EFFECTIVENESS OF GINGER TEA UPON DYSMENORRHEA

By

DHANYA SKARIA

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

APRIL 2012

EFFECTIVENESS OF GINGER TEA UPON DYSMENORRHEA

Approved by the dissertation committee on : _____

Research Guide :_____

Dr. Latha Venkatesan
M.Sc (N)., M.Phil., Ph.D.,
Principal cum Professor,
Apollo College of Nursing,
Chennai - 600095.

Clinical Guide : _____

Ms. Shobana Gangadharan M.Sc (N).,
Professor cum Head of the Department
Community Health Nursing
Apollo College of Nursing,
Chennai - 600095.

Medical Guide :_____

Dr. Alpha Khakhar, MD.,
Consultant Urogynaecologist,
Apollo Main Hospitals,
Chennai – 6

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

APRIL 2012

DECLARATION

I hereby declare that the present dissertation entitled **"Effectiveness of Ginger Tea upon Dysmenorrhea"** is the outcome of the original research work undertaken and carried out by me under the guidance of **Dr. Latha Venkatesan,** M.Sc (N)., M.Phil., Ph.D., Principal, Apollo College of Nursing, **Ms. Shobana Gangadharan**, M.Sc (N)., Professor, Community Health Nursing, Apollo College of Nursing, Chennai. I also declare that the material of this has not formed in any way, the basis for the award of any degree or diploma in this university or any other universities.

II Year M.Sc (N) Student

ACKNOWLEDGEMENT

I thank **God Almighty** for showering his blessings upon me and guidance in the matters at hand and for clearly showing me the way to conduct my work with a spirit of joy and enthusiasm throughout my study.

I dedicate my heartfelt thanks and gratitude to our esteemed leader **Dr. Latha Venkatesan**, M.Sc (N)., M.Phil., Ph.D., Principal, Apollo college of Nursing for her tremendous help, continuous support, enormous auspice, valuable suggestions and tireless motivation to carry out my study successfully. I also extend my thanks to **Mrs. Lizy Sonia. A**, M.Sc (N)., vice principal, Apollo College of nursing for her constant support throughout my study.

I am so grateful to my clinical guide **Ms. Shobana Gangadharan**, M.Sc (N)., Professor, Apollo College of Nursing for her worth full suggestions, uninterrupted support, tenacious help during the course of my study.

I owe my special thanks to **Prof. K. Vijaya Lakshmi**, M.Sc (N).,Research coordinator, Apollo college of Nursing for her prolonged patience and continuous guidance in completing my study. My special gratitude to **Dr.Alpha khakhar**, MD., Apollo Main Hospitals, Chennai for her valuable suggestions and opinions towards the study.

I thank **Dr.Latha Venkatesan**, M.Sc (N)., M.Phil., Ph.D., Principal, Apollo College of Nursing for permitting me to conduct my study in their esteemed institution and providing continuous encouragement throughout the study. With special reference I

thank **Mrs.Indira Richard**, warden of Apollo College of Nursing Hostel Chennai for rendering me help to proceed with my study.

My genuine gratitude to **Mrs. Nesa Sathya Satchi**, M.Sc (N)., Reader and Course coordinator for her consecutive ideas and enormous concern. I also extend my special thanks to all the **Faculties in the Department of Community Health Nursing,** Mrs.Helen.M, Lecturer, Mrs.Shenbahavalli. V, Lecturer and Mrs.Banumathi.K, Lecturer for rendering their valuable guidance and ideas in completing my study.

With the special word of reference, I thank all the **experts** for validating my tool and offering worthy suggestions to make it effective. It's my opportunity to thank all the **Departmental heads, teaching and non-teaching faculties** and my **colleagues** who helped me directly or indirectly in carrying out my study.

I thank all the **participants** of my study for their wonderful participation and cooperation without whom I could not have completed my study. I extend my special gratitude to the **librarians** of Apollo college of nursing and The Tamil Nadu Dr.M.G.R Medical University for their help in getting the reference materials. And members of **Universal Computers and xerox** in helping me to proceed with my paper materials.

Last but not the least I am always thankful to my **parents and family members** for their support in all times of ups and downs, their prayers, their blessings and their help rendered to me in completing my study successfully.

SYNOPSIS

A Pre Experimental Study to Assess the Effectiveness of Ginger Tea upon Dysmenorrhea among Students at Apollo College of Nursing, Chennai.

Objectives of the Study

1. To assess the level of dysmenorrhea among students before and after administration of ginger tea.
2. To assess the level of knowledge among students regarding dysmenorrhea and its management.
3. To determine the effectiveness of ginger tea upon dysmenorrhea by comparing the level of dysmenorrhea among Students before and after administration of ginger tea.
4. To identify the level of satisfaction among students regarding administration of ginger tea upon dysmenorrhea
5. To find out the association between the selected demographic variables and clinical Variables upon the level of dysmenorrhea among students before and after the administration of ginger tea.

The conceptual framework was made based on Kristen. M.Swanson's modified theory of caring. The variables of the study were ginger tea and dysmenorrhea. Null hypotheses were formulated. An extensive review of literature and guidance by experts formed the foundation to the development of tool. A pre-experimental design was adopted for this study. The present study was conducted in Apollo College of Nursing

Hostel, Chennai. The sample size was 40 students with dysmenorrhea. Purposive sampling technique was adopted for the selection of students.

The instruments used for the data collection were demographic variable proforma, clinical variable proforma**,** structured questionnaire to assess the knowledge among students regarding dysmenorrhea and its management, numerical pain rating scale, rating scale on symptoms of dysmenorrhea and the level of satisfaction of administration of ginger tea upon dysmenorrhea. The data collection tools were validated and reliability was established. The main data collection was done after determining the feasibility through pilot study. The level of dysmenorrhea was assessed before and after administration of ginger tea. Ginger tea was prepared by boiling 3gm of fresh ginger with 100ml of water and make 50ml and adding 2 teaspoon of honey, which was administered twice in a day for five days started 2 days prior to menstruation and continued up to the third day of menstruation. Ginger tea was administered 100ml/day 50ml in morning and night. The collected data was tabulated and analyzed using descriptive and inferential statistics.

Major findings of the study were:

- Most of the students with dysmenorrhea were in the age group of 21-23 years (57.5%), they belong to Christianity (67.5%) had a family history of dysmenorrhea (65%) and all of them were non vegetarians (100%). A significant percentage of them were studying in fourth year B.Sc Nursing (37.5%).
- Most of the students attained menarche at the age of 13-15years (67.5%) weighed between 51-60 Kg (52.5%) had duration of menstruation as 3-5 days

(72.5%) and experienced spasmodic pain (52.5%). Majority of the students had body mass index between18.5-22.5 (75%) and onset of pain in first 24-36 hours (80%).

- Most of the students had adequate knowledge regarding dysmenorrhea and its management (70%).
- Half of the students experienced severe pain before administration of ginger tea (50%) whereas majority of the students had mild pain (75%) and none of them reported severe pain after the administration of the ginger tea and a significant percentage of students reported no pain (7.5%).
- Most of the students had moderate symptoms before administration of ginger tea (72.5%) and after administration of ginger tea majority of them had mild symptoms (97.5%) and none of them had severe symptoms.
- Most of the students had moderate level of physiological symptoms (72.5%) and a significant percentage of them experienced moderate level of psychological symptoms (42.5%) before administration of ginger tea. Whereas after administration of ginger tea in both physiological and psychological symptoms majority of them experienced mild symptoms (90%, 85%).
- The mean and standard deviation of the level of pain after administration of the ginger tea was low (M=2.47, SD=1.11) in comparison with the mean and standard deviation of level of pain before administration of ginger tea (M=6.60, SD=1.59). The difference was found statistically significant at $p<0.001$ level and can be attributed to the effectiveness of ginger tea upon dysmenorrhea among students.

- The mean and standard deviation of the level of symptoms after administration of ginger tea was low (M=27.45, SD=3.97) in comparison with the mean and standard deviation of level of symptoms before administration of ginger tea (M=48.42, SD=8.78).This insists the effectiveness of ginger tea in reducing the level of dysmenorrhea. This was statistically proven at $p<0.001$ level of significance.
- Majority of the students with dysmenorrhea were highly satisfied with the ginger tea administration (97.5%) and none of them reported low satisfaction.
- No significant association was found between selected demographic and clinical variables with the level of pain and symptoms of dysmenorrhea before and after administration of ginger tea among students.

The above findings revealed that ginger tea was effective in reducing the level of dysmenorrhea without any side effects.

Recommendations

This study can be conducted

- On larger sample to generalize the results.
- Among different groups like adolescents, young women, married women, teenagers etc.
- In different settings with similar facilities.
- To evaluate the effectiveness of pharmacological agents and non pharmacological agents (eg. Ginger tea, rose water, massage, yoga, hot water application)

- As a time series design with the post test at interval of 2, 4, 6 months to assess the administration of ginger tea, and its effectiveness in reducing the level of dysmenorrhea.
- On the quality of life of women with dysmenorrhea.

TABLES OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Chapter I

Introduction

CHAPTER I

INTRODUCTION

Background of the Study

Life is a process, from birth to death there are various stages of development. In a women's life journey many important changes are occurring mainly it starts from adolescent stage. It is the period of development during which the individual makes the transition from childhood to adulthood. Development of secondary sexual characteristics and attaining menarche are the significant events in this period. Menarche is an amazing moment in the life of a female; it is the first menstrual cycle and is a stage where it crowns the female gender. Now on average, girls attain menarche at the age of 10-12 ½ years, when compared to the past it was 13-14 years of age and our ancestors even later on average of 16 ½ years of age ie, 100 years ago. In India, the menstrual cycle is a highly respected period that is an expression of the female connectedness to the cycle of the moon. Menses is a time when the female body is providing extra energy to ensure an effective and complete sloughing of waste products. It is a natural time of cleaning and rejuvenation

Menstrual problems are common in adolescents and among them dysmenorrhea is the leading problem. During menstruation the body releases a hormone called prostaglandins, which causes the uterus to contract in order to help the uterus shed its lining. Researchers believe that this hormone is one of the main causes of menstrual cramps. The term dysmenorrhea is derived from a Greek word **dys** means difficulty and **Menorrhea**–monthly flow. Dysmenorrhea is difficult or painful menstruation. Most of the females are very used to having a certain amount of pain or cramps during this time

which is normal. However, when these cramps become extremely painful and restrict women's daily movements they are called dysmenorrhea. Younger women tend to experience more severe cramps than older women. Additionally, severe cramping tends to decrease in intensity with age, and often disappear after Pregnancy. There are two types of dysmenorrhea-primary or secondary.

The prevalence of dysmenorrhea globally ranged from 16.8 to 81%. The prevalence rate for dysmenorrhea in the UK reported was between 45% to 97% for any community based studies and 41-62% in hospital based studies. The lowest prevalence was reported in Bulgaria (8.8%) and the highest was in Finland (94%) in girls aged 10-20 years. (WHO Systemic review of prevalence of chronic pelvic pain 2006). A large portion of adolescent girls suffer from various gynecological problems particularly menstrual irregularities, as many as 40-45% of adolescent girls reported dysmenorrhea in India. (Adolescent and youth reproductive health in India policy project 2003).

Primary dysmenorrhea is one where there is no identifiable pelvic pathology. It is mostly confined to adolescents; the pain begins a few hours before or just with the onset of menstruation. The pain is spasmodic and confined to lower abdomen, which may radiate to back and thighs. The associated symptoms of dysmenorrhea are nausea, vomiting, fatigue, diarrhea and head ache. Secondary dysmenorrhea is menstrual pain caused by another condition, commonly endometriosis. It starts later in life and tends to increase in intensity over time.

A moment to be free from menstrual pain is an everlasting desire in the minds of whole female generation especially younger generation. Menstrual cramps do not

continue in a set pattern or same intensity every month. One month the cramps might be mild or worse than another. It depends on ovulation. Irrespective of the severity of menstrual cramps, the uneasiness associated with it can make those few days harder. Slap (2003) in his study explains that, the incidents of dysmenorrhea increases as adolescent mature. At 12 years of age the prevalence of dysmenorrhea is 38% which increases up to 66% -77% by 17 years of age.

There are several ways to ease painful menstrual cramps. The most common method adopted universally to get instant relief is by taking painkillers. Medications used mostly for pain are aspirin, brufen, naproxen and meftalspas, primarily non steroidal anti-inflammatory drugs. It acts as a prostaglandin inhibitors to reduce pain. But side effects are common. They are nausea, severe diarrhea, dyspepsia, flatulence and distress. It is also costly and not advisable to continue for a long duration.

Alternative therapy is particularly important for women having side effects with medical therapy and may be beneficial as complementary treatment. Therapies such as accupunture, acupressure, biofeedback, hypnosis, massage, reiki, exercise and therapeutic touch and some home remedies with herbals have been used to treat pelvic pain. There are several home remedies to reduce menstrual cramps and symptoms like backache, lack of appetite, overeating, exhaustion and lowered resistance to ailments. Usually women start using these home remedies a few days before the cycle starts and continue until it ends. These are completely natural and do not cause any unwanted side effects.

Ginger (zingiber officinale) has assumed significant role in Chinese, Japanies and Indian medicine since the 1500s.There were supportive evidence from several

randomized controlled trails that ginger- reduces the severity and duration of nausea or emesis, effect on cardiovascular diseases. Ginger has high contents of antioxidants and has strong anti-bacterial and antifungal properties. In Ayurveda ginger is reported to be useful in treating inflammation and pain. Ginger exerts its ameliorative effect and it could be related to the inhibition of prostaglandin and leukotriene biosynthesis. Many studies proved that ginger can be used for relieving menstrual cramps, it act as an anti-inflammatory and it can be taken as tea, extract or capsules.

In India few studies only available for effectiveness of pharmacological and non pharmacological interventions on dysmenorrhea. It is viewed that less importance is given to this type of problem. In cultural aspects also, they believe that this pain has to be borne by women. Thus dysmenorrhea is neglected part of woman's health. So the researcher was motivated to evaluate the effectiveness of ginger tea upon dysmenorrhea. This evidence based practice can be disseminated and utilized in various care setting to achieve its maximum effectiveness.

Need for the Study

Menstruation is the monthly outflow of blood that starts at teenage and continues till a woman attains the age of late 40s. The lining of the uterus or womb is shed out and this causes bleeding which comes out from the uterus passing through the cervix, and then passes out through the vagina. Usually the menstrual periods last from three to five days. The time phase between the first day of menstrual period and that of next period is termed menstrual cycle.

Every day women of all ages through the changes of life experience many kind of pain, like pre menstrual syndrome, dysmenorrhea and delivery. Dysmenorrhea is a common gynecologic disorder affecting as many as 50% of menstruating Women. And of these, about 10% have severe dysmenorrhea, which greatly limits activities for one to three days each month. It usually appears one to two years after menarche, when ovulation cycle is established. This disorder affects younger women but may persist in to 40 years of age. It believed that prostaglandin synthesized by the endometrium causes pain during menstruation.

A community based cross –sectional study conducted in Delhi reveals the prevalence of dysmenorrhea (63.75%) was comparable to the 57% and 61% prevalence found in the Mumbai and Chennai studies, respectively. The mean age at menarche was 13.6 years and 13.5 years observed in the Chennai and Delhi surveys respectively, Nair et.al (2005). A study conducted in Chennai city revealed that 42% of the college and 34% of the school going students reported problems during menstruation mainly dysmenorrhea, nearly two-thirds of them sought medical treatment. (Adolescent and youth reproductive health in India policy project 2003).

Dysmenorrhea is a debilitating condition among women with a major impact on health related quality of life, work productivity or school absenteeism. It is estimated that severe dysmenorrhea results in the loss of 600 million working hours and $2 billion in productivity annually. A study conducted by Johnson among 182 adolescents revealed the impact of dysmenorrhea on daily activities, 27% reported ‘pain or discomfort’ during their period, 58.9% reported decreased activity, and 45.6% reported

school or work absenteeism, of the dysmenorrhea sample and most of them are taking at least one medication.

Majority of dysmenorrhea cases can experience pain relief by taking prostaglandin inhibitors. Non-steroidal anti-inflammatory drugs are widely used as a first line therapy. Researches indicate that regular consumption of such medicines could adversely affect the ability of a woman to conceive. Consequently researchers have investigated numerous alternative and complementary treatments such as herbal and dietary therapies, behavioral interventions, and aromatherapy. Home remedies not only relieve menstrual cramps but also reduce or eliminate associated risk factors such as stress, depression, anxiety etc.

Ginger, the rhizome of zingibel officinale, is a traditional medicine. It is a botanical generic recognized as safe by the United States food and drug administration with no report of severe side effects. Two components of ginger gingerol and gingerdiones are potent inhibitors of Prostaglandins by blocking cyclooxygenase. Traditional application of ginger to relieve symptoms of dysmenorrhea has been noted in several clinical sources. Ginger is often used as a general remedy to settle the stomach. It also has numerous pain-reducing and anti cramping compounds.

Ozgoli et al. (2009) conducted a study to compare the effects of ginger, mefenamic acid, and ibuprofen on pain in women with primary dysmenorrhea. At the end of treatment, severity of dysmenorrhea decreased in all groups and no differences were found between the groups in severity of dysmenorrhea, pain relief, or satisfaction

with the treatment. Dysmenorrhea is sometimes associated with nausea and vomiting, and ginger also works to alleviate these symptoms.

