacefulness:

It was observed that yoga practitioners feel motivated for continuing yoga because there was observed a positive impact on the feeling of relaxation, reducing stress and self-awareness.

Relaxation techniques in yoga practices help to control breathing rate, heart rate and blood pressure, thereby decreasing stress levels and better sleep quality (Atkinson and Permeth-Levine 2009).

Nourishment:

Food, clothes, and shelter are the three basic needs of a human being. According to results, good quality of sleep, a healthy diet, and appropriate exercise (yoga) may solve various physical and mental health issues. Healthy food leads to a healthy physical and mental state. We all need a proper diet to develop the best in ourselves. Food thus forms the fundamental to our wellbeing.

According to yoga, three forms of food are rajas (pain), tamas (ignorance) and sattva (purity). Yoga is dedicated to sattva, wherein sattvic food is believed to be easy to digest and nourishes the body and promotes a calm state of mind.

Most participants (all races and both genders) agreed that yoga practices improved their general health, energy level, happiness, sleep quality, interpersonal relationship, healthier weight, and diet pattern (Ross et al. 2013).

Social support:

Several physicals, mental, and emotional health benefits are perceived by regular yoga practices. Apart from this, social support was observed to be an important aspect wherein people tend to start yoga practices and further motivated to continue it because of their friends, family's involvement in doing the same. Also, making new like-minded friends is another aspect of joining yoga classes. Other aspects of doing regular yoga practices were living a more moderate lifestyle in terms of lower stress, healthy eating habit, healthy working life, better decision making, improving relationships, especially because of more tolerant - less

judgmental approach, more self-time during yoga practice, more self-acceptance because it is non-competitive (Atkinson and Permuth-Levine 2009).

A sense of purpose and meaning:

Although the spiritual aspect of yoga was not included in this study, results indicate that yoga improves self-awareness that leads to inner peace. When we lived in the present and equipped with finding the balance, then it is much easier to understand the meaning of life and our purpose towards self, our family, our society, and our nation.

The yoga practice is not giving quick results compare to medication; however, it is worth investing time in doing regular yoga practice. Evidence suggests that yoga helps to reconnect with oneself and help to uncover why and how illness started and how can both body and mind work towards recovery. Thus, yoga practice helps to see how one is reacting to the situation around them and help them to learn to respond with a different perspective. This ultimately brings the one to the present moment and help realize a sense of purpose and meaning of life (Stephens, I. 2017.)

Balance, adaption, resiliency:

Researchers have indicated a variety of negative consequences due to stress. Working conditions is one of the factors that must be improved to effectively prevent stress. Individuals that are skilled in self-care, self-reflection and self-discovery are well-equipped to manage stressful situations with emotional resilience. The critical review indicates that mind-body practices such as yoga are found to be a strategic alternative to achieve this balance, adaption and resiliency. The intervention of yoga demonstrated benefits for wellness, self-care, and health-promotion (Alexander et al. 2015).

Yoga practitioners were found to be interacting with society in more calm and reasonable ways. This brings more positive interaction within the social circle. Participants experienced connectedness with others, were able to cope with stress and were more empowered with a positive attitude towards life (Shroff and Asgarpour 2017).

Research indicates asanas, breathing techniques and meditation as three main forms of yoga. Yoga practices performed in a group motivates individual to do it with more devotion and passion. Physical fitness achieved with yoga has found to be delivering more positive effects. The yoga practice thus is very popular, for example, in the United States as a way for recreation and wellness (Birdee et al. 2017).

7.2 Discussion of method

The primary criteria, namely, credibility, dependability, confirmability, and transferability, are the most appropriate for determining the research study's trustworthiness (Kyngäs et al. 2020).

Credibility refers to the representation of original data in a reliable way. The researcher's confidence in presenting truthful results has a significant impact on readers who then believe in what the author is reporting (Kyngäs et al. 2020).

The research process is carefully described in a transparent manner that includes how each phase of the research was conducted, data collection method, data analysis approach and describing the limitations in the study. Accuracy of the collected data and reported results are achieved by citing the data with correct author details. Thus, the research's credibility is achieved by focusing on the aim and answering the research questions.

Dependability mainly refers to the stability of data over time and varying conditions. It accesses the quality of data collection, data analysis and theory generation (Kyngäs et al. 2020). It represents whether the same results would be generated if the same study is done with the same method.

