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A Study to Evaluate the Effectiveness of Structured Teaching Program on Knowledge and Attitude Regarding Environmental Pollution and Control among the School Going Children in a Selected Setting

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Abstract

The relationship between the living organisms and the environment is very important to maintain the harmony and smooth survival of the living organisms. Our health depends on our environments' health. The changing patterns of the diseases made us to think and to inculcate the knowledge needed to preserve a safe environment to the present and future generation. Hence it had been decided to educate school children on environmental pollution prevention and control. A quantitative approach with pre experimental design was adopted in the study. Ethical clearance was obtained from the Institutional Ethical Committee. The study was conducted in the Government Victoria Girls Higher Secondary School, Palakkad. Fifty children between the age group of 10 -12 were selected by using simple random sampling technique. The data were collected by using a structured questionnaire method. The knowledge and attitude of the children on environmental pollution prevention and control were assessed. After conducting the pre-test, structured teaching program was conducted to the selected samples by using lecture method. Pamphlets were given at the end of the session. After a week post test was conducted. The study results revealed that there is significant improvement in the knowledge and attitude of children on environmental pollution prevention and control. Hence, it can be concluded that educating the children may be helpful in preserving and maintaining safe environment for the present and future generation.

"Earth provides enough to satisfy every man's need, but not every man's greed" - *Mahathma Gandhi*

Key words: *Environment, pollution, control, school children*

Introduction

All living organisms in the earth depend on the environment for their survival. Among all the creatures of God, human beings are considered as supreme. We constantly interact with the environment. We make lots of changes in it to make our life convenient. Most of the time we do not realize that we are spoiling the environment which includes land, water, air etc., by our activities. It is believed that the industries are the major cause for environmental pollution, but individual's greed to have a sophisticated life is costing environmental pollution [1]. We enjoy all the resources gifted by the Mother Nature, but we forget that protecting and preserving the environment is our duty. WHO defines environmental health as "the control of all factors in man's physical environment which exercise harmful effect on physical development, health and survival? WHO also reports that waste water treatment facilities, sewage disposal systems are poor in India? It is also reported that Indian cities alone generate 100 million tons of solid waste in a year. It totally spoils the natural resources. If the same situation continues the earth may not be a conducive place for the human beings to live. Indian Education Commission (1964 – 66) emphasized on including environmental education with school education to create awareness among young children and by adding the responsibility among them to prevent environmental pollution and protect the environment [4]. Environmental education helps people to apply right attitude when encountering the environment. It also

improves the critical thinking, decision making and problem solving skills in day to day activities related to the environment[5].

Need for the study

We experience a massive change in the disease pattern now a day. The growing incidence of cancer and other deadly diseases are the alarming sign to the human society to act now. Recently in New Delhi the daily life of the public was disturbed because of severe air pollution. We are not sure that, Do we breathe safe air? or Do we drink safe water? or Do we take safe food?. In countries like India population explosion is adding fuel to the fire. Pollution is a major challenge to us. We must act now to protect at least the remaining part of nature.

We think someone else will protect the planet. It should start from us. We say the earth is dying, it is not true, and we are killing her. If the same situation continues there won't be any society. Today's children will build tomorrow's nation. Rapid detoriaration in the environment requires environmental education to all concerned [2]. Educating the children is educating the future. Hence it was decided to educate the school children on environmental pollution and its control.

Statement of the problem

A study to evaluate the effectiveness of structured teaching program on knowledge and attitude regarding environmental pollution and control among school going children in Government higher secondary school, Chittur, Palakkad, Kerala.

Objectives

1. Evaluate the effectiveness of structured teaching program on knowledge regarding environmental pollution and control among school going children

2. Evaluate the effectiveness of structured teaching program on attitude regarding environmental pollution and control among school going children

Hypotheses

1. There is a significant difference in the knowledge of school children on environmental pollution and control before and after the intervention.

2. There is a significant difference in the attitude of school children on environmental pollution and control before and after the intervention.