Community health nurses have an important role to play in the care of gynecological problems like dysmenorrhea as the students are in adolescent age where they undergo lot of discomfort, pain interference with daily activities, school absenteeism etc. which may cause emotional stress during menstruation. Researches prove that home remedies and herbal methods are very useful and free from side effects

The literatures show that ginger is effective upon dysmenorrhea and it is cheap and easily available. And also dysmenorrhea is a common and ignored problem among women and it may affect their daily activities. Hence the investigator was interested to conduct an experimental study to assess the effectiveness of ginger tea upon dysmenorrhea among students at Apollo College of nursing, Chennai.

Statement of the Problem

A Pre Experimental Study to Assess the Effectiveness of Ginger Tea upon Dysmenorrhea among Students at Apollo College of Nursing Chennai.

Objectives of the Study

1. To assess the level of dysmenorrhea among students before and after administration of ginger tea.
2. To assess the level of knowledge among students regarding dysmenorrhea and its management.

3. To determine the effectiveness of ginger tea upon dysmenorrhea by comparing the level of dysmenorrhea among students before and after administration of ginger tea.
4. To identify the level of satisfaction among students regarding administration of ginger tea upon dysmenorrhea.
5. To find out the association between the selected demographic variables and clinical variables upon the level of dysmenorrhea among students before and after the administration of ginger tea.

Operational Definitions

Effectiveness

It refers to the outcome of ginger tea administration measured in terms of significant reduction in dysmenorrhea as determined by the difference between pre and post tests pain and symptom Scores.

Ginger tea

In this study ginger tea refers to preparation made by boiling 3 gms of fresh ginger, in 100 ml of water and to make 50ml, and adding 2 tea spoons of honey, which is administered to the study participants twice in a day (after breakfast and dinner) for five days two days before the onset of menstrual cycle and continued until the third day of menstrual cycle.

Dysmenorrhea

It refers to painful menstruation, which begins before or shortly after the onset of menstrual flow and continues for 48 to 72 hours, which is accompanied by associated

symptoms like head ache, vomiting, breast tenderness, irritability etc. and assessed with the help of numerical pain rating scale and rating scale on symptoms of dysmenorrhea by the Investigator before and after the intervention.

Students

It refers to the female participants with dysmenorrhea studying B.Sc Nursing in Apollo College of Nursing and residing in Hostel of Apollo College of Nursing Chennai.

Assumptions

The study assume that

- Dysmenorrhea is a painful menstruation.
- Dysmenorrhea occurs during or shortly before menstruation.
- Ginger act as anti-inflammatory and it contains gingerols and shagaols which inhibit the prostaglandin synthesis.

Null Hypotheses

Ho_1 There will be no significant difference between the level of dysmenorrhea among students before and after administration of ginger tea.

Ho_2 There will be no significant association between the selected demographic variables and the level of dysmenorrhea among students before and after administration of ginger tea.

Ho_3 There will be no significant association between the selected clinical variables and the level of dysmenorrhea among students before and after administration of ginger tea.

Delimitations

- Study period is limited to eight weeks only
- The study is restricted to students who were staying in Apollo College of Nursing Hostel.

Conceptual Framework

Conceptual framework for research study presents the reasoning on which the purposes of the proposed study are based. The frame work presents the perspective from which the investigator views the problem. It is developed from an existing theory of interest and proposing relationship among them. The model gives direction for planning research design, data collection and interpretation of findings. (Polit and Beck 2010).

The present study is to assess the effectiveness of the ginger tea upon dysmenorrhea. The framework for the study is based on "Kristen. M. Swanson's Modified Theory of Caring (1991)."

Caring

Swanson's Definition of Caring is "A nurturing way of relating to a valued other toward one who has a personal sense of commitment and responsibility."(1993)

This caring theory has five processes:-

- Maintaining Belief - Instilling hope
- Knowing - Empathy
- Being with - Presence
- Doing for - Evidence-based practice
- Enabling - Empowerment

Maintaining belief

Maintaining belief is the foundation of caring. It is sustaining in the capacity get through an event or transition and face future with meaning. And also believing in others capacity to work through and find personal meaning in his or her experience regardless of challenges faced, offering a hope-filled attitude, maintaining realistic optimism, helping to find meaning and standing by the one care for no matter what the situation (Swanson 1991).

In this study nurse maintains belief on student's capacity that they can come out from the event of dysmenorrhea successfully. The attitude related to dysmenorrhea and its treatment will be moved in to positive side by standing with them.

Knowing

Knowing is the anchor that "moors the beliefs" of a nurse /nursing to the lived reality of the client. It is striving to understand the meaning of an event in the life, avoiding assumptions, following on the person cared for, seeking cues and engaging both the ones caring and the cared for in the process of knowing. In knowing the nurse will try to know about assumptions, myths, and practices. And also she will explain about the reason and risk factors and need of intervention and develop a good rapport to build a confident on researcher.

In this study the researcher will assess the level of dysmenorrhea experienced by the students, student's knowledge on dysmenorrhea and its management and the common practices they followed to reduce dysmenorrhea, also educated them about the reason and risk factors for dysmenorrhea and encourage them to take simple and easily

available remedies instead of depending on pain killers. Moreover the researcher developed a good rapport with the students.

Being with

Being with means how the nurse conveys caring, it involves sharing reality between the nurse and client by emotionally present to the other. It includes being there in person, conveying availability and sharing their feelings.

Here nurse will be with the students to convey the message of available therapy and plan for the care. She will explain about the ginger tea and its benefits.

Doing for

Doing for means to do for others. Practices include preserving dignity, protecting, comforting and performing competently.

Here the nurse will prepare ginger tea by boiling 3gm of ginger with 100 ml of water and make 50ml and adding 2 teaspoon of honey ,which will administered twice in a day(morning and night after food) for five days starting from two days prior to menstruation and continued until the third day of menstruation.

Enabling

Facilitating others passage through life transitions and unfamiliar events. Practices include explaining, informing, generating options, supporting, advocating, validating, anticipating and participating for future needs.

After administration of ginger tea post assessment to evaluate the effectiveness of ginger tea upon dysmenorrhea. Later observe, clarify their doubts regarding ginger tea administration. Enrich them by explaining about the mechanism of action of ginger, preparation, frequency, do and don’ts.

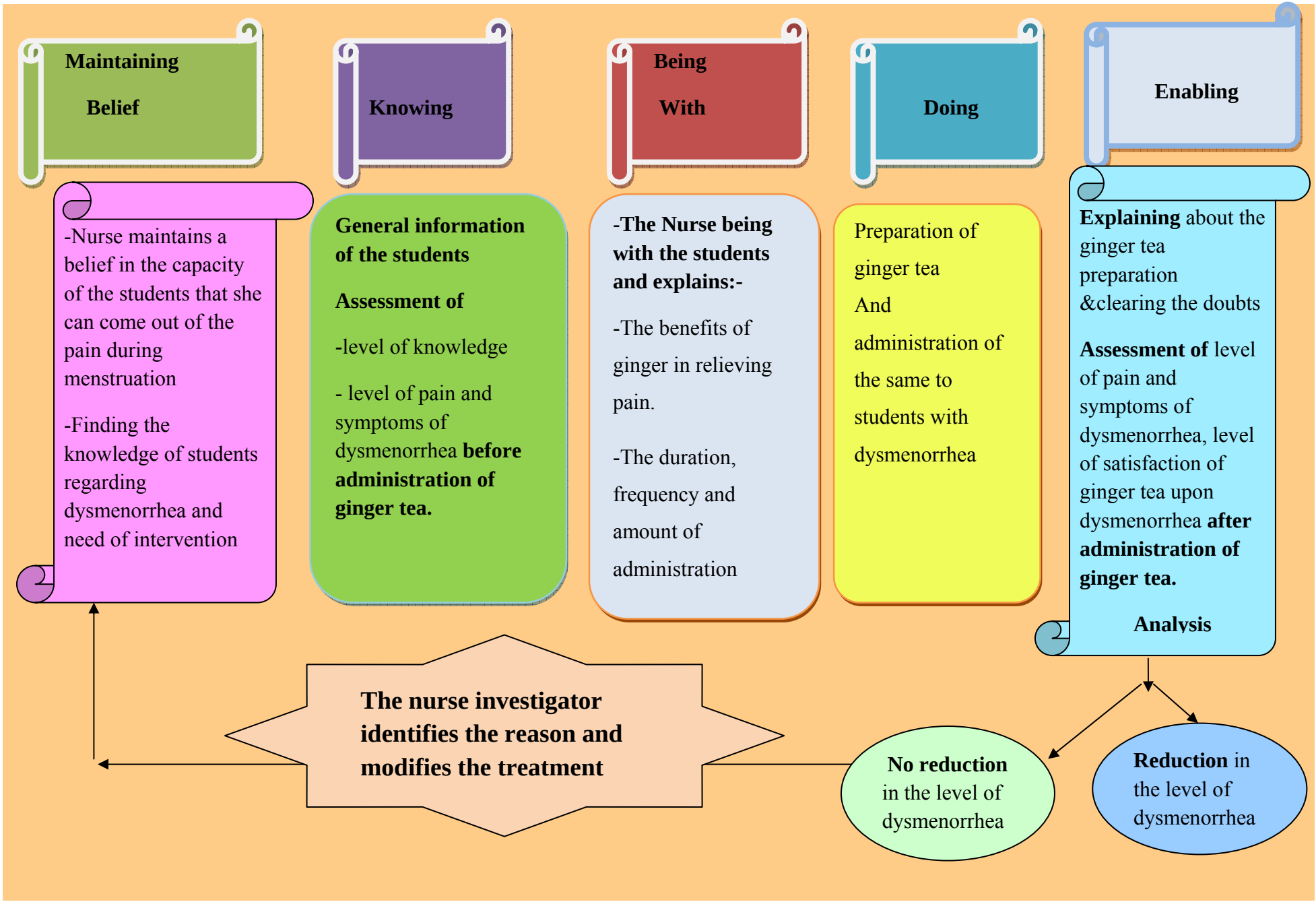


Fig.1 Conceptual Framework based on Kristen. M. Swanson's Modified Theory of Caring (1991)

Projected Outcome

The study will be useful to reduce the dysmenorrhea and its associated symptoms among students with dysmenorrhea. In turn it will help them to carry on with their day to day activities more efficiently.

Summary

This chapter has dealt with the background of the study, statement of the problem, objectives of the problem, operational definitions, assumptions, null hypothesis, delimitations and conceptual frame work and projected outcome.

Organization of the Report

Further aspects of the study are presented in the following five chapters.

In Chapter II : Review of literature .

In Chapter III: Research methodology is presented which includes research design setting, population, sample and sampling technique, data collection procedure and plan for data analysis.

In Chapter IV: Analysis and interpretation of data is presented in terms of descriptive and inferential statistics.

In Chapter V: Discussion

In Chapter VI: Summary, conclusion, implications, recommendations and limitations

Chapter II

Review of literature

CHAPTER II

REVIEW OF LITERATURE

A literature review involves the systematic identification, location, scrutiny and summary of writers' materials that contain information on a research problem (Polit & Beck 2010).

The task of reviewing literature involves the identification, selection, critical analysis and reporting of existing information on the topic of interest. Review of literature is an essential component for a worthwhile study in any field of knowledge. It helps the investigator to gain information on what has been done previously and to gain deeper insight into the research problem. It also helps to plan and conduct the study in a systematic way.

This chapter deals with a review of published and unpublished research studies and from related material. For the present study the review helped the investigator to develop an insight into the problem area. This helped the investigator in building the foundation of the study.

The Review of Literature is Presented under the Following Headings

1. Literature related to dysmenorrhea.
2. Literature related to pharmacological and non pharmacological therapies in dysmenorrhea.
3. Literature related to pharmacological effects of ginger.

4. Literature related to effects of ginger on dysmenorrhea.

Literature Related to Dysmenorrhea.

Cheng (2011) conducted a descriptive study to determine the frequency and distribution of medications used by Taiwanese nursing students for dysmenorrhea and to investigate potential associations between perimenstrual symptoms and selection of medications. Sample size was 2758 nursing students. Result shows perimenstrual symptoms were statistically significant indicators for the use of any combination of Western medications, traditional Chinese medicines or tea. Data revealed that there were statistically significant association between perimenstrual symptoms and the uses of traditional Chinese medicines ($\chi^2 = 3{\cdot}876$, df = 1, $p = 0{\cdot}031$) or Western medications ($\chi^2 = 10{\cdot}171$, df = 1, $p < 0{\cdot}01$). Panadol and Si-Wu-Tang were the most frequently used medications among Western medicines and traditional Chinese medicines, respectively.

In the year 2010 Hong et al. conducted a prospective study aimed to investigate the prevalence of dysmenorrhea. Menstruation-related diary data were obtained from 2640 female college students in North Sichuan Medical College; dysmenorrhea and related factors were analyzed. Dysmenorrhea occurred in 56.4% of students; 6.5% of dysmenorrhea students suffered from “hard to bear”menstrual pain, and 6.5% had pre-menstrual dysmenorrhea. The more severe dysmenorrhea was, the longer dysmenorrhea lasted, and the duration of menstruation and amount of menstrual blood flow appeared to be. The percentage of students taking medicine with mild, moderate and unbearable dysmenorrhea were 4.0%, 13.3% and 23.7%, respectively.

Karthiga et al. (2010) conducted a study to assess menstrual problems and pattern of consultation among adolescent school girls in Pondicherry. 371 adolescent girls who attained menarche were selected from four schools and interviewed. Results shows 181 (48.79%) and 190 (51.21%) girls were from urban and rural schools respectively. 193 (52.02%) had experienced dysmenorrhea and 150 (40.43%) reported passing of clots during menstruation. Out of 272 girls who had ever experienced menstrual problem, 73 (26.84%) had any consultation. 43 (58.09%) consulted doctors and only 3 (4.12%) girls consulted health worker. Daughters of illiterate and working mothers consulted Health Care Providers less for their menstrual problems.

An explorative survey study to assess the prevalence of dysmenorrhea severity and its associated symptoms among adolescent girls in Gwalior was conducted by Agarwal & Agarwal (2009). 907 adolescent girls of age 15 to 20 years, studying in the higher secondary schools were the study participants. The prevalence of dysmenorrhea in adolescent was found to be 79.67%. Most of them suffered regularly from dysmenorrhea severity 37.96%. The three most symptoms present on day before and first day of menstruation were lethargy and tiredness (first), depression (second) and inability to concentrate in work (third), whereas the ranking of these symptoms on the day after the stoppage of menstruation showed depression as the first common symptoms.

In Western Turkey a cross-sectional study was conducted at Dumlupinar University, Kutahya and Health High School to evaluate the prevalence of dysmenorrhea and determine its effect on health-related quality of life (HRQoL) among a group of female university students. The study group included 623 female students.

The severity of dysmenorrhea was determined with a 10-point visual analog scale. The average age of the study group was 20.8 ±1.8 years. Prevalence of dysmenorrhea was found to be 72.7% and was significantly higher in coffee consumers, females with menstrual bleeding duration 7 days, and those who had a positive family history of dysmenorrhea when compared to the others ($P < 0.05$) were important risk factors for dysmenorrhea. Dysmenorrhea is a common health problem, having negative effects on the HRQoL among university female students. Unsal et al. (2009).

Esan & esmai (2009) conducted a cross-sectional study to document menstrual abnormalities,awareness and health seeking behavior experienced by female college students in Nigeria. Sample sizes were 400 students. Stratified sampling technique was used. The result shows the mean age at menarche was 14 Years. Irregular menstrual cycles were reported in 9.0%. Dysmenorrhea was present in 62.5%, and 12.5% reported school absenteeism. Students′ awareness of menstrual abnormalities was poor (29%). A few of them (10.5%) decided to seek help for menstrual abnormalities. The awareness of students on menstrual abnormalities was significantly influenced by their age. History of dysmenorrhea and academic disturbance had significant influence on the health seeking behavior of the students.

Rostami (2007) conducted a study on dysmenorrhea in the high school girls in Masjed Solayman Khzestan Province in Iran. The results indicate that 85 respondents (14.4% participants) suffered from dysmenorrhea which disturbed their daily activities and was unimproved by the use of analgesics. The results of the study also indicate that there was a significant correlation between dysmenorrhea and certain biological factors, between menarche age and the severity of dysmenorrhea and the duration of menstrual

flow. Furthermore, early menarche was related to an increase in the severity of dysmenorrhea.

A longitudinal study conducted on 996 nurses about "the natural history of primary dysmenorrhea to describe the prevalence, severity course and predictive factors of primary dysmenorrhea in women of all ages (reproductive) where the participants were surveyed twice at an interval of 6 years regarding menstrual cycle characteristics, concluded the study results as primary dysmenorrhea affects throughout the menstrual years. Dysmenorrhea severe enough to cause absence from work occurs in less than 51% of women, improvement is more likely in women who bear children. Weissmon, et al (2004).

Literature Related to Pharmacological and Non- Pharmacological Therapies upon Dysmenorrhea

An experimental study to assess the effectiveness of acupressure therapy upon dysmenorrhea among nursing students was conducted by Priya (2010). 60 students with dysmenorrhea were randomized in to two groups.30 subjects in the experimental group were given a standard procedure of acupressure. The finding of the study shows the mean and standard deviation of intensity of pain during dysmenorrhea in control group was almost same in post test and in pretest. In experimental group the mean and standard deviation of intensity of pain and symptoms among students were lower in post test (M=1.97, SD=0.72) in comparison with the pre test (M=7.27, SD=1.05).