The research was done to find answers to research questions. Needed information such as electronic database search history and articles included in the study for data analysis were provided to explain the selected articles, keywords, inclusion criteria, etc. If the same study is performed again with the same research method, it is expected to find the same results, thereby achieving the study's dependability.

Confirmability refers to the trustworthiness between data collection and results. In other words, it checks whether the findings of the study are solely supported by

collected data or is affected by researchers' bias, motivation, or any other interests (Kyngäs et al. 2020).

To achieve confirmability of this study, the citation is made for every finding, further described in summarizing and reporting results. The care is taken to interpret the original text in the same manner as was intended in the original text. Articles were chosen with inclusion criteria of free full-text availability that further review the original text.

Transferability refers to the extent of using research findings in other fields or context and concerns how readers will use the results in their situations (Kyngäs et al. 2020).

This study has focused mainly on the benefits of yoga and whether it can be used as a complementary tool in health promotion and primary care. There is a wide possibility to research yoga concerning any other field of interest. There were limitations observed while doing research, and those limitations were described so that reader may use the results for their benefits or research according to the mentioned limitations.

8 Conclusions

The aim of the thesis was to gather more information on if and how yoga can be used as a complementary tool or therapy in the health promotion of primary care to enhance the optimal healing environment and to improve the quality of patients' life.

The results indicate the increasing acceptance of yoga practices among the general population because of several physical and mental benefits that eventually increases the health-related quality of life.

Yoga is one of the cost-effective alternatives among many other Complementary and Alternative methods that can be utilized together with primary care to tackle the growing health problems. Research findings indicate the effectiveness of yoga practices in improving physical and mental health conditions wherein the primary importance is given to the practitioner's self-reliance. While the study indicates that there are benefits when yoga is integrated with conventional medicine practices

and its integration into primary health care is adopted in some countries, it is still not globally accepted as a preferred approach for treating a patient in primary health care or not commonly used in health promotion.

This study could not provide results of the perception of Finnish society towards yoga. Future research should attempt to measure this perception and how yoga concepts are practiced and interpreted in Finland.

Health promotion is a public health priority. Given the potential physical and mental health benefits as revealed from studying selected articles, it is evident that yoga can be used as a complementary tool in health promotion activities. When the general population gets exposure to benefits, then health care service providers may find a return on investment not only in terms of potential patient's treatment outcomes with quality care but also employee-level outcome, including their physical, mental, and emotional health. Collaboration between health care and CAM professionals might be needed to achieve better results, and trust, care, respect, and education needed on both sides for successful integration of CAM/yoga in health promotion strategies and primary care.