Materials and Methods

Research approach: Quantitative approach was adopted in this study.

Research design: The present study was carried out by using pre experimental design.

Setting: The study was done in Government Victoria Girls' higher secondary school, Chittur, Palakkad.

Target population: The target population for the study is the children studying in the selected school between the age group of 10 to 12 years.

Sample: Fifty children were selected as samples by adopting simple random sampling method.

Data collection: Data were collected by using a structured questionnaire through structured interview method.

Ethical consideration: Obtained ethical clearance from the institutional ethics committee.

Data Analysis

Data were analysed by using both descriptive and inferential statistics. The demographic data were analysed by using percentage analysis. The effectiveness of the intervention was assessed by using paired t test.

Results and Discussion

Majority of the children were at the age of 10. Most of the children are living in a nuclear middle class family. The knowledge of the children on environmental pollution and control. The children were classified into five categories based on the knowledge scores obtained by them in the pre-test and post-test. During the pre-test 40% of them were in the good category and 38% of them were in the very good category. Only 4% were in the excellent category during the pre-test. None of them was in the poor category. In the post-test 58% of the children were progressed to excellent category. 28% were in the very good category. Similarly the children were classified based on their attitude score also. During the pre-test nearly half of them were having very good

attitude. 24% of them had excellent attitude. 22% were having good attitude. None of them were in the poor category. During the post-test 46% of the children had excellent attitude. 40% were with very good attitude and 10% with good attitude. None of them were in the poor category during the post-test.

The effectiveness of the intervention on the knowledge and attitude of children on pollution control was assessed by conducting a paired t test and explained in table 1. The null hypothesis stated was that there is no significant difference in the knowledge and attitude of the children on pollution control before and after the intervention. The mean knowledge score of the children during the pre-test was 6. It was increased to 8.34 in the post test. The calculated t value was 14.57. As the calculated 't value was higher than the table value the null hypothesis was rejected. It can be said that the educational intervention was effective in promoting the knowledge of the children on pollution control. Similarly the attitude of the children also were assessed and presented in table no 2. The pre test attitude score of the children was 7.2 and it was increased to 8.14 during the post test. The calculated t value was 8.98. As the calculated value was higher than the table value it can be said that the intervention is effective in promoting the attitude of the children on pollution control.

Conclusion

Inculcating values on preserving and protecting the environment among the children is one of the most important social responsibilities of every adult. Various modalities like activity based outdoor education, role plays, project methods shall be used to create awareness among young children on environmental protection and preservation [3].A study conducted in West Bengal found that students may not aware about the environmental pollution unless they get in depth knowledge on the sources and effects of environmental pollution [4]. Globally environmental issues are the most important reasons for diseases. Day by day the environment is becoming worse making the human life a difficult one. As per the saying, better late than never, we must realize the importance of preserving and retaining a safe and clean environment. It is found even the breast milk is contaminated. Environmental pollution is major threat right now Indian Cities are facing. Hence, it is high time to take steps to preserve the nature and its environment.

TABLE No 1: Mean, SD and 't' value of pre test and post test on knowledge regarding environmental pollution and control.

S.No.	Aspect	Knowledge		't' test	Table value
		Mean	SD		
1 2	Pre test Post Test	6.06 8.26	1.6 1.73	14.57	0.05

Table No 2: Mean, SD and 't' value of pre test and post test on attitude regarding environmental pollution and control.