Queen (2010) conducted a study to assess the effectiveness of mint leaves paste on dysmenorrhea among 46 adolescent girls in kanyakumari. Samples were selected by

purposive sampling method. The mint leaves paste was administered to experimental group for 4 days before menstruation and 3 days after menstruation. No intervention was given in the control group. The findings revealed that mint leaves paste was independently effective on dysmenorrhea among adolescent girls in experimental group at ($p<0.05$).

Effectiveness of acupuncture to treat dysmenorrhea related pain, particular in which NSAID or oral contraceptives are contraindicated or refused was proved by Iorno and Burani (2008). Pain was measured at baseline (T1), mid treatment (T2), end of treatment (T3) and 3 (T4) and 6 months (T5). After the end of treatment substantial reduction of pain and NSAID assumption was observed in 13 of 15 patients (87%). Pain intensity was significantly reduced with respect to baseline (average VAS = 8.5), by 64, 72, 60 or 53% at T2, T3, T4 or T5. Greater reduction of pain was observed for primary as compared with secondary dysmenorrhea.

Han et al. (2006) conducted a randomized placebo-controlled clinical trial on effect of aroma therapy on symptoms of dysmenorrhea among college students. Subjects were randomized in to 3 groups that the experimental group, placebo group and control group, aromatherapy was applied topically to the experimental group in the form of an abdominal massage using two drops of lavender, one drops of rose water in 5CC of almond oil. As the results were, menstrual cramps were significantly lowered in the aromatherapy group.

Literature Related to Pharmacological Effects of Ginger

Ryan et al. (2009) conducted a multi-site, randomized, placebo-controlled, double-blind clinical trial to assess the efficacy of ginger for chemotherapy-related nausea in cancer patients at the University of Rochester. Patients were randomized into four arms: placebo, 2) 0.5g ginger, 3) 1.0g ginger, or 4) 1.5g ginger. All patients received 5-HT_3 receptor antagonist antiemetic on Day 1 of all cycles and took three 250mg capsules of ginger or placebo twice daily for six days starting three days before the first day of the next two cycles. Patients reported the severity of nausea during the morning, afternoon, evening, and night on a 7-Point semantic rating scale for days 1-4 of each cycle. Analysis of covariance examined change in nausea in the four study arms on Day 1 of cycles 2 and 3. All doses of ginger significantly reduced nausea ($p=0.003$). The largest reduction in nausea occurred with 0.5g and 1.0g of ginger.

In United States Connor (2009) conducted a study to assess the effectiveness of ginger root in reducing muscle pain caused by exercise. The study used both raw ginger and cooked ginger. Two grams or .07 ounces, of daily ginger supplementation was given for 11 consecutive days. Function, inflammation and pain were assessed for three days before and after the eighth day of the study when the participants engaged in exercise. The findings shows daily ginger supplementation reduced exercise-induced muscle pain by 25 percent.

A prospective, randomized, double-blind trial was conducted by Phillips and Ruggier to compare the effect of powdered ginger root with metoclopramide and placebo on post operative vomiting. The study participants were 120 women presenting for elective laparoscopic gynecological surgery on a day stay basis. The incidence of nausea and vomiting was similar in patients given metoclopramide and ginger (27% and

21%) and less than in those who received placebo (41%). The requirement for postoperative antiemetics was lower in those patients receiving ginger. Zingiber officinale is an effective and promising prophylactic antiemetic, which may be especially useful for day case surgery.

In April 2009 a study in the journal Life Sciences reported on ginger's effects on certain genes that control the production of cholesterol and fat accumulation in the liver. This preliminary research led the authors of the study to conclude that ginger reduces unhealthy gene expression in the liver which can lead to visceral fat build-up (fatty liver) and "hyperlipidemia".

Ernst & Pittler (2006) conducted a small study of 30 pregnant women with severe vomiting, those who ingested 1 gram of ginger every day for 4 days reported more relief from vomiting than those who received placebo. In a larger study of 70 pregnant women with nausea and vomiting, those who received a similar dosage of ginger felt less nauseous and experienced fewer vomiting episodes than those who received placebo.

Ginger (Zingiber officinale), a commonly used folk remedy, has been confirmed to effectively treat nausea and vomiting in pregnancy. A placebo-controlled, double-blind study of 67 pregnant women with morning sickness was conducted by Vutyavanich in Chiang Mai University in Thailand. Thirty-two women were given 250 mg of ginger four times daily while 35 received placebo. Women reported nausea and vomiting during the first four days of the study; most had vomited the day before treatment. But after four days, only 30 percent of the ginger group had vomited

compared to 66 percent in the placebo group. Eighty-eight percent of the women given ginger reported that their symptoms improved no significant side effects were reported. No adverse effects were noted among babies born to women given ginger compared to babies of the women given placebo.

In a double-blind randomized placebo trial, the effect of the powdered rhizome of ginger (Zingiber officinale) was tested on seasickness. Eighty naval cadets, unaccustomed to sailing in heavy seas reported during voyages on the high seas, symptoms of seasickness every hour for 4 consecutive hours after ingestion of 1 g of the drug or placebo. Ginger root reduced the tendency to vomiting and cold sweating significantly better than placebo (p less than 0.05). With regard to vomiting, a modified Protection Index (PI) = 72% was calculated. Grontved.et al (2005)

Literature Related to Effects of Ginger on Dysmenorrhea

Sun et al. (2009) conducted a randomized controlled clinical study on ginger – partitioned moxibustion for patients with primary dysmenorrhea. Total of 209 primary dysmenorrhea patients were randomized in to moxibustion group (n=105) and control group (medication group n=104) patients of the former group were treated with ginger – partitioned Moxibustion and guanyuan once daily for 3 days in the first menstrual cycle, and 3 days before the menstruation and once daily for 6 days in the 2nd and 3rd menstrual cycles, those of control group were asked to take yueyueshu granules. Clinical symptom scores were assessed before and after the treatment. Results showed that 105 and 104 cases in the moxibustion and control groups the cured, markedly effective, effective and failed cases were 58 and 32, 37 and 33, 5 and 24, and 5 and15, respectively. The total

therapeutic effect of moxibustion group was significantly better than that of control group ($p<0.01$).

A study in the February 2009 issue of The Journal of Alternative and Complementary Medicine indicates that ginger may be a viable alternative to these synthetic drugs. In that trial, 150 women with dysmenorrhea were divided into 3 groups and given one of three medicines: a) ginger extract; b) ibuprofen; or c) mefenamic acid. All three of the groups were asked to take their respective treatments at a dosage of 250 mg 4 times a day for three days prior to the commencement of their menstrual cycle. All three groups experienced an equal amount of pain relief. But the mechanism behind the pain reduction found with ginger may be different and possibly safer.

Jenabi (2009) conducted a semi-experimental study in Toyserkan Azad University in western Iran with 80 students; they were randomly divided into two equal groups of study and control. Participants in the study group were asked to drink two cups of ginger tea a day, 2 days prior to menstruation and first 3 days of their menstrual cycle for a period of 3 months. Data were gathered by four separate questionnaires (McGill Pain Questionnaire, Visual Analogue Scales for Anxiety, Perceived Stress Scale and The Psycho physiologic Life Adaptation Scale). They were applied before the commencement of intervention, on 1st month and 3rd month, respectively. Data analysis was carried out using Wilcoxon and Chi-square tests. After 1 month of using ginger tea, study group had a statistically significant difference in experiencing menstrual pain; distress and anxiety compared to those of control one. There were statistically significant difference between two groups in summation of means of four questionnaires, on 1st and 3rd months of using ginger tea ($p<0.001$).

In the year 2007 a double-blind comparative clinical trial was conducted by Ozgoli et al. to compare the effects of ginger, mefenamic acid, and ibuprofen on pain in women with primary dysmenorrhea. Participants were 150 students with primary dysmenorrhea from the dormitories of two medical universities who were alternately divided into three equal groups. Students in the ginger group took 250 mg capsules of ginger rhizome powder four times a day for three days from the start of their menstrual period. Members of the other groups received 250 mg mefenamic acid or 400 mg ibuprofen capsules, respectively. At the end of treatment, severity of dysmenorrhea decreased in all groups and no differences were found between the groups in severity of dysmenorrhea, pain relief, or satisfaction with the treatment, p 0.05. No severe side effects occurred. Ginger was as effective as mefenamic acid and ibuprofen in relieving pain in women with primary dysmenorrhea.

Summary

This chapter has dealt with review of literatures related to problem stated. In this present study researcher collected the review from 18 primary and 5 secondary sources. It has helped the researcher to design the study, develop the tool and plan the data collection procedure and to analyze the data.

Chapter III

Research Methodology

CHAPTER III

RESEARCH METHODOLOGY

The methodology of the research study is defined as the way data are gathered in order to answer the research questions or analyze research problem. Research methodology involves a systematic procedure by which the researcher starts from the initial identification of the problem to its final conclusion.

This chapter deals with a brief description of different steps undertaken by the investigator for the study. It includes research approach, research design, setting, population, sample and sampling technique, selection of tool, psychometric properties of instruments, pilot study, and protection of human rights, data collection procedure and plan for data analysis.

Research Approach

Research approach is the vital part of any research. Selection of appropriate research approach depends on the purpose of that particular research study which is undertaken. According to Polit and Beck (2010) experimental research is an extremely applied form of research and involves finding out how a program, practice or policy is working .Its goals are used to assess or evaluate the success of program. In this study, as the investigator wanted to assess the effectiveness of ginger tea upon dysmenorrhea, the experimental approach seemed to be most appropriate.

Research Design

A one group pre-test and post-test design was used. Pre test was conducted for selected students with dysmenorrhea in one menstrual cycle without administration of ginger tea. The researcher manipulated the dependent variable by administering ginger tea starting from two days before the onset of menstrual cycle and continued until the third day of menstrual cycle to the same group of students and post test was conducted to evaluate the effectiveness of ginger tea upon dependent variable i.e,dysmenorrhea was computed by the post test.

The research design is represented dramatically as follows:

O1 X O2

O1 - Pre test to assess dysmenorrhea

X – ginger tea administration

O2 – Post test to assess dysmenorrhea

Variables

Independent variable

The independent variable of the study was administration of ginger tea

Intervention:

Ginger tea was made by boiling 3gms of fresh ginger, in 100 ml of water and to make 50ml, and adding 2 tea spoons of honey, which is administered to the study participants twice in a day (after breakfast and dinner) two days before the onset of menstrual cycle and continue until the third day of menstrual cycle.

Dependent variable

It was level of dysmenorrhea among students before and after administration of ginger tea.

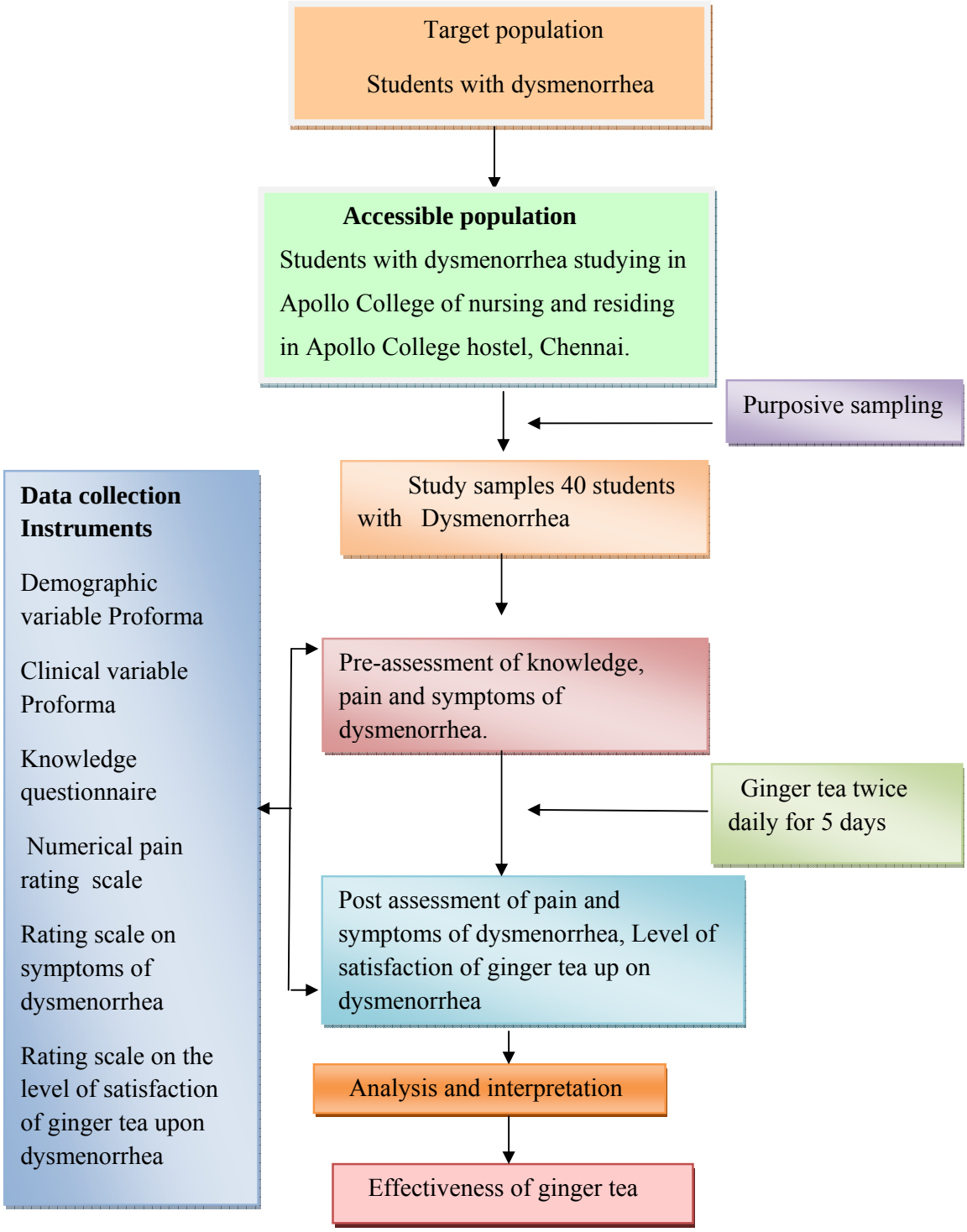


Fig.2. Schematic Representation of the Research Design

Research Setting

The study was conducted in hostel of Apollo College of nursing, Chennai. This is a part of the corporate, Apollo Hospitals educational trust which is located at Ayanambakkam in Chennai. It has sophisticated educational facilities and also full furnished hostel accommodation for the students. The institution conducts various nursing programs like M.Sc nursing B.Sc (N), P.B.B.Sc (N). It conducts various certificate and short time courses periodically.

Population

Population is an aggregate or totality of all the subjects that possess a set of specifications. The entire set of individuals having some common characteristics. (Polit & Beck 2010)

Target Population

Refers to entire population in which the researcher is interested and to which he/ she would like to generalize the results of a study. In this study the target populations were students with dysmenorrhea.

Accessible Population

The accessible population is the list of population that the researcher finds in the research area, accessible population in this study was students with dysmenorrhea residing in the hostel of Apollo College of nursing, Chennai.

Sample and Sample Size

Sample consists of subset of the units that comprises the population (Polit & Beck 2010). A sample of 40 students, with dysmenorrhea was selected for the study.

Sampling Technique

Sampling is the process of selecting a portion of population to represent the entire population. (Polit & Beck 2010). The participants of the present study were selected by purposive sampling technique in which the samples were selected by criterion sampling. In non probability purposive sampling technique the researcher selected participants who fulfilled the sampling criteria.

Sampling Criteria

Inclusion criteria

Students who are

- Having regular menstrual cycle (28 days- 35 days).
- Able to read and understand English.
- Willing to participate in the study.

Exclusion criteria

Students who

- Do not have dysmenorrhea.
- Are taking medical advice and treatment for dysmenorrhea.
- Are not willing to participate in the study.

Selection and Development of Study Instruments

As the study aimed to assess the effectiveness of ginger tea upon dysmenorrhea, the data collection instruments were developed through an extensive review of literature in consultation with the opinion of experts and with the opinion of faculty members. The instruments used in this study were demographic variable proforma, clinical variable proforma, structured questionnaire to assess the knowledge among students regarding dysmenorrhea and its management, numerical pain rating scale, rating scale on symptoms of dysmenorrhea, rating scale on the level of satisfaction of administration of ginger tea upon dysmenorrhea among students.

Demographic variable Proforma of students with dysmenorrhea

Demographic variable Proforma consisted of age, religion, educational status, family history of dysmenorrhea, type of diet.

Clinical variable Proforma of students with dysmenorrhea

Clinical variable Proforma consisted of age at menarche, weight, body mass index, duration of menstruation, onset of pain and quality of pain.

Structured questionnaire to assess the knowledge level of students with dysmenorrhea

The structured questionnaire was formed very carefully considering language and sequence of item. The questions were formulated and options were given below the questions. It consisted of 20 multiple choice questions on knowledge regarding

dysmenorrhea and its management, each question had 4 options which include one right answer every correct answer was assigned a score of 1 and wrong answer a score of 0.The total score of structured questionnaire was 20.The knowledge score was classified in to 3 levels

Scores	**Percentage**	**Level of knowledge**
0 – 10	<50	Inadequate
11 – 15	51 – 75	moderately adequate
16 – 20	< 76	Adequate

Numerical pain rating scale

The 0-10 point pain rating scale developed by Pasero was used to assess the level of pain experienced by the students before and after administration of ginger tea.