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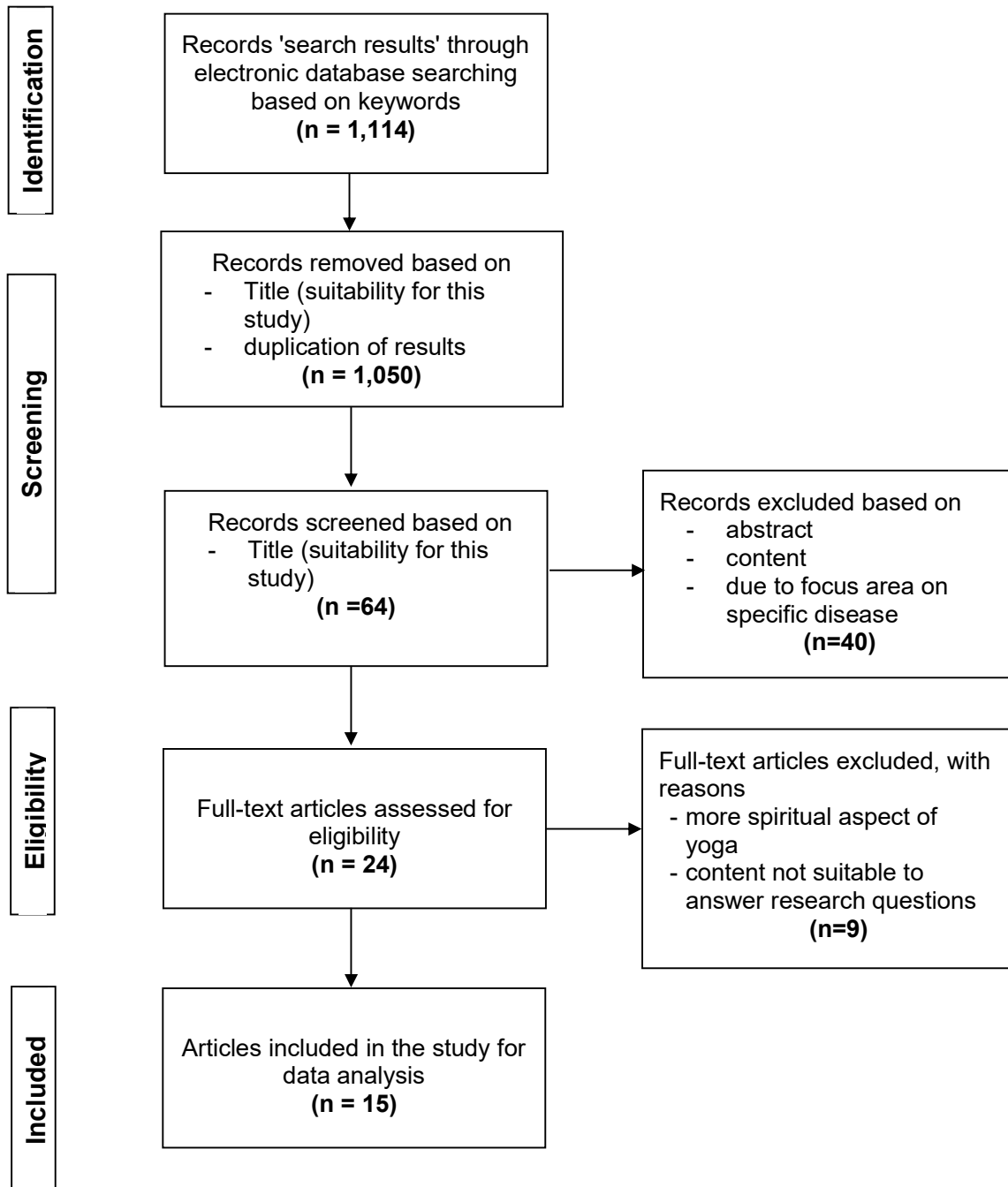
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Appendices

Appendix 1: Prisma Flow Diagram



Appendix 2: Electronic database search history

Sr. No.	Database	Records "search results" through electronic database searching based on keywords	Records screened based on the title	Full-text articles accessed for eligibility	Articles included in the study for data analysis
1.	National Center for biotechnology information / PMC Database (https://www.ncbi.nlm.nih.gov/) Publication date: 2011-2020 Access type: Open access Keywords: Yoga, Yogic practice, Depression, Meditation, Health-related Quality of Life, Mind-body practices (213) Keywords: Yoga, Health-related quality of life, Mind-body practices, Complementary tool (273)	486	20	5	3
2.	SAGE Journals (https://journals.sagepub.com/) Publication date: 2011-2020 Access type: Only content to which I have full access to Keywords: Yoga, Mental health (4) Yoga, Health promotion (1) Yoga, Health-related Quality of Life (1) Yoga, CAM (1) Yoga, Physical health (0) Yoga, Primary care (0) Yoga, Holistic health (0)	7	4	2	1

3.	<p>PubMed (https://pubmed.ncbi.nlm.nih.gov/) Publication date: 2011-2020 Type: Free full text Yoga, health-related quality of life, mental health (92) traditional yoga, health-related quality of life (29) Yoga, primary health care (125) yoga, complementary and alternative medicine (232) yoga, mental and physical health benefits (48)</p>	526	25	10	6
4.	<p>Researchgate (https://www.researchgate.net/) Keywords: Yoga, Primary health care, complementary and alternative medicine (CAM), health benefits of yoga and exercise, mental wellbeing, quality of life, health promotion, ashtanga yoga, stress</p>	95	15	7	5

Appendix 3: Articles included in the study for data analysis.