S.No.	Aspect	Attitude		't' test	Table value
		Mean	SD		
1. 2.	Pre test Post test	7.2 8.14	1.46 1.6	8.98	0.05

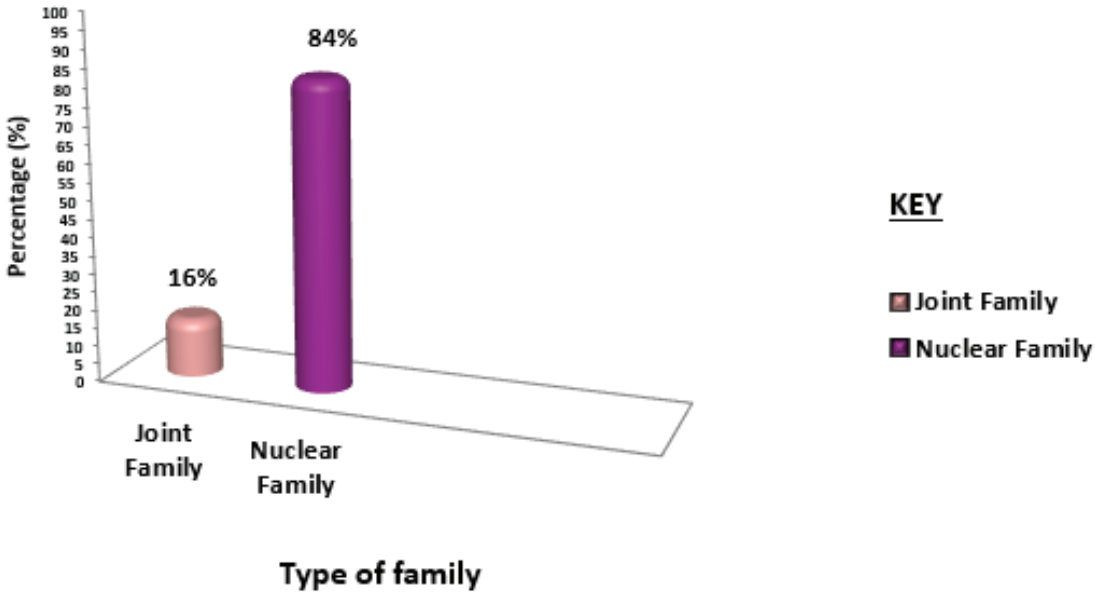

FIGURE 1 DISTRIBUTION OF SAMPLE ACCORDING TO FAMILY TYPE

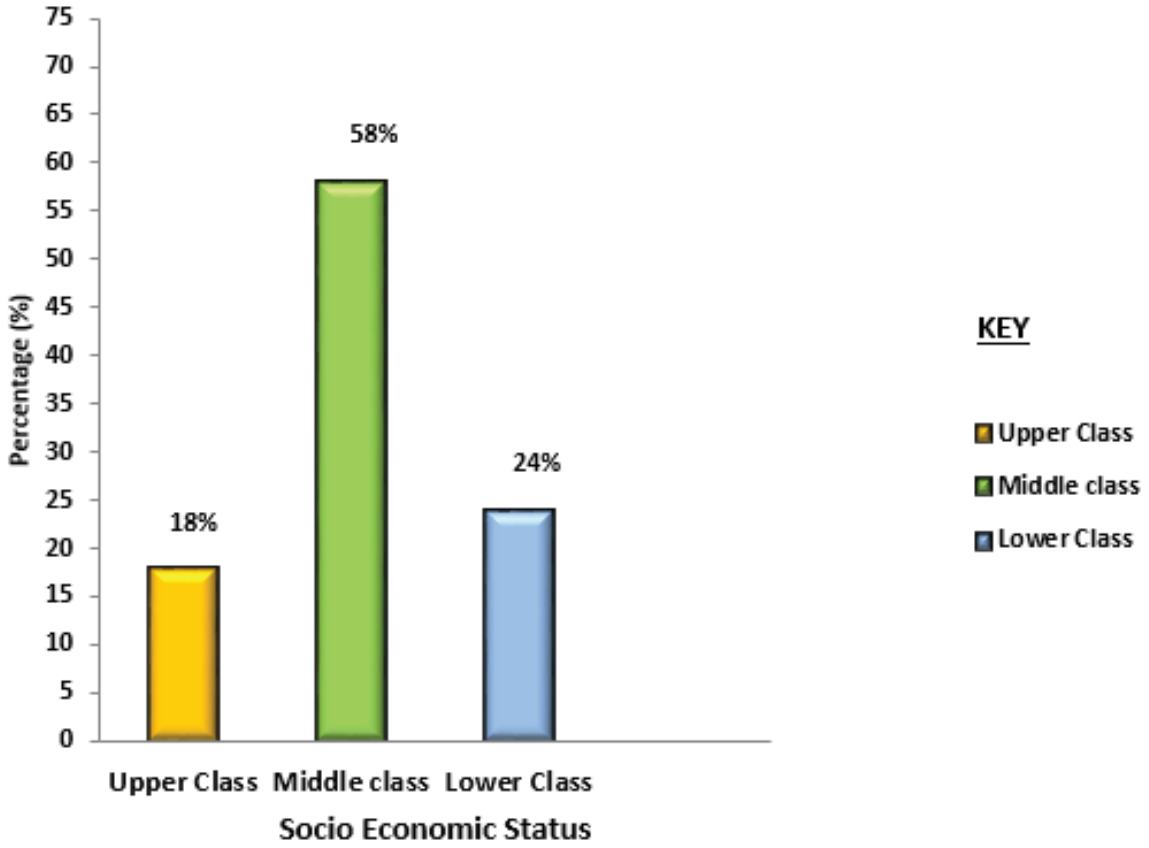

FIGURE 2 DISTRIBUTION OF SAMPLE ACCORDING TO SOCIO ECONOMIC STATUS

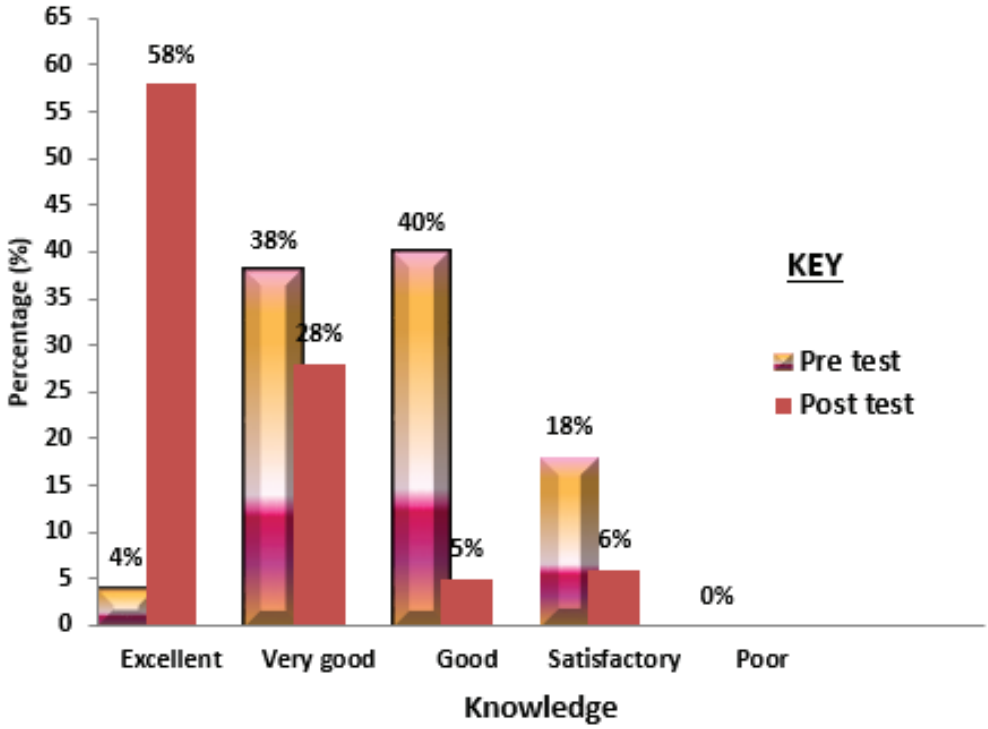

FIGURE 3 PRE TEST AND POST TEST LEVEL OF KNOWLEDGE

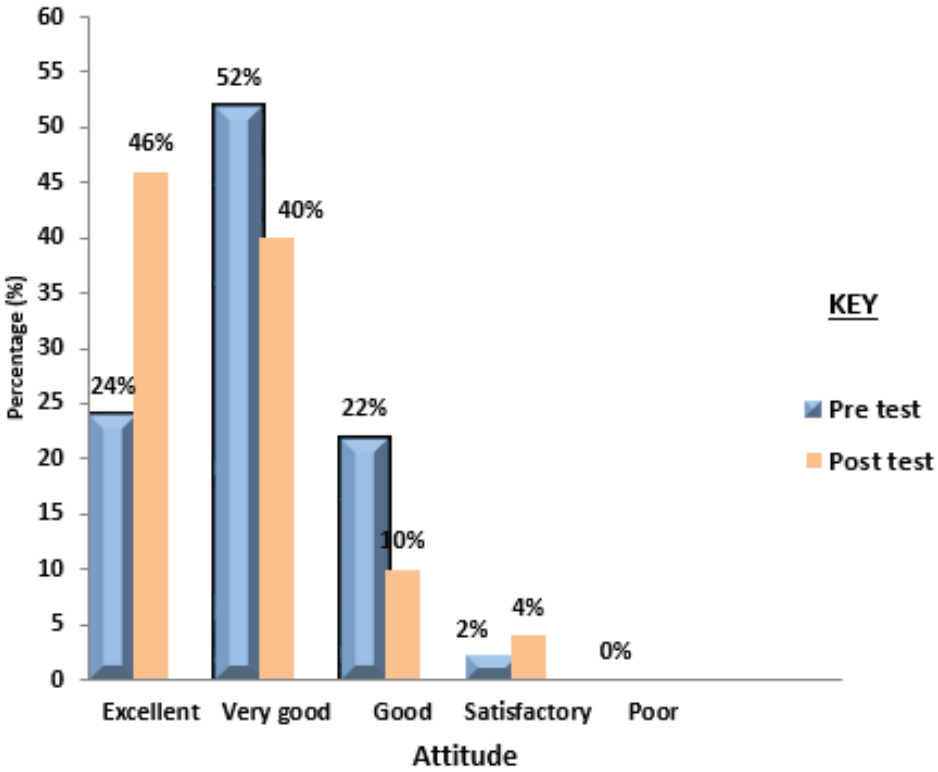

FIGURE 4 PRE TEST AND POST TEST LEVEL OF ATTITUDE

Source of Funding: Self

Conflict of Interest : Nil

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Experience of Psychological Distress: A Qualitative Inquiry Into Female Nursing Students of India

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Abstract