Score		**Level of pain**
0	-	No pain
1-3	-	Mild pain
4-6	-	Moderate pain
7-10	-	Severe pain

Rating scale on symptoms of dysmenorrhea

Rating scale was prepared by the researcher for this study purpose to assess the associated symptoms of dysmenorrhea before and after administration of ginger tea. Rating scale was prepared based on rating criteria of associated symptoms present during the menstrual cycle such as Lower abdominal pain, Back ache, head ache,

Dizziness, Increased body temperature, Sweating, Vomiting and nausea, Breast tenderness, Constipation, General sense of malaise, Irritability, Crying, Insomnia, Anger, Difficulty in concentration, Restlessness, Frequent changes of mood, Anorexia, Nervousness, Agitation.

Rating scale on associated symptoms of dysmenorrhea was framed carefully by the researcher considering the clarity, organization, sequence of items. There are about 20 associated symptoms. The responses extended from Almost never, rarely, most often, always. The response category was in a scale format with a scoring procedure.

Scoring procedure

Category	**score**
Almost never	- 1
Rarely	- 2
Most often	- 3
Always	- 4

The total score is 80 and is converted in to percentage and graded as

Level of symptoms	**Scoring**	**Percentage**
No symptoms	< 20	<25%
Mild	20 – 39	25-49%
Moderate	40 – 59	50- 74%
Severe	60 – 80	75-100%

Rating scale on the level of satisfaction of administration of ginger tea among students upon dysmenorrhea

This rating scale consists of 10 statements on satisfaction of students with dysmenorrhea regarding ginger tea upon dysmenorrhea. The response extended from highly satisfied, satisfied, dissatisfied, highly dissatisfied.

Scoring procedure

Highly satisfied	-	4
Satisfied	-	3
Dissatisfied	-	2
Highly dissatisfied	-	1

The total score is converted in to percentage and graded as

Scoring		**Interpretation**
Highly Satisfied	-	76-100%
Satisfied	-	50-75%
Dissatisfied	-	25-50%
Highly dissatisfied	-	< 25%

Psychometric Properties of Instruments

Validity

The content validity concerns the degree to which an instrument has an appropriate sample of items for the construct being measured and adequately covers the construct domain (Polit &Beck 2010). The content validity of the tool was obtained by

getting opinion from seven experts. Six experts from the field of nursing and one from medicine. The validation has suggested some specific modifications. The modifications and suggestions of experts were incorporated in the final preparation of the tool.

Reliability

Reliability is the degree of consistency with which an instrument measures. (Polit & Beck 2010).

1. Structured knowledge questionnaire to assess the knowledge level of students the reliability of the tool was determined by using split half method, Karl Pearson's 'r was computed and the reliability score was found to be 0.95.

2. Numerical pain rating scale developed by Pasero it is a standardized tool.

3. Rating scale on symptoms of dysmenorrhea the reliability of the tool was determined by using test retest method, Karl Pearson's 'r' was computed and the reliability score was found to be 0.92.

4. Rating scale on satisfaction of ginger tea upon dysmenorrhea the reliability of the tool was determined by using split half method, Karl Pearson's 'r'was computed and the reliability score was found to be 0.98

Pilot Study

According to Polit and Beck (2010), a pilot study is a miniature or some part of the actual study, in which the study instrument is administered to the subjects drown

from the population. It is a small version or trail run domain preparation for the major study. The purpose is to find out the feasibility to conduct the main study.

Pilot study was conducted with the set of small sample of 10 students with dysmenorrhea. The result of pilot study suggested that 2 menstrual cycles were required for assessing the level of dysmenorrhea of the students. Pilot study revealed that the present study was feasible to conduct.

Intervention Protocol

- Administration of ginger tea
- Twice a day morning 7.30 and night 7.30 for 5 days. Starting from two days prior to menstruation and continues until the third day of menstrual cycle.

Protection of Human Rights

The study was conducted after the approval of ethical committee of Apollo hospitals, Chennai, and permission from the research and medical guide. Written consent was obtained from the study participants and confidentiality was maintained throughout the study.

Data Collection Procedure

Data collection is the gathering of information needed to address the research problem. The data collection was done in the month of June and July for a period of 8 weeks. Prior to data collection the formal permission was obtained from the concerned authority to conduct study. The present study was conducted at Hostel of Apollo

College of nursing, among students with dysmenorrhea from first year to fourth year of B.Sc Nursing. A list of students with dysmenorrhea was obtained and researcher established a good rapport with the students. The purpose and method of the study was explained and ensures their co-operation.

The instruments used for the data collection were demographic variable performa and clinical variable performa of students, structured knowledge questionnaire of students, numerical pain rating scale, rating scale on symptoms of dysmenorrhea and rating scale on level of satisfaction of ginger tea upon dysmenorrhea among students. Level of dysmenorrhea was assessed in two menstrual cycles. First menstrual cycle was taken as pre-test in which level of dysmenorrhea was assessed without administration of ginger tea.

Consecutive cycle was post-test in which 100 ml of ginger tea was administered daily as 50ml in the morning after breakfast and 50 ml in the night after dinner for five days starting 2 days prior to the onset of menstruation to the third day of menstrual cycle. The ginger tea was prepared by boiling 3gms of fresh ginger, in 100 ml of water and to make 50 ml, and adding 2 teaspoons of honey.

The tool was administered to the students on the second day of both menstrual cycles. On the fifth day of administration the level of satisfaction of ginger tea upon dysmenorrhea among students was assessed.

Problems Faced During the Study

Some of the students were not willing to participate in the study.

Plan for Data Analysis

Data analysis is the systematic organization, synthesis of research data and testing of null hypothesis by using the obtained data (Polit &Beck, 2010). Analysis and interpretation of the data was carried out by using descriptive and inferential statistics. Descriptive statistics like frequency distribution, percentage, mean standard deviation and inferential statistics like t-test and Chi – square test were used to analyze the data.

Summary

This chapter dealt with the research approach, research design, setting, population, sample and sampling technique, sampling criteria, selection and development of study instruments, psychometric properties of instruments, pilot study, protection of human rights, intervention protocol, data collection procedure, problems faced during the study and plan for data analysis.

Chapter IV

Analysis and Interpretation

CHAPTER IV

ANALYSIS AND INTERPRETATION

The analysis is defined as the method of organizing data in such a way that the research question can be answered .Interpretation is the process of making sense of results and examining the simplification of the findings with in a broader context.

The chapter includes both descriptive and inferential statistics. Statistics is a field of study concerned with techniques or methods of collection of data, classification, summarizing, interpretation, drawing inferences, testing of hypotheses etc.

The data was collected from 40 students with dysmenorrhea studying in Apollo College of nursing and residing in Apollo College of nursing hostel Chennai, was selected to determine the effectiveness of ginger tea upon dysmenorrhea.

The data was analyzed according to the objectives and hypotheses of the study. The data analysis was completed after transferring all the data to the master coding sheet. Data was analyzed, tabulated and interpreted using descriptive and inferential statistics.

Organization of Findings

- Frequency and percentage distribution of demographic variables of the students with dysmenorrhea.
- Frequency and percentage distribution of clinical variables of the students with dysmenorrhea.

- Frequency and percentage distribution of level of knowledge regarding dysmenorrhea and its management among students with dysmenorrhea.
- Frequency and percentage distribution of level of pain among students before and after administration of ginger tea.
- Frequency and percentage distribution of level of dysmenorrhea symptoms among students before and after administration of ginger tea.
- Domain wise Frequency and percentage distribution of level of dysmenorrhea symptoms among students before and after administration of ginger tea.
- Comparison of mean and standard deviation of level of pain among students before and after administration of ginger tea.
- Comparison of mean and standard deviation of level of dysmenorrhea symptoms among students before and after administration of ginger tea.
- Frequency and percentage distribution of level of satisfaction among students regarding ginger tea administration upon dysmenorrhea.
- Domain wise Frequency and percentage distribution of level of satisfaction among students regarding ginger tea administration upon dysmenorrhea.
- Association between selected demographic variables and level of pain and dysmenorrhea symptoms among students before and after administration of ginger tea.
- Association between selected clinical variables and level of pain and dysmenorrhea symptoms among students before and after administration of ginger tea.

Table 1

Frequency and Percentage Distribution of Demographic Variables of the Students with Dysmenorrhea. **N=40**

Demographic Variables	Frequency n	Percentage P
Age in years		
18 – 20	17	42.5
21 – 23	23	57.5
24 – 26	-	-
>26	-	-
Religion		
Hindu	12	30
Christian	27	67.5
Muslim	1	2.5
Type of diet		
Vegetarian	-	-
Non vegetarian	40	100

The data from the table 1 revealed that most of the students were between the age group of 21-23 yrs (57.5%), they belong to Christianity (67.5%) and all of them were Non-vegetarians (100%).

Figure 3 & 4 reveals that most of them had family history of dysmenorrhea (65%). And a significant percentage of the students (37.5%) were studying in fourth year B.Sc Nursing.

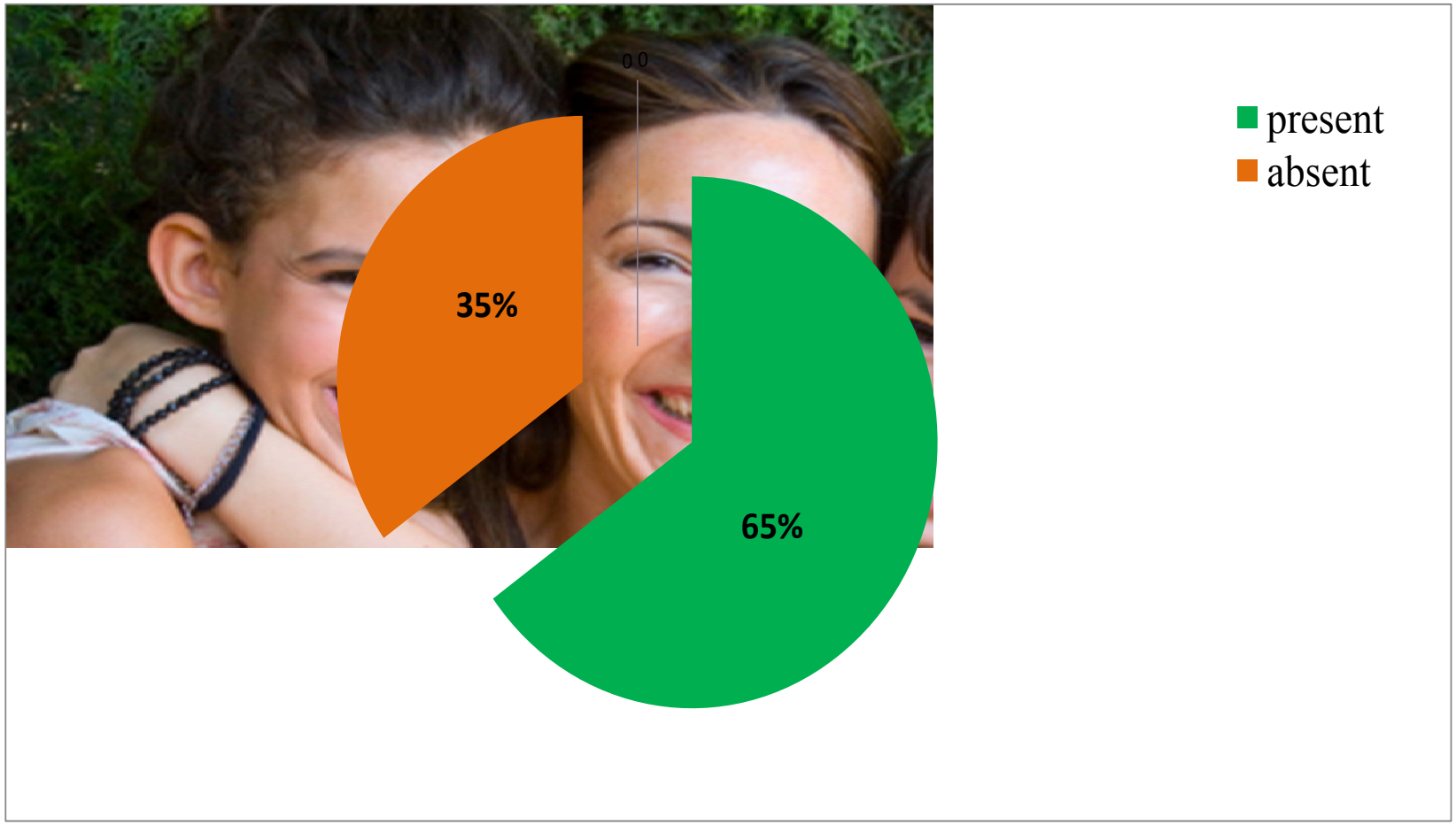


Fig. 3- Percentage Distribution of Family History of Dysmenorrhea among Students

Figure 4- Percentage Distribution of Educational Level of Students with Dysmenorrhea

Table. 2

Frequency and Percentage Distribution of Clinical Variables of Students with Dysmenorrhea

N=40

Clinical Variables	Frequency	Percentage
Age at menarche		
10 - 12 years	13	32.5
13 - 15 years	27	67.5
>15 years	0	0
Weight in Kg		
31 – 40	1	2.5
41 – 50	15	37.5
51 – 60	21	52.5
Above 60	3	7.5
Body Mass Index		
Less than 18.4	1	2.5
18.5 - 22.5	30	75
22.6 - 29.9	9	22.5
>30	0	0
Duration of menstruation		
3 - 5 days	29	72.5
6 - 8 days	11	27.5
Onset of pain		
Before menstruation	8	20
First 24 - 36 hours	32	80
Last 48 - 72 hours	0	0

The data from table 2 revealed that most of the students attained menarche at 13-15yrs (67.5%), weighed between 51-60 kg (52.5%) and their duration of menstruation as 3-5 days (72.5%). Majority of them had body mass index between 18 -22.5 (75%) and onset of pain in first 24-36 hrs (80%).

Figure 5 shows that most of students had spasmodic pain 52.5% and a significant percentage of them experienced radiating pain and colicky pain (35%, 12.5%).

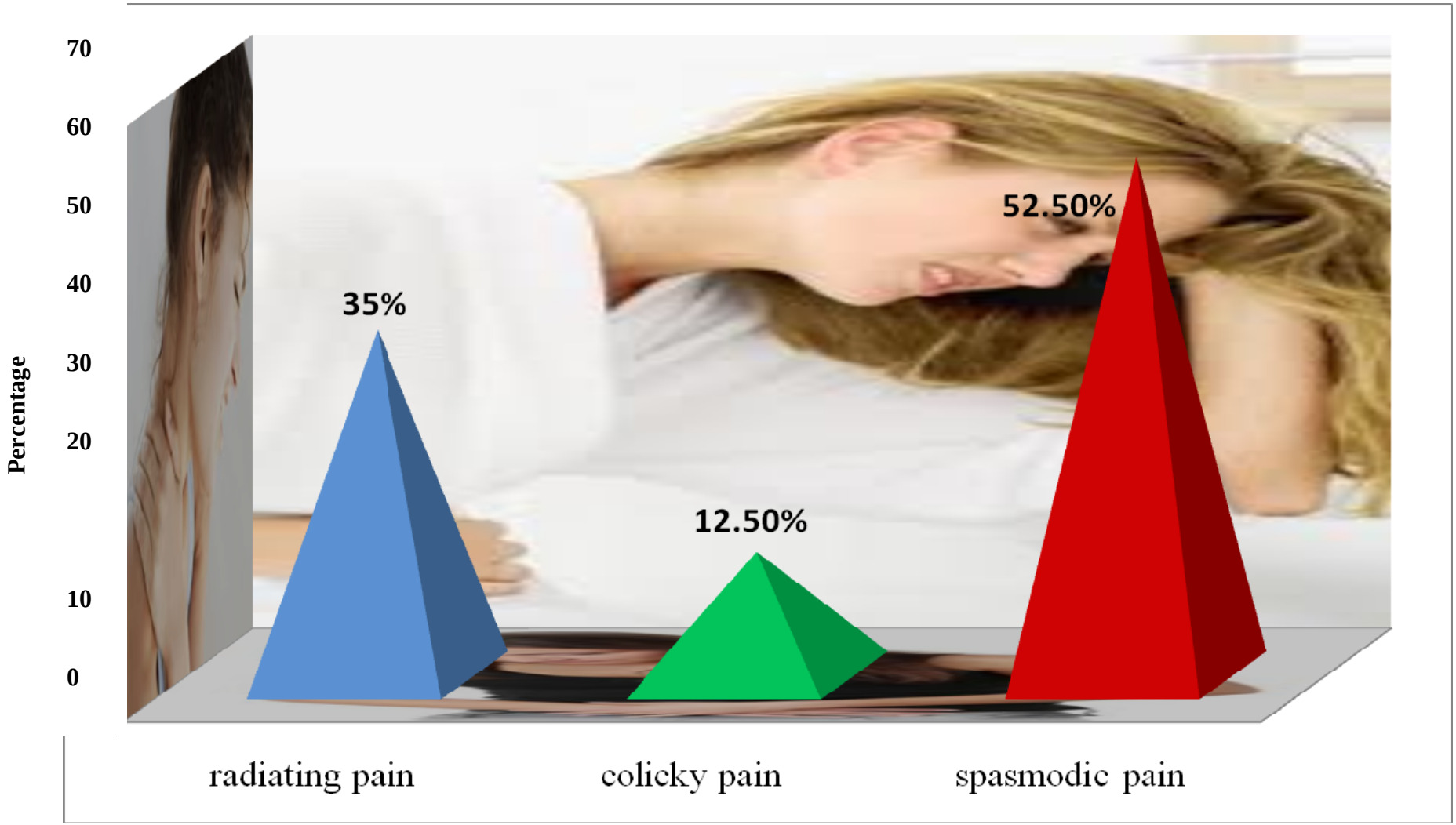


Figure 5- Percentage Distribution of Quality of Pain among Students with Dysmenorrhea

Table. 3

Frequency and Percentage Distribution of Knowledge Level of Students Regarding Dysmenorrhea and its Management.