Sr. No.	Bibliographic data (authors, publication year, title, journal, volume, issue number, page numbers, retrieved on)	Place where the study was carried out / keywords	Aim of the study	Sample (data material, informants, setting, and context)	Research methodology including data collection method(s), analysis method(s)	Results
1.	Alexander, G.K., Rollins, K., Walker, D., Wong, L. and Pennings, J., 2015. Yoga for self-care and burnout prevention among nurses. <i>Workplace health & safety</i> , 63(10), pp.462-470. [Online] https://journals.sagepub.com/doi/10.1177/2165079915596102 (retrieved: November 2020)	<ul style="list-style-type: none"> - Texas, US - health promotion, mental health, nurse, yoga, burnout 	To study the effectiveness of yoga to improve self-care and reduce burnout among nurses.	<ul style="list-style-type: none"> - Randomized controlled trial. - Supervised yoga instruction for the intervention group (20 participants) and usual care for the control group (20 participants). - Duration: 8 weeks. - University/board approved recruitment of participants - written informed consent from participant prior to study. 	<ul style="list-style-type: none"> - Assessment at the start and end of the study - Use of Statistical Package for the Social Sciences to calculate descriptive and inferential statistics - A repeated measures multivariate analysis of variance (MANOVA) / Univariate ANOVAs were used as post hoc tests. 	<ul style="list-style-type: none"> - Upon completion of 8 weeks, intervention group of 20 participants who practiced yoga reported higher self-care, lesser emotional exhaustion, and depersonalization, which are two main components of burnout, compared to the control group of 20 participants.

2.	<p>Atkinson N.L., Permut-Levine R. 2009. Benefits, Barriers, and Cues to Action of Yoga Practice: A Focus Group Approach. <i>American Journal of Health Behavior</i>. 2009. 33(1): 3-14. [Online] https://www.researchgate.net/publication/23308864_Benefits_Barriers_and_Cues_to_Action_of_Yoga_Practice_A_Focus_Group_Approach (retrieved: November 2020)</p>	<ul style="list-style-type: none"> - The Middle Atlantic (Mid-Atlantic), US - yoga, benefits, barriers, cues to action, health belief model 	<p>To explore seeming benefits, barriers, and indications to the action of yoga practice among adults to identify behavioral determinants.</p>	<ul style="list-style-type: none"> - Focus groups study: 50 participants aged 22 to 59 years; divided into 6 groups - Group 1 with persons who had never practiced yoga - Group 2 with practitioners of one year or less - Group 3 with practitioners for more than one year. 	<ul style="list-style-type: none"> - Theoretical foundation: The Health Belief Model (HBM) - research design based on Creswell's definition of qualitative research: process of understanding based on an analysis of words. - Focus group interview questionnaire based on HBM - Focus on "Hatha" Yoga practices mainly, physical postures and breathing control 	<ul style="list-style-type: none"> - All participants recognized a variety of benefits of yoga
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3.	<p>Birdee, G.S., Ayala, S.G. and Wallston, K.A. 2017. Cross-sectional analysis of health-related quality of life and elements of yoga practice. <i>BMC Complementary and Alternative Medicine</i>, 17(1), p.83. [Online] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5282804/ (retrieved: November 2020)</p>	<ul style="list-style-type: none"> - Nashville, US - Yoga, Health-related quality of life, Mind-body practices 	<p>To examine the associations between characteristics of yoga practice (techniques used, yoga style, practice frequency, or level of experience) and Health-Related Quality of Life (HRQOL).</p>	<ul style="list-style-type: none"> - Online survey via Research Electronic Data Capture (REDCap) - 309 Yoga practitioners were recruited using National Yoga Association Network - main focus was on health-related Quality of Life and yoga practice characteristics & sociodemographics 	<ul style="list-style-type: none"> - Analyses conducted using IBM SPSS Statistics Version 23. - Descriptive statistics: to assess perceived importance and practice of the three yoga tools (movement, breathing, and meditation), practice frequency, and length of practice - Pearson Chi Square analyses: with sociodemographic variables and quality of life measures (GPH and GMH). - Spearman's correlation 	<p>Meditation and length of lifetime yoga practices have a significant benefit on mental and physical health. Different methods of practice may have varying effects on health outcomes.</p>
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					<p>calculation: correlations between the practice of the three yoga tools and quality of life measures.</p> <ul style="list-style-type: none">- multivariable linear regression models with the practice of the three yoga tools, certified yoga teacher status, length of practice, practice frequency, location of practice method of practice, method of practice, and yoga style as the independent variables affecting the physical and mental components of HRQOL.	
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4.	Chapman, K.L. and Bredin, S.S., 2010. Why yoga? An introduction to philosophy, practice, and the role of yoga in health promotion and disease prevention. <i>The Health & Fitness Journal of Canada</i> , 3(2), pp.13-21.	<ul style="list-style-type: none"> - Canada - yoga, health promotion, disease prevention, yoga styles 	<ul style="list-style-type: none"> - To introduce philosophy and practices of yoga. - to highlight potential roe of yoga in health promotion and disease prevention 	Literature review	Qualitative analysis	<ul style="list-style-type: none"> - Yoga offers unique benefits and approach towards health promotion, patient's care, and disease prevention. - health professionals recommend yoga to their patients to enhance health-related quality of life - collabration of allopathic, naturopathic, alternative, and yogic therapies is the future of health promotion, disease prevention, and enhanced quality of life.
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5.	<p>Cowen, V.S. and Adams, T.B., 2005. Physical and perceptual benefits of yoga asana practice: results of a pilot study. <i>Journal of Bodywork and Movement Therapies</i>, 9(3), pp.211-219. [Online] https://www.researchgate.net/profile/Troy_Adam_s2/publication/244877845_Physical_and_perceptual_benefits_of_yoga_asana_practice_Results_of_a_pilot_study/links/5c46b087299bf12be3d9fa2d/Physical-and-perceptual-benefits-of-yoga-asana-practice-Results-of-a-pilot-study.pdf (retrieved: November 2020)</p>	<p>- Ashtanga yoga, Hatha yoga, Muscular strength, Muscular endurance, Flexibility, Stress, Anxiety, Perceived health</p>	<p>- to evaluate the physical and perceptual benefits of yoga asana practice. - to compare the effect of two different styles of yoga practices namely, ashtanga yoga and hatha yoga</p>	<p>- Participants: 26 healthy adults (20 women and 6 men) aged 20-58 years - duration of yoga course: 6 weeks (twice weekly – each for 75 minutes) - Group 1: Ashtanga yoga classes (15 participants out of which 9 completed the course & post-assessment) & Group 2: hatha yoga classes (11 participants out of which 8 completed the course & post-assessment)</p>	<p>- Combination of subjective and objective assessments before and after the class.</p>	<p>- Significant physical and mental health benefits were observed. - associated benefits differ with varying styles of yoga practices.</p>
6.	<p>Frass, M., Strassl, R.P., Friehs, H., Müllner, M., Kundi, M. and Kaye, A.D., 2012. Use and acceptance of complementary and alternative medicine</p>	<p>- Austria, United States, Switzerland, Germany, Denmark, Canada,</p>	<p>- To research and provide overview of the utilization and acceptance of CAM among the general</p>	<p>- A systematic search with a focus on keywords - different databases: PubMed/Medline,</p>	<p>Qualitative literature review /</p>	<p>- Noticeable increase in CAM from the year 1990 through 2006 was observed in all</p>