Psychological distress defines as a combination of negative emotional symptoms, such as depression, anxiety, and stress. This study explores qualitatively, analyzes thematically, and identifies the causes and consequences of psychological distress among Indian baccalaureate first-year female nursing students at Kerala University of Health Sciences, South India. The participants' experiences and perspectives are analyzed thematically by using Braun & Clarke's step -by- step method. In-depth semi-structured interviews (ten participants) and focus group discussions (eight participants) were held to acquire an in-depth understanding of the lived experiences. The findings of this qualitative study show that the nursing students endure thought problems (distorted cognitions, distressing thoughts), emotional problems (anxious feelings, emotional stress, depressed mood), behavioral problems (poor social behavior, meaninglessness in life, lack of dedication) physical problems (health-related, academic and clinical issues, financial, family and hostel problems). The researchers found that psychological distress among participants is associated with depression, anxiety, and stress.

Keywords*: Nursing students, Psychological distress, Qualitative Method.*

Introduction

Psychological distress has developed more among ordinary students in advanced education[1,2,3,4]. The majority of scholars take a broader definition of psychological health and considers two elements for definition: psychological well-being *(positive mental health states like life satisfaction)* and psychological distress *(negative mental health states like anxiety and depression)*[5,6]. According to Ridner (2004), after a comprehensive audit of the literature review, psychological distress is regularly rooted in connection with stress, distress, strain, and also it is rarely considered as a distinct notion[7].