N=40

Knowledge dimensions	Adequate Knowledge		Moderately Adequate		Inadequate Knowledge	
	n	p	n	p	n	p
Knowledge related to Menstruation	32	80%	7	17.5%	1	2.5%
Knowledge related to dysmenorrhea	23	57.5%	15	37.5%	2	5%
Knowledge related to management of dysmenorrhea	30	75%	8	20%	2	5%

The data in the above table revealed that majority of them had adequate knowledge with regard to menstruation and dysmenorrhea management (80%, 75%). And most of the students had adequate knowledge regarding dysmenorrhea (57.5%)

Table. 4

Frequency and Percentage Distribution of Level of Pain among Students Before and After Administration of Ginger Tea.

N=40

Level of pain	Before administration of ginger tea		After administration of ginger tea	
	n	**p**	**n**	**p**
No pain	-	-	3	7.5%
Mild pain	1	2.5%	30	75%
Moderate pain	19	47.5 %	7	17.5 %
Severe pain	20	50 %	-	-

The assessed data showed that most of the students were experiencing severe pain (50%) before administration of ginger tea. Whereas after administration of ginger tea, none of the students reported severe pain and majority of students were reported as mild pain (75%), and a significant percentage of them reported no pain (7.5%).

Table .5

Frequency and Percentage Distribution of Level of Dysmenorrhea Symptoms among Students Before and After Administration of Ginger Tea.

N=40

Level of symptoms	Before administration of ginger tea		After administration of ginger tea	
	f	p	f	p
No symptoms	-	-	-	-
Mild symptoms	5	12.5 %	39	97.5%
Moderate symptoms	29	72.5 %	1	2.5%
Severe symptoms	6	15%	-	-

The data presented in the table 4 shows that before administration of ginger tea most of the students had moderate symptoms of dysmenorrhea (72.5%). Whereas after administration of ginger tea majority of the students reported as mild symptoms (97.5%).

Table .6

Domain Wise Frequency and Percentage Distribution of Level of Dysmenorrhea Symptoms among Students Before and After Administration of Ginger Tea

N=40

Level of symptoms	No symptoms		Mild symptoms		Moderate symptoms		Severe symptoms	
	f	p	f	p	f	p	f	p
Before administration of ginger tea								
Physiological symptoms	-	-	9	22.5%	29	72.5%	2	5%
Psychological symptoms	-	-	10	25%	17	42.5%	13	32.5%
After administration of ginger tea								
Physiological symptoms	3	7.5%	36	90%	1	2.5%	-	-
Psychological symptoms	2	5%	34	85%	4	10%	-	-

The data presented in the table shows that most of the students had moderate level of physiological symptoms (72.5%) and a significant percentage of them experienced moderate level of psychological symptoms (42.5%) before administration of ginger tea. Whereas after administration of ginger tea in both physiological and psychological symptoms majority of them experienced mild symptoms (90%, 85%).

Table .7

Comparison of Mean and Standard Deviation of Level of Pain among Students Before and After Administration of Ginger Tea.

N==40

Level of pain	Mean	SD	't' value
Before administration of ginger tea	6.60	1.59	20.74***
After administration of ginger tea	2.47	1.11	

*****p<0.001**

It can be inferred from the above table that, before administration of ginger tea level of pain of students were high (M=6.60, SD=1.59) in comparison with the pain scores of after administration of ginger tea (M=2.47, SD=1.11). The difference was found statistically significant at $p<0.001$ level of confidence and can be attributed to the effectiveness of ginger tea upon dysmenorrhea. Hence the null hypothesis Ho_1 "There will be no significant difference between the level of dysmenorrhea among students before and after administration of ginger tea" was rejected.

Table. 8

Comparison of Mean and Standard Deviation of Level of Dysmenorrhea Symptoms Before and After Administration of Ginger Tea.

N=40

Level of symptoms	Before administration of ginger tea		After administration of ginger tea		't' value
	Mean	SD	Mean	SD	
Overall level of symptoms	48.42	8.78	27.45	3.97	16.768***
Physiological symptoms	22.72	4.29	13.15	2.88	15.41***
Psychological symptoms	25.7	7.07	14.45	3.64	13.14***

*****p<0.001**

The data in the above table shows that, in overall level before administration of ginger tea level of dysmenorrhea symptoms was high (M=48.42, SD=4.78) in comparison with the level of dysmenorrhea symptoms after administration of ginger tea (M=27.45, SD=3.97). The difference was found statistically significant at p<0.001 level of confidence and can be attributed to the effectiveness of ginger tea upon dysmenorrhea. Hence the null hypothesis Ho_1"There will be no significant difference between the level of dysmenorrhea among students before and after administration of ginger tea" was rejected.

The data from the table also reveals domain wise level of symptoms of dysmenorrhea. Before administration of ginger tea the physiological and psychological symptoms were high (M=22.72, SD=4.29) (M=25.7, SD=7.07) in comparison with the level of dysmenorrhea after administration of ginger tea (M=13.15, SD=2.88) (M=14.45, SD=3.64) respectively. The difference was found statistically significant at $p<0.001$ level of confidence and can be a attributed to the effectiveness of ginger tea upon dysmenorrhea. Hence the null hypothesis Ho_1"There will be no significant difference between the level of dysmenorrhea among students before and after administration of ginger tea" was rejected.

Table .9

Frequency and Percentage Distribution of Level of Satisfaction of Ginger Tea Administration among Students upon Dysmenorrhea.

N=40

Level of satisfaction	Frequency	Percentage
Highly satisfied	39	97.5 %
Satisfied	1	2.5 %
Dissatisfied	-	-
Highly dissatisfied	-	-

The data from the above table shows that majority of the students with dysmenorrhea were highly satisfied (97.5%) with the ginger tea administration up on dysmenorrhea.

Table .10

Frequency and Percentage Distribution of Level of Satisfaction of Ginger Tea Administration among Students upon Dysmenorrhea.

N=40

Level of satisfaction	Highly satisfied		Satisfied		Dissatisfied		Highly dissatisfied	
	n	P	n	p	N	p	n	P
Related to researcher	38	95%	2	5%	-	-	-	-
Ginger tea administration	38	95%	2	5%	-	-	-	-

It can be inferred from the above table that, majority of the students was highly satisfied with the researcher and the administration of ginger tea upon dysmenorrhea (95%).

Table .11

Association between Selected Demographic Variables and Level of Pain among Students Before and After Administration of Ginger Tea

N=40

Demographic variables	Before administration of ginger tea				After administration of ginger tea			
	Mild	Moderate	Severe	χ^2	No pain	Mild	Moderate	χ^2
	n	n	n		n	n	n	
Age in years								
18 – 20	-	7	10	1.448 (d.f =2)	1	13	3	0.112 (d.f =2)
21 – 23	1	12	10		2	17	4	
Religion								
Hindu	1	3	8	5.895 (d.f =4)	1	7	4	3.289 (d.f =4)
Christian	-	15	12		2	22	3	
Muslim	-	1	-		-	1	-	
Educational Level								
I Year	-	5	3	4.433 (d.f =6)	1	6	1	5.343 (d.f =6)
II Year	1	4	5		2	7	1	
III Year	-	4	3		-	6	1	
IV Year	-	6	9		-	11	4	
Family history of dysmenorrhea								
Present	1	12	13	0.567 (d.f =2)	2	22	2	5.003 (d.f =2)
Absent	0	7	7		1	8	5	
Type of diet								
Vegetarian	-	-	-	-	-	-	-	-
Non vegetarian	1	19	20		3	30	7	

It can be inferred from the table that, there was no significant association between the selected demographic variables and level of pain among students before and after administration of ginger tea. Hence null hypothesis Ho_2"There will be no significant association between the selected demographic variables and the level of dysmenorrhea among students before and after administration of ginger tea" was retained.

Table .12

Association between the Selected Demographic Variables and Level of Dysmenorrhea Symptoms among Students Before and After Administration of Ginger Tea

N=40

Demographic variables	Before administration of ginger tea				After administration of ginger tea		
	Mild n	Moderate n	Severe n	χ^2	Mild n	Moderate n	χ^2
Age in years							
18 – 20	0	13	4	5.194 (d.f =2)	17	0	0.758 (d.f =1)
21 – 23	5	16	2		22	1	
Religion							
Hindu	2	8	2	0.676 (d.f =4)	11	1	2.393 (d.f =2)
Christian	3	20	4		27	0	
Muslim	0	1	0		1	0	
Educational Level							
I Year	1	7	0	4.779 (d.f =6)	8	0	1.709 (d.f =3)
II Year	1	6	3		10	0	
III Year	1	6	0		7	0	
IV Year	2	10	3		14	1	
Family history of dysmenorrhea							
Present	3	20	3	0.849 (d.f =2)	26	0	1.905 (d.f =1)
Absent	2	9	3		13	1	
Type of diet							
Vegetarian	-	-	-	-	-	-	-
Non vegetarian	5	29	6		39	1	

Data presented in the table shows that there was no significant association between the selected demographic variables and level of dysmenorrhea symptoms among students before and after administration of ginger tea. Hence the null hypothesis Ho_2"There will be no significant association between selected demographic variables and the level of dysmenorrhea among students before and after administration of ginger tea" was retained.

Table .13

Association between the Selected Clinical Variable and Level of Pain among Students Before and after Administration of Ginger Tea.

N=40

Clinical variables	Before administration of ginger tea				After administration of ginger tea			
	Mild	Moderate	Severe	χ^2	No pain	Mild	Moderate	χ^2
	n	n	n		n	n	n	
Age at menarche								
10 - 12 years	0	6	7	0.546	0	9	4	3.468
13 - 15 years	1	13	13	(d.f =2)	3	21	3	(d.f =2)
Weight in Kg								
31 – 40	0	1	0		0	1	0	
41 – 50	1	7	7		1	11	3	
51 – 60	0	9	12	3.491	1	17	3	4.633
Above 60	0	2	1	(d.f = 6)	1	1	1	(d.f =6)
Body Mass Index								
Less than 18.4	0	1	0		0	1	0	
18.5 - 22.5	0	14	16	4.669	2	22	6	0.855
22.6 - 29.9	1	4	4	(d.f = 4)	1	7	1	(d.f =4)
Duration of menstruation								
3 - 5 days	1	13	15		3	20	6	
6 - 8 days	0	6	5	0.601 (d.f = 2)	0	10	1	2.263 (d.f =2)
Onset of pain								
Before menstruation	0	3	5	0.773	0	6	2	1.071
First 24 - 36 years	1	16	15	(d.f = 2)	3	24	5	(d.f =2)
Quality of pain								
Radiating pain	1	6	7		3	8	3	
colicky pain	0	3	2	2.209	0	5	0	7.710
Spasmodic pain	0	10	11	(d.f = 4)	0	17	4	(d.f =4)

Data presented in the table revealed that there was no significant association between the selected clinical variables and level of pain among students before and after administration of ginger tea. Hence null hypothesis Ho_3 “There will be no significant association between the selected clinical variables and the level of dysmenorrhea among students before and after administration of ginger tea” was retained.

Table. 14

Association between the selected clinical variables and level of dysmenorrhea symptoms among students before and after administration of ginger tea.

N=40

Clinical variables	Before administration of ginger tea				After administration of ginger tea		
	Mild	Moderate	Severe	χ^2	Mild	Moderate	χ^2
	n	n	n		n	n	
Age at menarche							
10 - 12 years	0	10	3	3.297	12	1	2.130
13 - 15 years	5	19	3	(d.f=2)	27	0	(d.f = 1)
Weight in Kg							
31 – 40	0	0	1		1	0	
41 – 50	2	12	1	7.611	15	0	0.928
51 – 60	3	15	3	(d.f=6)	20	1	(d.f = 3)
Above 60	0	2	1		3	0	
Body Mass Index							
Less than 18.4	0	0	1	5.881	1	0	0.342
18.5 - 22.5	4	22	4	(d.f=4)	29	1	(d.f = 2)
22.6 - 29.9	1	7	1		9	0	
Duration of menstruation							
3 - 5 days	5	18	6	5.755	28	1	0.389
6 - 8 days	0	11	0	(d.f=2)	11	0	(d.f = 1)
Onset of pain							
Before menstruation	1	7	0	1.810	8	0	0.256
First 24 - 36 years	4	22	6	(d.f=2)	31	1	(d.f = 1)
Quality of pain							
Radiating pain	3	9	2		14	0	
colicky pain	2	3	0	7.9720	5	0	0.928
Spasmodic pain	0	17	4	(d.f=4)	20	1	(d.f = 2)

Data presented in the table revealed that there was no significant association between the selected clinical variables and level of dysmenorrhea symptoms among students before and after administration of ginger tea. Hence the null hypothesis Ho_3"There will be no significant association between selected clinical variables and the level of dysmenorrhea among students before and after administration of ginger tea" was retained.

Summary

This chapter has dealt with analysis and interpretation of data obtained by the researcher. The analysis of the result showed that the level of dysmenorrhea among students was reduced after administration of ginger tea. The difference was statistically significant at $p<0.001$ level. This implied that ginger tea has effect on dysmenorrhea.

Chapter V

Discussion

CHAPTER V

DISCUSSION

STATEMENT OF THE PROBLEM

A Pre Experimental Study to Assess the Effectiveness of Ginger Tea upon Dysmenorrhea among Students at Apollo College of Nursing Chennai.

Objectives of the Study

1. To assess the level of dysmenorrhea among students before and after administration of ginger tea.
2. To assess the level of knowledge among students regarding dysmenorrhea and its management.
3. To determine the effectiveness of ginger tea upon dysmenorrhea by comparing the level of dysmenorrhea among students before and after administration of ginger tea.
4. To identify the level of satisfaction among students regarding administration of ginger tea upon dysmenorrhea.
5. To find out the association between the selected demographic variables and clinical variables upon the level of dysmenorrhea among students before and after the administration of ginger tea.

The intervention for this study was implemented on 40 students with dysmenorrhea. This was conducted in the Hostel of Apollo College of Nursing, Chennai. The effect of the ginger tea was assessed after the administration. Their level

of pain and symptoms were assessed before and after the administration of ginger tea. The level of satisfaction among the participants was assessed after the administration of ginger tea.

The Discussion is presented under the following headings

- Demographic variables of students with dysmenorrhea.
- Clinical variables of students with dysmenorrhea.
- Knowledge level of the students regarding dysmenorrhea and its management.
- Level of pain and symptoms during dysmenorrhea among students
- Mean and standard deviation of level of pain and symptoms during dysmenorrhea among students before and after administration of ginger tea.
- Assessment of level of satisfaction of students after the administration of ginger tea upon dysmenorrhea.
- Association between selected demographic and clinical variables upon the level of pain and symptoms during dysmenorrhea among students before and after administration of ginger tea.

Demographic variables of students with dysmenorrhea.

The study revealed that most of the students with dysmenorrhea were in the age group of 21-23 years (57.5%) they belong to Christianity (67.5%) had family history of dysmenorrhea (65%) and all of them were non-vegetarians (100%). A significant percentage of them were studying in fourth year B.Sc Nursing (37.5%).

The findings indicate that dysmenorrhea increases as adolescent matures and is due to the ovulation which appears 1-2 years after menarche. Anovulatory bleeding is painless, because both estrogen and progesterone are necessary for primary dysmenorrhea. It is experienced only with ovulatory cycle. It shows that late teens and early twenties are vulnerable to this condition. Slap (2003) in his study found that the incidents of dysmenorrhea increases as adolescent mature. At 12 years of age the prevalence of dysmenorrhea is 38%, which increases up to 66% - 77% by 17 years of age and above.

The study findings will help the community health nurse to identify dysmenorrhea related problems when they examine the adolescents either in health centre, school /college or community. It also suggests the importance of conducting school health programs to prevent, treat and create awareness on menstrual problems and hygienic practices.

The result indicates that, the student's family history of dysmenorrhea is proven to be a familial aspect. Pain tolerance is also based on the family history. This finding was supported by Rostami (2007) in her study which was significantly correlated with maternal and siblings' dysmenorrhea. This opens the nurses' knowledge to enquire about the familial practice to manage dysmenorrhea either to stop the harmful practices or to encourage the healthy practices like pelvic rocking exercises and non pharmacological measures.

This is an important finding that non-vegetarian diet may be an aggravating factor for dysmenorrhea according to Wong and Perry. So the nurse has to educate the

adolescents about the reduction in the intake of animal foods mainly red meat and high fat diet during menstruation to reduce the pain and symptoms of dysmenorrhea and to encourage the intake of fruits and vegetables.