	<p>among the general population and medical personnel: a systematic review. <i>Ochsner Journal</i>, 12(1), pp.45-56. [Online] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3307506/ (retrieved: November 2020)</p>	<p>Australia, Italy, South Korea, Great Britain</p> <p>- Alternative medicine, complementary medicine</p>	<p>population and medical personnel.</p> <ul style="list-style-type: none"> - to understand the frequency of CAM with regard to geographic differences as well as related cultural and religious aspects - to understand different forms of most widely used CAM therapies - to reveal who uses CAM most frequently with regard to sexual, cultural, social, and socioeconomic characteristics. - to determine the ailments associated with using CAM. 	<p>PSYINDEX, PsycLit, CAMbase, CAMRESEARCH</p> <ul style="list-style-type: none"> - 16 selected papers (about 16,000 persons; about 10 different countries) 		<p>investigated countries.</p> <ul style="list-style-type: none"> - chiropractic manipulation, herbal medicine, massage, and homeopathy were the most commonly used therapies - back pain, insomnia, depression, migraine or severe headache, and stomach or intestinal illnesses were most often ailments associated with CAM - Consultation rate with CAM professionals: nursing students: 44.7%, pharmacy
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						students: 18.2%, medical students 10%
7.	Grensman, A., Acharya, B.D., Wändell, P., Nilsson, G.H., Falkenberg, T., Sundin, Ö. and Werner, S., 2018. Effect of traditional yoga, mindfulness-based cognitive therapy, and cognitive behavioral therapy, on health - related quality of life: a randomized controlled trial on patients on sick leave because of burnout. <i>BMC complementary and alternative medicine</i> , 18(1), p.80. [Online] https://bmccomplementary.com/articles/10.1186/s12906-018-2141-9 (retrieved: November 2020)	- Stockholm, Sweden - Stress -related disorder, Burnout, Exhaustion syndrome, Work-related stress, Traditional yoga, Mindfulness-based cognitive therapy, Cognitive behavioral therapy, Mind-body therapies, Integrative medicine	- To explore the change in health - related quality of life (HRQOL) of patients who were on sick leave due to burnout - traditional yoga (TY) 26 patients, mindfulness-based cognitive therapy (MBCT) 27 patients, cognitive-behavioural therapy (CBT) 27 patients were used to explore the change.	- Randomized controlled trial between September 2007 and November 2009 - 94 primary health care patients (84 women and 10 men) aged 18 - 65 - patients were on 50%–100% sick leave - A group treatment for 20 weeks / three hours per week / with homework four hours per week.	- HRQOL was measured by the SWED-QUAL questionnaire - comprising 67 items grouped into 13 subscales, each with a separate index, and scores from zero (worse) to hundred (best).	- All therapies including traditional yoga practices had large effects on physical and mental health thereby enhances HRQoL - these therapies can be used as both treatment and prevention

8.	<p>Ponte, S.B., Lino, C., Tavares, B., Amaral, B., Bettencourt, A.L., Nunes, T., Silva, C. and Mota-Vieira, L., 2019. Yoga in primary health care: A quasi-experimental study to assess the effects on quality of life and psychological distress. <i>Complementary therapies in clinical practice</i>, 34, pp.1-7. [Online] http://website60s.com/upload/files/41-yoga-in-primary-health-care.pdf (retrieved: November 2020)</p>	<ul style="list-style-type: none"> - Portugal - Anxiety, Complementary and alternative medicine, Depression, Primary care, Quality of life 	<ul style="list-style-type: none"> - To explore effect of yoga on quality of life and psychological distress - to assess the practicability of introducing yoga at primary care level. 	<ul style="list-style-type: none"> - Quasi-experimental study - Intervention (n=49) and a control group (n=37) - 24 weeks' / 1 hour session per week of yoga program (July 2016 – April 2017) 	<ul style="list-style-type: none"> - Linear regression analysis. 	<ul style="list-style-type: none"> - Significant development in all domains of quality of life was reported by participants - Yoga has a positive effect on the psychological quality of life - Yoga in primary care is achievable and found to be safe.
9.	<p>Ross, A. & Thomas, S. The health benefits of yoga and exercise: a review of comparison studies. <i>J Altern Complement Med</i>. 2010 Jan;16(1):3-12. doi: 10.1089/acm.2009.0044 . PMID: 20105062. [Online] https://www.researchgat</p>	<ul style="list-style-type: none"> - Out of 12 studies, 5 were conducted in the United States, 3 in India, and 1 each in England, Germany, 	<ul style="list-style-type: none"> - to explore the effects of yoga and exercise on a variety of health outcomes, health conditions. 	<ul style="list-style-type: none"> - a comprehensive search in PubMed® (only clinical and nursing journals in English) - 81 studies (29 published in India + 17 outside US + 35 in US) 	<ul style="list-style-type: none"> - Qualitative / A review of comparison studies 	<ul style="list-style-type: none"> - yoga may be as effective as or better than exercise at improving a variety of health-related outcome in both healthy and

	e.net/publication/41164086 The Health Benefits of Yoga and Exercise A Review of Comparison Studies (retrieved: November 2020)	Turkey, and Cuba - Yoga		- studies that listed yoga asanas being compared to exercise as a primary intervention are included (12 nos.)		unhealthy people.
10.	Ross, A., Friedmann, E., Bevans, M. and Thomas, S., 2013. National survey of yoga practitioners: mental and physical health benefits. <i>Complementary therapies in medicine</i> , 21(4), pp.313-323. [Online] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3721070/ (retrieved: November 2020)	- US - mental and physical health benefits	- To describe yoga practice patterns, practice habits, health habits and health characteristics of yoga practitioners - To explore yoga practitioners' beliefs regarding the effects of yoga practice on their health.	- Anonymous online survey using SurveyMonkey® - 65-item questionnaire - 15 US Iyengar yoga studios in 41 states; 4307 randomly selected individuals from 18,160; 1087 individuals responded; 1045 (from 19 years to 87 years) surveys completed.	- Descriptive statistics / Logistic regression analyses	- Yoga practitioners are not free of health concerns, but most believe that their health has been improved because of following yoga practices.