Clinical variables of the students with dysmenorrhea

In this study most of the students with dysmenorrhea attained menarche at the age of 13-15 years (67.5%) weighed between 51-60 kg (52.5%) had duration of menstruation as 3-5 days (72.5%) and experienced spasmodic pain (52.5%). Majority of the students had body mass index between 18.5-22.5 (75%) and onset of pain in the first 24-36 hours (80%).

It was found that most of them are suffering from dysmenorrhea for 6-7 years. It reflects the gap of prompt health services. This reveals that dysmenorrhea is a neglected part of women's health and the importance of health professionals to provide care in such conditions, many studies shows that age at menarche is now reduced to 10-12 years comparing to olden days, so the community nurse needs to concentrate on early adolescents also.

It could be interpreted as students with more body mass index may prone to have menstrual irregularities and result in severe form of dysmenorrhea. The above findings were consistent with the study of influences of body mass index and slimming habits on menstrual cycle irregularity by Douchi et .al. (2003) which revealed trunk, leg fat ratio with menstrual disorders was 1.48 ±0.38, $p<0.01$.Trunk fat mass was also significantly higher in women with menstrual disorders than in controls 14.9 ±4 kgs 12.9 ±3.8 kgs $p<0.05$. This study concluded that body mass index is associated with menstrual

disorders. Thus the study is interpreted that increased body mass index and body weight influences dysmenorrhea. So the nurse has to educate the students about the importance of weight reduction and dietary management.

The release of most prostaglandin during menstruation occurs in the first 48 hours and which will result in uterine contraction, which coincides with the greatest intensity of pain and symptoms This finding suggests that providing effective intervention is necessary in first day of menstruation, which will eliminate the situation of work or school absenteeism.

Level of knowledge among students regarding dysmenorrhea and its management

Majority of the students had adequate knowledge with regard to menstruation (80%) and dysmenorrhea management (75%) and most of them had adequate knowledge on dysmenorrhea (57.5%).

This data reveals that students were aware about the dysmenorrhea and its management and the importance of menstrual hygiene and healthy practices. Nair et.al (2005) in her study found that 45.5% of the girls had knowledge of menstruation prior to menarche, and 28% had lower levels of awareness. While in the ICMR Delhi survey awareness was found to be 66.1%. These variations can be due to the different regions surveyed and differences in the socioeconomic status and literacy status of the study subjects in the respective studies. So it can be interpreted that sex education in the school and college curriculum is essential and conducting school health programs based on menstrual hygiene is indispensable.

Level of pain and symptoms during dysmenorrhea among students before and after administration of ginger tea.

The findings of the present study reveals most of the students experienced severe pain (50%) and moderate symptoms (72.5%) during dysmenorrhea before administration of ginger tea. Whereas after administration of ginger tea majority of them experienced mild pain (75%) and mild symptoms (97.5%). And a significant percentage of them reported no pain (7.5%).

Most of the students had moderate level of physiological symptoms (72.5%) and a significant percentage of them experienced moderate level of psychological symptoms (42.5%) before administration of ginger tea. Whereas after administration of ginger tea in both physiological and psychological symptoms majority of them experienced mild symptoms (90%, 85%). Here ginger tea acts as an inhibitor of prostaglandin synthesis; therefore it reduces the severity of pain and symptoms. The result attributed to the effectiveness of ginger tea upon dysmenorrhea.

Ozgoli et al. (2009) conducted a study to compare the effects of ginger, mefanamic acid, and ibuprofen on pain in women with primary dysmenorrhea and result shows that ginger was effective as mefanamic acid and ibuprofen. This was a double-blind comparative clinical trial with 150students as Participants having primary dysmenorrhea from the dormitories of two medical universities. Students in the ginger group took 250 mg capsules of ginger rhizome powder four times a day for three days from the start of their menstrual period. Members of the other groups received 250 mg mefenamic acid or 400 mg ibuprofen capsules, respectively, on the same protocol.

A verbal multidimensional scoring system was used for assessing the severity of primary dysmenorrhea. Severity of disease, pain relief, and satisfaction with the treatment were compared between the groups after one menstruation**.** At the end of treatment, severity of dysmenorrhea decreased in all groups at p _ 0.05. No severe side effects occurred.

This above findings reveals that ginger act as an anti-inflammatory similar to those of mefenamic acid and ibuprofen, and it can be used for the treatment of dysmenorrhea with no severe side effects. More over ginger is cheap and easily available so this practice can be encouraged in any population.

Mean and standard deviation of level of pain and symptoms among students during dysmenorrhea

The mean and standard deviation of level of pain and symptoms among students before administration of ginger tea (M=6.60, SD=1.59) (M=48.42, SD=8.78) were high in comparison with the level of pain and symptoms during dysmenorrhea among students after administration of ginger tea (M=2.47, SD=1.11) (M=27.45, SD=3.97).

The mean and standard deviation of physiological and psychological symptoms (M=22.72, SD=4.29) (M=25.7, SD=7.07) were high before administration of ginger tea. Whereas after administration of ginger tea it was low (M=13.15, SD=2.88) (M=14.45, SD=3.64). The difference was found statistically significant at $p<0.001$ level and can be attributed to the effectiveness of ginger tea upon dysmenorrhea among students. Hence the null hypothesis Ho_1 was rejected.

Jenabi (2009) conducted a semi-experimental study in Iran with 80 students; they were randomly divided into two equal groups of study and control. Participants in the study group were asked to drink two cups of ginger tea a day, 2 days prior to menstruation and first 3 days of their menstrual cycle for a period of 3 months. Data were gathered by four separate questionnaires. They were applied before the commencement of intervention, on 1st month and 3rd month, respectively. Data analysis was carried out using Wilcoxon and Chi-square tests. After 1 month of using ginger tea, study group had a statistically significant difference in experiencing menstrual pain; distress and anxiety compared to those of control one. There were statistically significant difference between two groups in summation of means of four questionnaires, on 1st and 3rd months of using ginger tea ($p<0.001$).

Considering this evidence, it seems that ginger had antiprostaglandin effects and gingerols may be the principle active ingredient for these effects. Dysmenorrhea is sometimes associated with nausea and vomiting, and ginger also works to alleviate these symptoms. The efficacy of ginger in treatment of chemotherapy induced delayed nausea and vomiting in pregnancy and after surgery has been reported. So ginger can be practiced as a safe method to reduce dysmenorrhea and associated symptoms.

Level of satisfaction of ginger tea administration among students upon dysmenorrhea

Being satisfied with the treatment carries immense significance in an interventional study. It was observed in the present study that majority of students were highly satisfied with the researcher and ginger tea administration upon dysmenorrhea

(95%). Thus the investigator concluded that ginger is easily available, cheap and easy to prepare, pleasant to taste and free of side effects which might be the reason for the high satisfaction of the students which was assessed after supplementation of ginger tea.

Association between selected demographic variables and clinical variables upon the level of dysmenorrhea among students before and after administration of ginger tea.

The significant findings of this study observed that there was no significant association between selected demographic variables like age, religion, educational level, and family history of dysmenorrhea, type of diet and level of pain and symptoms during dysmenorrhea among students before and after administration of ginger tea. Thus the null hypothesis Ho_2 was retained.

In the present study, the investigator found that there was no significant association between the selected clinical variables like age at menarche, weight, body mass index, duration of menstruation, onset and quality of pain and level of pain and symptoms during dysmenorrhea among students before and after the administration of ginger tea. Thus the null hypothesis Ho_3 was retained.

This implies that irrespective of demographic and clinical variables the level of pain and symptoms during dysmenorrhea among students were the same. So the research study concluded that demographic variables and clinical variables have not altered the level of dysmenorrhea among students.

In conclusion this study has thrown light on a low risk, inexpensive, easily accessible treatment modality which aimed to decrease the level of dysmenorrhea.

Summary

This chapter has dealt with the discussion of findings in the present study which includes demographic variables, clinical variables, level of pain and symptoms during dysmenorrhea, level of knowledge regarding dysmenorrhea and its management among students, level of satisfaction of ginger tea administration upon dysmenorrhea among students, and association between the selected demographic variables and clinical variables upon the level of dysmenorrhea.

Chapter VI

Summary, Conclusion, Implications and Recommendations

CHAPTER VI

SUMMARY, CONCLUSION, IMPLIMENTATION, AND RECOMMENDATIONS

SUMMARY

This study was conducted to determine the effectiveness of ginger upon dysmenorrhea among students.

The Objectives of the Study

1. To assess the level of dysmenorrhea among students before and after administration of ginger tea.
2. To assess the level of knowledge among students regarding dysmenorrhea and its management.
3. To determine the effectiveness of ginger tea upon dysmenorrhea by comparing the level of dysmenorrhea among students before and after administration of ginger tea.
4. To identify the level of satisfaction among students regarding administration of ginger tea upon dysmenorrhea.
5. To find out the association between the selected demographic variables and clinical Variables of students upon the level of dysmenorrhea before and after the administration of ginger tea.

Null Hypotheses

Ho_1 There will be no significant difference between the level of dysmenorrhea among students before and after administration of ginger tea.

Ho_2 There will be no significant association between selected demographic variables and the level of dysmenorrhea among students before and after administration of ginger tea.

Ho_3 There will be no significant association between selected clinical variables and the level of dysmenorrhea among students before and after administration of ginger tea.

Conceptual frame work of the study was developed on the basis of Kristen. M. Swanson's modified theory of caring. A pre-experimental design was adopted for this study .The sample size of the study was 40 students with dysmenorrheal. Purposive sampling technique was adopted for the selection of students.

The instruments used for this study data collection was demographic variable proforma, clinical variable proforma**,** structured questionnaire to assess the knowledge among students regarding dysmenorrhea and its management, numerical pain rating scale, rating scale on symptoms of dysmenorrhea, rating scale on the level of satisfaction of administration of ginger tea upon dysmenorrhea. A pilot study was conducted with 10 students. The main data collection was done in the month of June and July 2011 for 8 weeks. The level of dysmenorrhea was assessed before and after administration of ginger tea. Ginger tea was made by boiling 3 gm of fresh ginger in 100ml of water and make 50ml and adding 2 tea spoons of honey, which was given

twice in a day for five days starting from 2 days prior to the onset of menstruation and continued up to the third day of menstruation. Ginger tea was administered 100ml/day (50ml in morning and night).

The major findings of the study

Demographic variables of the students with dysmenorrhea

Most of the students with dysmenorrhea were in the age group of 21-23 years (57.5%) they belong to Christianity (67.5%) had a family history of dysmenorrhea (65%) and all of them were non vegetarians (100%). A significant percentage of them were study in fourth year B.Sc Nursing (37.5 %).

Clinical variables of the students with dysmenorrhea

Most of the students attained menarche at the age of 13-15years (67.5%) and weighting between 51-60 Kg (52.5%) and duration of menstruation as 3-5 days (72.5%) and experienced spasmodic pain (52.5%). Majority of the students had body mass index between18.5-22.5 (75%) and onset of pain in first 24-36 hours (80%).

Level of knowledge among students regarding dysmenorrhea and its management

Majority of the students had adequate knowledge with regard to menstruation (80%) and dysmenorrhea management (75%) and most of them had adequate knowledge on dysmenorrhea (57.5%).

Level of pain and symptoms during dysmenorrhea among students before and after administration of ginger tea

The findings of the present study reveals most of the students experienced severe pain (50%) and moderate symptoms (72.5%) during dysmenorrhea before administration of ginger tea. Whereas after administration of ginger tea, majority of them experienced mild pain (75%) and mild symptoms (97.5%). And a significant percentage of them reported no pain (7.5%).

Most of the students had moderate level of physiological symptoms (72.5%) and a significant percentage of them experienced moderate level of psychological symptoms (42.5%) before administration of ginger tea. Whereas after administration of ginger tea in both physiological and psychological symptoms majority of them experienced mild symptoms (90%, 85%).

Mean and standard deviation of level of pain and symptoms during dysmenorrhea among students before and after administration of ginger tea.

The mean and standard deviation of level of pain and symptoms among students before administration of ginger tea (M=6.60, SD=1.59) (M=48.42, SD=8.78) were high in comparison with the level of pain and symptoms during dysmenorrhea among students after administration of ginger tea (M=2.47, SD=1.11) (M=27.45, SD=3.97).

The mean and standard deviation of physiological and psychological symptoms (M=22.72, SD=4.29) (M=25.7, SD=7.07) were high before administration of ginger tea. Whereas after administration of ginger tea it was low (M=13.15, SD=2.88) (M=14.45,

SD=3.64). The difference was found statistically significant at $p<0.001$ level and can be attributed to the effectiveness of ginger tea upon dysmenorrhea among students.

Level of satisfaction of ginger tea administration among students upon dysmenorrhea

Majority of the students were highly satisfied with the researcher and ginger tea administration upon dysmenorrhea (95%). And in overall 97.5% of them are highly satisfied.

Association between the selected demographic variables and level of dysmenorrhea among students

No significant association was found between selected demographic variables and level of pain and symptoms during dysmenorrhea among students before and after administration of ginger tea. This shows that demographic variable has no influence in the level of dysmenorrhea.

Association between the selected clinical variables and level of dysmenorrhea among students

No significant association was found between the selected clinical variables and level of pain and symptoms during dysmenorrhea before and after administration of ginger tea among students. Thus it could be interpreted that clinical variables has no influence on the level of dysmenorrhea.

Conclusion

The findings of this study indicate that the dysmenorrhea is a major health problem faced by the students, which need a non-pharmacological healing approach. Ginger tea is a simple, easy to implement, easily available, no notable side effects and most acceptable choice to reduce the level of dysmenorrhea among students. The results supported the incorporation of herbal medicine to relieve dysmenorrhea**.**

Implications

The findings of the study recommended the implications on nursing practice, nursing education, nursing administration and nursing research.

Nursing practice

The findings of the study revealed that most of the girls in the age group of 21-23 years are suffering from dysmenorrhea. The assessment of pain during menstruation is important and integrated part of nursing assessment of each adolescent and is particularly important for improving the quality of life.

It was identified from the study findings that, ginger tea is effective in reducing pain and symptoms and enhancing comfort during menstruation of students with dysmenorrhea. In context the public health nurse take over the awareness program about the new modalities of dysmenorrhea management.

Nursing education

With the emerging health care trends nursing education must focus on innovations to enhance the nursing care. Integration of theory and practice is a vital need and it is important in nursing education. Nursing curriculum should be incorporated with alternative and complimentary therapies which will fulfill the concept of holistic care. The nursing students should be taught the importance of relieving dysmenorrhea and enhance the quality of life. Therefore the nursing students should be introduced with the non pharmacological methods of pain relief along with the pharmacological methods to reduce pain in dysmenorrhea, knowledge about the factors which enhance and reduce the dysmenorrhea and can be educated about the locally available herbals and other alternatives.

Nursing administration

With technological advances and ever growing challenges of health care means the administrators have a responsibility to provide nurses with substantive continuing education opportunities. Periodically organize formal training program for nurses to know about other alternative therapies which can be practiced in main stream of treatment. She can arrange for conference, in service education, workshop which might be useful for the staffs. Encouraging the students and staffs to disseminate the findings will be healthy.

Nursing research

There is a need for extensive research in this study. It opens a big avenue for research as quality and cost effectiveness so as to generate more scientific data base on which implementation of new interventions is possible. Encourage further research studies on effectiveness of ginger tea upon dysmenorrhea. Disseminate the findings via conferences, seminars, publications in professional, national, international journals and worldwide website. More researches need to be conducted with the use of locally available resources in reducing dysmenorrhea. Meta analysis of studies to be conducted to finalize the treatment modalities which will serve the community by introducing a effective modality than ineffective one.

Recommendations

This study can be conducted:

- On larger sample to generalize the results.
- Among different groups like adolescents, young women, married women, teenagers etc.
- In different settings with similar facilities.
- To evaluate the effectiveness of pharmacological agents (brufen, meftalspas and cyclopam) and non pharmacological agents (rose water, green tea etc.)
- A time series design with the post test at interval of 2, 4, 6 months to assess the administration of ginger tea, and its effectiveness in reducing the level of dysmenorrhea.
- On the quality of life of women with dysmenorrhea.

References

REFERENCES

Agarwal, A. & Agrwal, A. (2010). A study of dysmenorrhea during menstruation in adolescent girls. **Indian journal of community medicine.** 35(1),159-14.

Adolescent and youth reproductive health in India policy project (2003). Retrieved on January 7, 2011 from http://www.policyproject.com/pub/countryreports/ARH-india.pdf.

Cheng, H. F.(2011*)*.Dysmenorrhea and related factors in Taiwanese adolescent girls. Retrieved on November 10, 2011 from http://www.il.proquest.com/en-US/products/dissertations.

Connor, P.O. (2009). Ginger eases aches and pain; A study. Retrieved on October 7, 2011 from http://www.nerve.in/news:253500313059.

Davis, A. R. & Westhoff,O.(2005). Oral contraceptives for dysmenorrhea in adolescent girls. **Indian journal of obstetrics and gynecology.** 106(1), 97-104**.**

Douchi, T.et al.(2002).Relationship of upper obesity to menstrual disorders. **ACTA obstetrician et gynecologyica scandinavica**. 81(2), 147-150.

Dutta, D.C. (2005). **Text book of gynecology including contraception**. 5th edition New Central Book Agency Calcutta 125 –128.

Dyrain, D. (2004). Primary dysmenorrhea assessment and management update. **Journal of midwifery woman's health.** 49 (6), 520-8.