11.	<p>Ross, A., Williams, L., Pappas-Sandonas, M., Touchton-Leonard, K. and Fogel, D., 2015. Incorporating yoga therapy into primary care: The Casey Health Institute. <i>International journal of yoga therapy</i>, 25(1), pp.43-49. [Online] https://meridian.allenpress.com/ijyt/article/25/1/43/137888/Incorporating-Yoga-Therapy-into-Primary-Care-The (retrieved: November 2020)</p>	<ul style="list-style-type: none"> - Casey Health is a public, non-profit, integrative primary care center in Gaithersburg, Maryland that serves the greater Washington, DC metropolitan area 	<ul style="list-style-type: none"> - To describe the efforts of the Casey Health Institute to incorporate yoga therapy into their primary care integrative medicine center. 	<ul style="list-style-type: none"> - Literature review 	<ul style="list-style-type: none"> - Qualitative 	<ul style="list-style-type: none"> - Individuals seek complementary and alternative medicine (CAM) for a variety of health conditions, and yoga is a popular CAM modality. Successful integration of yoga practices in primary health care improved physical and mental health of participants.
12.	<p>Shroff, F.M. and Asgarpour, M., 2017. Yoga and mental health: A review. <i>Journal of Physiotherapy and Physical Rehabilitation</i>, 2, pp.2573-0312. [Online] https://www.researchgate.net/profile/Farah-Shroff/publication/316946652-Yoga-and-Mental-Health-A-Review/links/595</p>	<ul style="list-style-type: none"> - Canada - Mental wellbeing; Quality of life; Yoga; Depression; Mental health promotion 	<ul style="list-style-type: none"> - To provide evidence for yoga as a treatment for depression & other mental health imbalances. - yoga as form of health promotion, illness prevention. 	<ul style="list-style-type: none"> - Approximately 30 review articles and 300 separate studies in the area of yoga and mental health in the peer-reviewed medical literature. 	<ul style="list-style-type: none"> - Qualitative 	<ul style="list-style-type: none"> - Like other therapies, yoga is not a complete solution to mental health concerns however in conjunction with different approaches, and yoga has great potential to lead people towards greater mental

	4b6120f7e9b2da1b38db e/Yoga-and-Mental- Health-A-Review.pdf (retrieved: November 2020)					well-being and to improve health- related quality of life.
13.	Stephens, I., 2017. Medical yoga therapy. <i>Children</i> , 4(2), p.12. [Online] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5332914/ (retrieved: November 2020)	- yoga, yogic practice, anxiety, depression, mindfulness, meditation, arthritis, ADHD, cardiovascular disease, inflammation	- to review science and the research behind medical yoga - to review relationship between stress and health - to review yogic approach to health care	- Literature review	- Qualitative - 128 articles	- research reveals that the yoga practices continue to offer physical and mental health benefits, supporting its use in health management.
14.	Willison, K.D., Mitmaker, L. & Andrews, G.J. 2005. Integrating Complementary and Alternative Medicine with primary healthcare through public health to improve chronic disease management. <i>Journal of Cancer Integrative Medicine</i> , 3(2), pp.71-74. [Online] https://www.researchgat	- Canada - Integrative Health Care, Primary Health Care, Public Health, Complementary and Alternative Medicine	- To review how the practice of public health could play an essential role towards enhancing chronic disease management by integrating and aiding the common goals shared between primary health care and	- Literature review	- Qualitative	- Integrative healthcare offers an opportunity for an individual to access full range and combination of health care services at one place. - Integrative healthcare contributes to

	e.net/publication/228286456_Integrating_Complementary_and_Alternative_Medicine_into_Primary_Health_Care_in_Canada_Barriers_and_Opportunities (retrieved: November 2020)	(CAM), Chronic Disease Management	complementary and alternative medicine.			disease prevention and increases in health-related quality of life. - There is a potential to achieve integrative healthcare with cooperation between public health, primary healthcare and CAM services.
15.	Woodyard, C., 2011. Exploring the therapeutic effects of yoga and its ability to increase quality of life. <i>International journal of yoga</i> , 4(2), p.49. [Online] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3193654/ (Retrieved: November 2020)	- Alternative therapy, depression, pain, quality of life, therapeutic yoga	- To explore the therapeutic effects of yoga. - To provide a wide-ranging review of the benefits of regular yoga practice.	- search based on keywords through Google Scholar and university web browser - peer reviewed articles / published between 1990 and 2009	- Literature review / Qualitative	- Yoga practices improve physical and mental health thereby enhances overall well-being and quality of life.