Erns,E. & Pittler, M. H. (2006). Efficacy of ginger for nausea and vomiting; Asystematic review of randomized clinical trial. **British journal of anesthesia.** 84 (3), 367-371.

Esan, G. O. & Esimai, O. E. (2008). Awareness of menstrual abnormality amongst college students in urban area of le-life in Nigeria**. Indian journal of community medicine.** 35(1), 63-66.

Ginger its role in metabolism (2003). **ICMR bulletin** 2003, 33(6**).** Retrieved on August16, 2011from http://www.icmr.org.in.

Ginger root power (2009). Retrieved on November 18, 2010 from http://www.healthyfellow.com/251/ginger-rootpower.

Grontved, A. & Pittler, M. H. (2005). Ginger root against seasickness, a controlled trail on the open sea. Retrieved on December 17, 2011 from http:/www.singleherbs.org/gingerpharma.

Han, S. et al. (2006). Effect of Aromatherapy on Symptoms of Dysmenorrhea in College Students: A Randomized Placebo-Controlled Clinical Trial. **The Journal of Alternative & Complementary Medicine.** 12 (6), 535-541.

Harel, Z. (2005) . A contemporary approach to dysmenorrhea in adolescents. **Journal of pediatric Drugs**. 4(12), 797-805.

Heather, S. O. et al. (2009). Studies assess ginger for treatment of nausea during Pregnancy and menstrual pain. **Herbal gram, American botanical council.**84, 28- 29**.**

Hong, G. & Yang, W. (2010). Prevalence of dysmenorrhea in female students in a Chinese university: A prospective study**. Journal of Health.** 2(4).

Iorono, V. & Burani, R. (2008). Acupuncture treatment of dysmenorrhea. Resistant to conventional medical treatment. Journal **of evidence-based complementary and alternative medicine.** 5(2), 227-230.

Janable, E.S. (2010). Ginger tea for relief of primary dysmenorrhea**. Iranian journal of Obstetrics, gynecology and infertility.**13(1),39-42**.**

Jones, A. E. (2004). Managing the pain of primary dysmenorrhea and secondary dysmenorrhea. **Nursing times.** 82 (5), 1303-8.

Karthiga, V. et al.(2010). Menstrual problems and pattern of consultation among adolescent school girls in Pondicherry. **Indian journal of medical specialities.** 36 (2), 140-142.

Latthe**,** P. et al. (2005). WHO systematic review of prevalence of chronic pelvic pain: a neglected reproductive health morbidity. **BMC Public health.**8(6).

Lowdermilk, D. & Perry, S.E. (2004). **Maternity And Women's Health Care** (9th ed.). Missouri: Mosby Publishers. 157 –159.

Mahajan, B.K. (2010). **Methods In Biostatistics** (7th ed.). New Delhi: Jaypee Brothers Medical Publishers. 120 –136.

Nair, P. et al. (2005). Awareness and practice of menstruation and pubertal changes amongst un married females in rural area of east Delhi. **Indian journal of community medicine**. 32, 156-1.

Ozgoli, G. et al. (2009). Comparison of effects of ginger, mefanamic acid and ibuprofen on pain in women with primary dysmenorrhea. **The journal of alternative and complementary medicine.** 15(2),129–132.

Philips, S. & Ruggier, R . (2005). Zingiber Officinale (ginger) an anti-emetic for day case surgery. Retrieved on December 4, 2011 from http:/www.singleherbs.org/ gingerpharma.

Pillitteri, A. (2010).**Maternal and child health nursing** (6th ed.). Lippincott Williams & Wilkins Publications, Missouri.1395-1397

Polit, D. F. & Beck, C.T. (2010). **Nursing Research** (8th ed.). Lippincott Williams and Wilkins. Philadelphia. 260 – 270, 452 – 457, 595 – 600.

Prabhakara, G.N. (2006). **Biostatistics** (1st ed.). New Delhi: Jaypee Brothers Medical Publishers. 162 –170.

Priya,V. (2010). An experimental study to assess the effectiveness of acupressure therapy on dysmenorrhea among nursing students in Chennai. Masters Dissertation, Dr. MGR Medical University, Chennai. (Un published thesis).

Queen .B. (2010). Effectiveness of mint leaves paste on dysmenorrhea. **The journal of nurse international**. 3(4), 13-15.

Rostami, M. (2007). The study of dysmenorrhea in high school girls. **Pakistan journal of medical sciences.** 23(6).

Ryan, J.L & Hechler, C.E. (2009). Ginger reduces acute chemotherapy-induced nausea a URCCCOP study. Retrieved on March 10, 2011 from http://www.ncbi.nlm.nih.gov /pmc/articles/PMC2853792.

Slap, G. B. (2003). Menstrual disorders in adolescence. **Best practice research clinical obstetrical and gynecology.** 17(5), 75-92.

Sun, L.H. & Ge, J.J. (2009). Randomized controlled clinical study on ginger-partitioned moxibustion for patients with cold damp stagnation type of primary dysmenorrhea. Retrieved on March 4, 2011 from http://www.ncbi.nlm.nih.gv/pubmed-20209976.

Susan, A. (2007). **Midwifery, new born and women's health nursing**. (1st ed) Lippincott Publications Philadelphia -154- 155.

Unsal, A. et al. (2009). Prevalence of dysmenorrhea and its effect on quality of life among a group of female university students. **Upsala Journal of Medical Sciences**. 115 (2).138-145.

Vasantha, S. (2009). Primary dysmenorrhea. **pondicherry journal of nursing** ,14(12).

Vutyavanich, T. (2006). Ginger for nausea and vomiting in pregnancy, randomized, double masked placebo-controlled trail. Retrievied on march 10,2011 from http://www.ncbi.nlm.nih.gov/pubmed/11275030.

Weissmen, A.M. et al.(2004).The natural history of primary dysmenorrhea. A longitudinal study. **International journal of obstetrics and gynecology**.111 (4). 345-52.

Wong, D.C. & Perry, S.E. (1998). **Maternal – Child Nursing Care** (1st ed.). Philadelphia: Mosby Publishers. 345 – 348.

Yang, J. J. et al. (2008). Influence of ginger-partitioned moxibution on serum number and plasma endothelin-1contents in patients with primary dysmenorrhea of cold-damp stagnation type. Retrieved on November 12, 2010 fromhttp://www.ncbi.nlm.nih.gv/ pubmed-19288904.

Appendices

APPENDIX I

LETTER GRANTING PERMISSION TO CONDUCT STUDY

Apollo College of Nursing

(Recognised by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

CO/0120/11 **15.03.11**

To

Ms.Dhanya Skaria
M.Sc (N) II Year
Apollo College of Nursing
Chennai – 95

Respected Sir / Madam,

Sub.: To request permission for research study – Reg.

Greetings! With reference to your letter, you are permitted to conduct a study on **"A pre experimental study to assess the effectiveness of ginger tea upon dysmenorrhea among students at Apollo college of nursing, Chennai."**

Thanking You,

Dr. LATHA VENKATESAN
PRINCIPAL

IS/ISO 9001:2000

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai - 600 095.
Ph. : 044 - 2653 4387 Tele fax : 044 - 2653 4923 / 044- 2653 4386

APPENDIX II

ETHICS COMMITTEE CLEARANCE LETTER

Ethics Committee

Apollo HOSPITALS
TOUCHING LIVES

22 June 2011

To
Ms. Dhanya Skaria
1st Year M.Sc (Nursing)
Dept. of Community Health
Apollo College of Nursing, Chennai
Tamil Nadu, India

Ref: A pre experimental study to assess the effectiveness of ginger tea upon dysmenorrhea among students at Apollo College of nursing, Chennai

Sub: Your letter dated 9 June, 2011 for approval of the above referenced project and its related documents

Dear Ms. Dhanya Skaria,

Ethics committee – Apollo Hospitals has received the following document submitted by you related to the conduct of the above – referenced study.

- Project "A pre experimental study to assess the effectiveness of ginger tea upon dysmenorrhea among students at Apollo College of nursing, Chennai"
- Study Performa
- Informed consent form

The above-mentioned documents have been reviewed and approved (through expedited review) by the Chairman, Vice-Chairman and Member Secretary at a specially convened meeting of the Ethics Committee. The study is hereby approved to be conducted by you in the presented form

The following Ethics Committee members were present at the meeting held on 22 June, 2011

Name	Profession	Position in the committee
Mr. S. S. Narayanan	Ethicist	Chairman
Dr.Radha Rajagopalan	Clinician	Vice - Chairman
Dr. Jayanthi Swaminathan	Sr.GM Clinical & Collaborative Research	Member Secretary

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai - 600 006
Tel : 91 - 44 - 2829 3333 Extn : 6008, 91 - 44 - 2829 5465 Extn : 6639 Fax : 91 - 44 - 2829 4449
E - Mail : ecapollochennai@gmail.com

Ethics Committee

Apollo HOSPITALS
TOUCHING LIVES

After due ethical and scientific consideration, the Ethics Committee has approved the above presentation submitted by you.

The Ethics Committee is constituted and works as per ICH-GCP, ICMR and revised Schedule Y guidelines.

Yours sincerely,

Date 22/6/11

Dr. Radha Rajagopalan
Ethics Committee – Vice Chairman
Apollo Hospitals, Chennai

DR. RADHA RAJAGOPALAN
Vice Chairman
Ethics Committee
Apollo Hospitals Enterprise Limited
Chennai-600 006. Tamil Nadu.

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai - 600 006
Tel : 91 - 44 - 2829 3333 Extn : 6008, 91 - 44 - 2829 5465 Extn : 6639 Fax : 91 - 44 - 2829 4449
E - Mail : ecapollochennai@gmail.com

APPENDIX III

PLAGIARISM ORIGINALITY REPORT

	Plagiarism Detector - Originality Report
	Plagiarism Detector Project: [http://plagiarism-detector.com] Application core verrsion: 557

This report is generated by the unregistered Plagiarism Detector Demo version!

- 600 initial words analysis only
- partial plagiarism detection
- some important results are excluded
- no external file processing

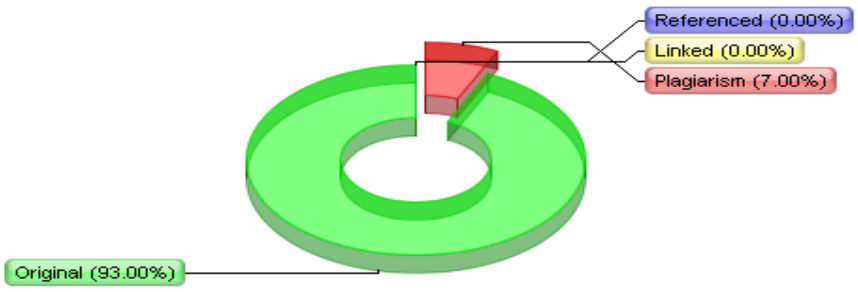
Register the software - get the complete functionality!

Originality report details:

Generation Time and Date:	1/22/2012 21:51:37 PM
Document Name:	Dhanya full thesis.doc
Document Location:	C:\Documents and Settings\Administrator\Desktop\ Dhanya full thesis.doc
Document Words Count:	14903

Important Hint: to understand what exactly is meant by any report value - you can click "Help Image". It will navigate you to the most detailed explanation at our web site.

Plagiarism Detection Chart:



<=""">

Referenced 0% / Linked 0%

Original - 93% / 7% - Plagiarism

APPENDIX IV

LETTER REQUESTING OPINIONS AND SUGGESTIONS OF EXPERTS FOR

ESTABLISHING CONTENT VALIDITY OF RESEARCH TOOL

From
MS.Dhanya Skaria,
M.Sc., (Nursing) Second Year,
Apollo College of Nursing,
Chennai - 600095.

To
Forwarded Through:
Dr. Latha Venkatesan,
Principal,
Apollo College of Nursing.

Sub: **Requesting for opinions and suggestions of experts for establishing content validity for Research tool**.

Respected Madam,

I am a postgraduate student of the Apollo College of Nursing. I have selected the below mentioned topic for research project to be submitted to The Tamil Nadu Dr. M.G.R Medical University, Chennai as a partial fulfillment of Masters of Nursing Degree.

TITLE OF THE TOPIC:

A pre experimental study to assess the effectiveness of ginger tea upon dysmenorrhea among students at Apollo college of nursing, Chennai.

With regards may I kindly request you to validate my tool for its appropriateness and relevancy. I am enclosing the Background, Need for the study, Statement of the problem, Objectives of the study, Demographic Variable Proforma, clinical Variable Proforma, structured questionnaire to assess the level of knowledge regarding dysmenorrhea and its management, numerical Pain rating Scale, rating scale on symptoms of dysmenorrhea, and Rating Scale on Level of Satisfaction of students with dysmenorrhea on administration of ginger tea upon dysmenorrhea for your reference. I would be highly obliged and remain thankful for your great help if you could validate and send it as soon as possible.

Thanking you,

Yours sincerely,
(DHANYA SKARIA)

APPENDIX V

LIST OF EXPERTS FOR CONTENT VALIDITY OF THE TOOL

1. Dr. Latha Venkatesan, M.Sc., M.Phil., Ph.D.,
Principal,
Apollo College of Nursing,
Chennai – 95.

2. Dr.Alpha Khakhar, MD.,
Consultant Urogynaecologist,
Apollo main Hospitals,
Chennai – 6.

3. Prof. Mrs. Lizy Sonia. A, M.Sc (N).,
Vice Principal,
Apollo College of Nursing,
Chennai – 95.

4. Mrs. Shobana. G, M.Sc (N).,
Professor,
Apollo College of Nursing,
Chennai – 95.

5.Mrs.Nesa Sathya Satchi, M.Sc (N).,
Reader
Apollo College of nursing,
Chennai-95

6. Mrs.Helen, M. M.Sc (N).,
Lecturer,
Apollo college of Nursing, Chennai – 95.

7. Mrs. Shenbahavalli, V. M.Sc (N).,
Lecturer,
Apollo College of Nursing,
Chennai – 95.

APPENDIX VI

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the Research tool of Ms. Dhanya skaria, II year M.Sc (Nursing) student who is undertaking a research study on **"'A Pre Experimental Study to Assess the Effectiveness of Ginger Tea upon Dysmenorrhea among Students at Apollo College of Nursing, Chennai."**

Signature of the expert

APPENDIX VII

RESEARCH PARTICIPANTS CONSENT FORM

Dear participants,

I am DHANYA SKARIA, M.Sc Nursing Student of Apollo College of Nursing, Chennai. As a part of my study, I have selected a research project on "A Pre Experimental Study to Assess the Effectiveness of Ginger Tea upon Dysmenorrhea among Students at Apollo College of Nursing, Chennai".

I hereby seek your consent and cooperation to participate in the study. Please be frank and honest in your response. The information collected will be kept confidential and anonymity will be maintained.

Signature of the Researcher

I ……., hereby give my consent to participate in the study.

Signature of the Participant

APPENDIX VIII

CERTIFICATE FOR ENGLISH EDITING

TO WHOOMS EVER IT MAY CONCERN

This is to certify that the dissertation "**A pre experimental study to assess the effectiveness of ginger tea upon dysmenorrhea among students at Apollo College of Nursing, Chennai"** by Ms. Dhanya Skaria, II Year M.Sc (N), Apollo College of Nursing was edited for English language appropriateness by

Signature

K. SANKARARAJI B.Sc.,M.A.,M.Ed.,
M.A., P.B. [illegible], D.S.A.C.M.T.
Teacher in English (HS.)
T.T.D. Sri Venkateswara H.S. School,
Vellore - 632001.

APPENDIX IX

DEMOGRAPHIC VARIABLE PROFORMA OF STUDENTS WITH DYSMENORRHEA

Purpose

This Proforma is used to measure the demographic variables such as age, educational level, religion, family history, type of diet.

Instruction

- Please put a tick mark (√) in the following options.
- Please be frank in answering.

Identification data:

Sample no:

1. **Age in years:**
   - 1.1 18-20 ☐
   - 1.2 21-23 ☐
   - 1.3 24-26 ☐
   - 1.4 >26 ☐

2. **Religion**
   - 2.1 Hindu ☐
   - 2.2 Christian ☐
   - 2.3 Muslim ☐
   - 2.4 Others ☐

3. Educational level

3.1 I year ☐

3.2 II Year ☐

3.3 III year ☐

3.4 IV year ☐

4. Family history of dysmenorrhea

4.1 Present ☐

4.2 Absent ☐

5. Type of diet

5.1 Vegetarian ☐

5.2 Non vegetarian ☐

APPENDIX X

CLINICAL VARIABLE PROFORMA OF STUDENTS WITH DYSMENORRHEA

Purpose

This Proforma is used to assess the clinical variables such as age at menarche, weight in kilogram, body mass index, No. of days of menstrual flow, on set of menstrual pain, duration of pain, and quality of pain.

Instructions

- Please put a tick mark (√) in the following options.
- Please be frank in answering.

1. Age at menarche

1.1 10 -12 years ☐

1.2 13-15years ☐

1.3 > 15 yrs ☐

2. Weight in Kg

2.1 31-40 ☐

2.2 41-50 ☐

2.3 51-60 ☐

2.4 Above 60 ☐

3. Body mass index (kg/m2)

3.1 < 18.4 ☐

3.2 18.5 - 22.5 ☐

3.3 22.6 – 29.9 ☐

3.4 >30 ☐

4. Duration of menstruation

4.1 3-5 days ☐

4.2 5-7 days ☐

5. Onset of pain

5.1 Before menstruation ☐

5.2 First 24 – 36 hrs ☐

5.3 Last 48- 72 hrs ☐

6. Quality of pain

6.1 Radiating pain ☐

6.2 Colicky pain ☐

6.3 Spasmodic pain ☐

BLUE PRINT FOR SRUCTURED QUESTIONNAIRE TO ASSESS THE KNOWLEDGE LEVEL OF STUDENTS REGARDING DYSMENORRHEA AND ITS MANAGEMENT

SL.NO	ITEM GROUPING	ITEM NO	NUMBER OF ITEMS	PERCENTAGE
1	Questions related to menstruation	1,2,3,4,5,6	6	30
2.	Questions related to Dysmenorrhea	7,8,9,10,11,12,13,14	8	40
3.	Questions related to management of dysmenorrhea	15,16,17,18,19,20	6	30

APPENDIX XI

STRUCTURED QUESTIONNAIRE TO ASSESS THE KNOWLEDGE LEVEL OF STUDENTS REGARDING DYSMENORRHEA AND ITS MANAGEMENT

Purpose: This structured questionnaire schedule is used to assess the knowledge level of students regarding dysmenorrhea and its management.

Instructions The structured questionnaires consist of multiple choice questions. Please read the questions and the answers given. Place a (✓) tick mark against the right answer in respective box for each question. Please be frank in your responses. The information collected will be kept confidential and anonymity will be maintained.

Sample No : ☐

1. What do you mean by menstruation?

a. White discharge ☐

b. Abdominal pain every month ☐

c. Ovulation ☐

d. Cyclic physiological uterine bleeding ☐

2. How many phases are present in menstrual cycle?

a. 2 ☐

b. 3 ☐

c. 4 ☐

d. 5 ☐

3. What is the normal length of menstrual cycle?

a. <15 days ☐

b. 15-20 days ☐

c. 21-35 days ☐

d. > 35 days ☐

4. What is the meaning of menarche?

a. Pregnancy ☐

b. First menstrual period. ☐

c. Cessation of menstruation ☐

d. Excessive bleeding ☐

5. Which of the following is the common cause for absenteeism in adolescents during menstruation?

a. Vomiting ☐

b. Headache ☐

c. Painful menstruation. ☐

d. Constipation ☐

6. Which of the following is one of the symptoms that predispose menstruation ?

a. Good mood ☐

b. Fever ☐

c. Breast tenderness ☐

d. Cold ☐

7. What do you mean by dysmenorrhea?

a. Bleeding more than 7 days ☐

b. Irregular bleeding ☐

c. Heavy bleeding ☐

d. Painful menstruation. ☐

8. What is premenstrual syndrome?

a. Physical and psychological symptoms occur before menstrual period. ☐

b. Only physical changes related to menstruation. ☐

c. Only psychological changes related to menstruation ☐

d. Cyclical bleeding from uterus ☐

9. What is the cause of primary dysmenorrhea?

a. Pelvic inflammatory diseases ☐

b. Increased production of prostaglandin ☐

a. Heavy activities. ☐

b. Imbalanced nutrition. ☐

10 Which type of dysmenorrhea has pelvic diseases?

a. Primary dysmenorrhea ☐

b. Secondary dysmenorrhea ☐

c. Membranous dysmenorrhea ☐

d. Pre menstrual syndrome ☐

11. What are all the common associated symptoms in dysmenorrhea?

a. Radiating pain to back, thigh, legs ☐

b. Nausea, vomiting, fatigue ☐

c. Dizziness, mild breast tenderness, head ache ☐

d. All of the above ☐

12.Which of the following is psychological symptom associated with dysmenorrhea?

a. Peripheral edema ☐

b. Depression ☐

c. Body pain ☐

d. Vomiting ☐

13. Which group of women are more confined to get dysmenorrhea?

a. Adolescents ☐

b. Middle age ☐

c. Married ☐

d. Old age ☐

14. What are all the factors that influence dysmenorrhea?

a. Stress, Family history ☐

b. Obesity, smoking ☐

c. Anxiety, tension ☐

d. All of the above ☐

15. Which of the following are the home remedies for dysmenorrhea?

a. Accupresure, nerve stimulation ☐

b. Hot compress, ginger tea ☐

c. Analgesics, medical advice ☐

d. Surgery, acupuncture ☐

16. Which of the following drug is mainly used to relieve dysmenorrhea?

a. Cetrizine ☐

b. Atenolol ☐

c. Mefanamic acid ☐

d. Folic acid ☐

17. What type of food should be avoided during dysmenorrhea?

a. Green leafy vegetables ☐

b. Sea foods ☐

c. Fruits ☐

d. Animal foods ☐

18. Which of the following minerals has to be taken during dysmenorrhea ?

a. Magnesium & calcium ☐

b. Iodine & phosphorous ☐

c. Sodium &chloride ☐

d. Potassium &copper ☐

19. What do you mean by menstrual hygiene?

a. Personal hygiene ☐

b. Food hygiene ☐

c. Perineal hygiene ☐

d. Environmental hygiene ☐

20. Why should the pads be changed frequently?

a. To relieve pain ☐

b. To prevent infection ☐

c. To reduce associated symptoms ☐

d. To regulate the period ☐

Scoring Key for the Level of Knowledge

Scores	**Percentage**	**Level of knowledge**
0 – 10	<50	Inadequate
11 – 15	51 – 75	moderately adequate
16 – 20	< 76	Adequate

ANSWER KEY

1. **d**
2. **b**
3. **c**
4. **b**
5. **c**
6. **c**
7. **d**
8. **a**
9. **b**
10. **b**
11. **d**
12. **b**
13. **a**
14. **d**
15. **b**
16. **c**
17. **d**
18. **a**
19. **c**
20. **b**

APPENDIX XII

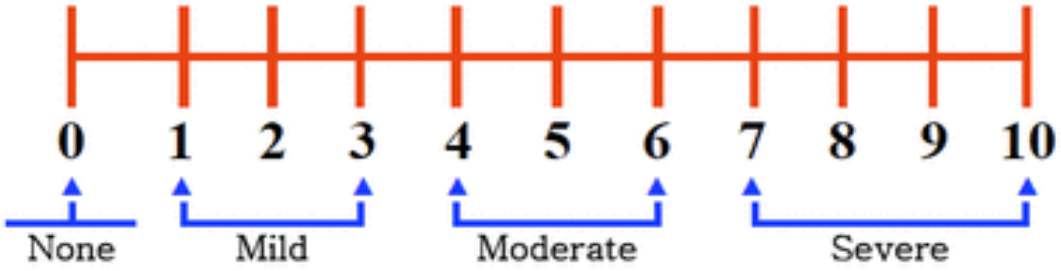
NUMERICAL PAIN RATING SCALE

Purpose

The numerical pain rating scale is used to assess the level of pain experienced by the student with dysmenorrhea.

Instructions

- Please circle the number which denotes the level of pain experienced by you.



SCORING OF PAIN

Score		Level of pain
0	-	No pain
1-3	-	Mild pain
4-6	-	Moderate pain
7-10	-	Severe pain

Level of Pain	Pain score
Pre-test	
Post-test	

BLUE PRINT FOR LEVEL OF DYSMENORRHEA SYMPTOMS

NO	CONTENT	ITEMS	TOTAL ITEMS	PERCENTAGE
1.	Physiological symptoms	1,2,3,4,5,6,7,8,9,10	10	50%
2.	Psychological symptoms	11,12,13,14,15,16,17,18,19,20	10	50%

APPENDIX XIII

RATING SCALE ON SYMPTOM OF DYSMENORRHEA

Purpose

This rating scale is designed to assess the physiological and psychological symptoms of dysmenorrhea.

Instruction

- Please respond to all the questions listed below.
- Please put tick mark against your preferred answer.

This information collected will be kept confidential and will be used for research purpose.

SL NO	ITEMS	ALMOST NEVER 1	RARELY 2	MOST OFTEN 3	ALWAYS 4
	Physiological symptoms				
1.	Lower abdominal pain				
2.	Back ache				
3.	Head ache				
4.	Dizziness				
5.	Increased body temperature				
6.	Sweating				
7.	Vomiting & nausea				
8.	Breast tenderness				
9.	Constipation				
1o.	General sense of malaise				

	Psychological symptoms				
11.	Irritability				
12.	Crying				
13.	Insomnia				
14.	Anger				
15.	Difficulty in concentration				
16.	Restlessness				
17.	Frequent changes of mood				
18.	Anorexia				
19.	Nervousness				
20.	Agitation				

Scoring

Almost never - 1

Rarely - 2

Most often - 3

Always - 4

The total score is 80

Level of Symptoms		**Scoring**	**Percentage**
No symptoms	-	< 20	< 25%
Mild	-	20 – 39	25-49%
Moderate	-	40 – 59	50- 74%
Severe	-	60 – 80	75-100%

BLUE PRINT FOR LEVEL OF SATISFACTION

S.NO	CONTENT	ITEMS	TOTAL	PEERCENTAGE (%)
1.	Questions related to the researcher	1,2,3	3	30
2.	Questions related to ginger administration	4,5,6,7,8,9,10	7	70
		TOTAL	**10**	**100%**

APPENDIX XIV

RATING SCALE ON THE LEVEL OF SATISFACTION OF THE ADMINISTRATION OF GINGER TEA AMONG STUDENTS UPON DYSMENORRHEA

Purpose

This rating scale is designed to assess the level of satisfaction of the participants.

Instruction

There are 10 items below. Kindly read the items. Response extends from highly satisfactory, satisfactory, dissatisfactory, and highly dissatisfactory. Put a tick mark against your answers. Describe your responses freely and frankly. The responses will be kept confidential and used for research purpose only.

S.NO	ITEMS	HIGHLY SATISFIED 4	SATISFIED 3	DIS SATISFIED 2	HIGHLY DISSATISFIED 1
1.	Explanation regarding Ginger tea administration.				
2.	Approach of the researcher.				
3.	Time spend by the researcher.				
4.	Duration of ginger tea administration.				
5.	Timing of ginger tea administration.				

6. 7. 8. 9. 10.	Comfortable with temperature of ginger tea. Faster relief of dysmenorrhea. Reduces the duration of pain Cheapest method for dysmenorrhea Negligible side effects				

Scoring

Highly satisfied - 4

Satisfied -3

Dissatisfied - 2

Highly dissatisfied -1

The total score is converted into percentage and graded as given below.

Scoring key

SCORING	INTERPRETATION
Highly Satisfied	76-100%
Satisfied	50-75%
Dissatisfied	25-50%
Highly dissatisfied	< 25%

APPENDIX XV

DATA CODE SHEET

AGE – Age in years

1. 18-20 years
2. 21-23 years
3. 24-26 years
4. >26 years

REL - Religion

1. Hindu
2. Christian
3. Muslim
4. Others

EDU- Educational Level

1. I Year
2. II Year
3. III Year
4. IV Year

FHD –Family history of dysmenorrhea

1. Present
2. Absent

TOD - Type of diet

1. Vegetarian
2. Non-vegetarian
3. Ova vegetarian

AAM-Age at menarche

1. 10-12 years
2. 13-15 years
3. >15 years

WT- Weight in Kg

1. 31-40
2. 41-50
3. 51-60
4. >60

BMI- Body Mass Index

1. <18.4
2. 18.5-22.5
3. 22.6-29.5
4. >30

DOM-Duration of menstruation

1. 3-5 Days
2. 6-8 Days

OOP-Onset of pain

1. before menstruation
2. First 24-36 hours
3. Last 48-72 hours

QOP-Quality of pain

1. Radiating pain
2. Colicky pain
3. Spasmodic pain

D.V- Demographic Variable

C.V-Clinical variable

LOK-Level of knowledge

1. Inadequate knowledge -<50%
2. Moderately adequate -51-75%
3. Adequate knowledge - >75%

LOP-Level of pain

1. No pain - 0
2. Mild pain - 1-3
3. Moderate pain - 4-6
4. Severe pain - 7-10

SOD-Symptoms of dysmenorrhea

1. No pain - <20
2. Mild pain - 20-39
3. Moderate pain - 40-59
4. Severe pain - 60-80

LOS-Level of satisfaction

4. Highly satisfied - 76-100%
3. Satisfied - 50-75%
2. Dissatisfied - 25-50%
1. Highly dissatisfied -<25%

SCO-Score

APPENDIX XVI
MASTER CODE SHEET

SL.N	D. VARIABLE					C. VARIABLE						LOK		LOP				SOD				LOS	
														Pre		post		Pre		Post			
	AGE	REL	ED	FHD	TOD	AAM	WT	BMI	DOM	OOP	QOP	Sc	Int	Sc	Int	Sc	Int	Sc	Int	Sc	Int	Sc	Int
1	2	2	3	2	2	2	2	2	1	2	3	13	2	4	3	1	2	49	3	25	2	33	4
2	1	2	4	1	2	2	2	2	2	2	3	16	3	7	4	3	2	48	3	22	2	36	4
3	2	2	2	1	2	1	2	2	2	2	1	12	2	8	4	3	2	50	3	30	2	36	4
4	2	1	4	1	2	2	2	2	1	2	2	19	3	8	4	2	2	38	2	20	2	35	4
5	1	1	1	2	2	2	2	2	1	2	2	13	2	6	3	3	2	41	3	25	2	34	4
6	1	2	2	1	2	2	3	3	1	2	3	17	3	4	3	2	2	51	3	26	2	39	4
7	2	2	4	1	2	2	2	2	2	2	3	18	3	6	3	3	2	44	3	26	2	35	4
8	2	1	4	1	2	2	3	2	1	1	3	19	3	8	4	3	2	47	3	28	2	38	4
9	2	2	4	1	2	2	3	2	1	2	1	19	3	5	3	2	2	34	2	30	2	37	4
10	2	2	4	1	2	1	3	3	1	2	3	20	3	9	4	2	2	58	3	24	2	38	4
11	1	2	2	1	2	2	1	1	1	2	1	17	3	6	3	3	2	60	4	28	2	35	4
12	2	1	2	1	2	2	2	3	1	2	1	18	3	3	2	0	1	37	2	26	2	36	4
13	2	2	4	2	2	1	2	2	1	1	3	15	2	6	3	4	3	46	3	22	2	38	4
14	1	2	2	1	2	2	4	2	1	2	1	14	2	6	3	0	1	63	4	28	2	39	4
15	2	2	3	2	2	2	3	2	1	1	2	19	3	5	3	2	2	38	2	24	2	33	4
16	1	2	3	1	2	2	3	2	2	2	3	19	3	4	3	1	2	42	3	30	2	40	4
17	1	2	2	1	2	2	3	2	1	2	1	12	2	7	4	3	2	44	3	24	2	35	4
18	2	1	4	1	2	1	4	3	1	1	3	18	3	5	3	1	2	56	3	28	2	33	4
19	2	2	4	1	2	2	2	2	1	2	3	18	3	8	3	4	3	45	3	26	2	36	4
20	2	1	4	2	2	1	3	2	1	2	3	20	3	10	4	4	3	67	4	40	3	35	4
21	2	2	4	2	2	1	3	2	1	2	3	18	3	6	3	2	2	56	3	32	2	35	4
22	1	1	2	2	2	2	3	2	1	2	1	15	2	7	4	4	3	53	3	28	2	34	4
23	1	2	2	1	2	1	3	3	1	2	3	17	3	8	4	2	2	66	4	24	2	38	4
24	1	1	4	2	2	1	3	2	1	2	3	20	3	10	4	4	3	66	4	32	2	35	4
25	1	2	2	1	2	2	3	2	1	2	1	16	3	7	4	3	2	51	3	28	2	36	4
26	1	2	1	1	2	2	2	2	2	2	1	14	2	6	3	2	2	42	3	26	2	38	4
27	2	2	3	1	2	1	4	3	2	2	1	18	3	8	4	4	3	41	3	28	2	32	4
28	2	2	4	2	2	2	2	2	1	2	3	16	3	8	4	3	2	61	4	30	2	36	4
29	1	2	1	2	2	2	2	2	1	1	2	15	2	8	4	2	2	58	3	34	2	38	4
30	2	1	3	1	2	1	3	3	2	2	3	17	3	6	3	4	3	40	3	28	2	35	4
31	1	1	1	2	2	2	2	2	1	1	1	14	2	7	4	4	3	46	3	26	2	30	3
32	2	2	1	1	2	1	3	3	2	2	3	15	2	6	3	3	2	48	3	24	2	36	4
33	2	2	1	2	2	2	3	2	1	2	1	15	2	5	3	0	1	38	2	22	2	40	4
34	2	1	3	1	2	2	3	3	2	1	3	17	3	8	4	3	2	50	3	30	2	36	4
35	2	3	4	2	2	2	2	2	1	2	1	18	3	6	3	2	2	42	3	32	2	38	4
36	1	2	1	1	2	1	3	2	2	1	3	17	3	7	4	3	2	40	3	34	2	37	4
37	1	2	2	1	2	2	3	2	1	2	2	19	3	5	3	4	3	47	3	30	2	38	4
38	2	2	1	1	2	1	2	2	2	2	3	18	3	6	3	2	2	50	3	32	2	38	4
39	1	2	3	2	2	2	3	2	1	2	3	18	3	7	4	3	2	40	3	28	2	36	4
40	2	1	4	1	2	2	3	2	1	2	1	17	3	8	4	2	2	44	3	24	2	39	4