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Many studies have revealed that young adults, especially college students, undergo large amounts of perceived stress and psychological disturbance during their studies[8,9.10,11]. Nursing and medicine are professions with a great deal of stress, and the students in these fields experience their profession ahead of schedule through clinical practices during their schooling or training[12].

Nursing students who participate in a wide range of clinical responsibilities in clinical settings may have equal stressors as professional nurses' experience, setting aside their stressors connected with their educational endeavors and individual/social responsibilities[13]. Stress can be harmful to people and prompts physical and psychological distress[14]. This psychological distress may hamper students' academic performance and, consequently, block their quest for the nursing career individually[15]. Stress and psychological distress may also have adverse effects on nursing graduates in a professional career[16].

This qualitative study aims to explore and analyze the experiences of psychological distress among nursing students and describe and interpret its prevalence and determinants. The researchers utilized the Transactional model of stress and coping theory by Lazarus & Folkman (1984) as the studies' theoretical framework[17].

Research Question and Sub-questions

The following question has guided the research:

What are the experiences of psychological distress and its consequences among nursing students?

The following sub-questions were added to explore the area of inquiry further:

1. What is the prevalence of psychological distress among nursing students?

2. What are the determinants of psychological distress for nursing students?

3. What are the causes and consequences of distress?

4. How does distress affect nursing students?

The present study aims to explore qualitatively, analyze thematically and identify the causes and consequences of psychological distress among Indian baccalaureate first-year female nursing students enrolled at Kerala University of Health Sciences, Kerala, South India (December 2019 to February 2020). It also examines the relationships between psychological distress and its influence on their behavior.

Methodology

Research Model

Williams (2007) cites that the qualitative research approach is different from traditional data collection, analysis, and report writing in quantitative research[18]. The qualitative research approach mainly focuses on peoples' lived experiences, reactions, and behaviors[19]. The current study used a qualitative research design to investigate Indian nursing students' psychological distress's views and opinions. To obtain more in-depth information on lived experiences, the researchers also combined interview and focus group methods. The participants' experiences and perspectives are analyzed thematically using Braun & Clarke (2006;2013) step-by-step method[20,21].

Participants

The researchers enlisted baccalaureate first-year nursing students who fall under the age bracket of 18 to 22 (M=19, SD=.816). A purposive sampling technique used to select the participants.

Procedure

The present study has consisted of the first phase (In-depth semi-structured interviews) and the second phase (focus group discussions). To get more reliable data, the researchers conducted an in-depth semi-structured interview. It may help the researchers to get a more subjective and more in-depth understanding of the issues. Focused group discussions are also significant to the participants to get the opportunities to share their experiences, insights, and observations. Besides, it allows the respondents to interact with each other and share their opinions. Therefore, it helped the researchers look at the issues from a different perspective and enhance the research[22]. The first and second phases were taped and transliterated verbatim with participants' approval for efficient qualitative data analysis.

Thematic analysis and guidance

Thematic analysis administered depended on Braun & Clarke (2006; 2013) step -by step method. In the first step, the researchers do cyclical readings of the data, which emerged from the participants' perspectives and lived experiences to understand more. The second step does the initial coding. The present research has more than fifty narratives from the participants. The third step focuses on organizing the sub-themes (grouped data) into themes. In this study, the researchers used the inductive method for data analysis. The fourth step is to focus on to cross-check the main themes based on the initial data. The fifth and sixth steps are tune-up to label the themes and correlate them to the existing literature.

Results and Discussion

Generated themes

Sub-themes and global themes are generated based on the interviewees' lived experiences and insights. In this process, the researchers analyzed and coded the collected data (interviews and focused group discussions)

systematically and scientifically. The current study is analyzed and coded (Table 1) with more than fifty subthemes, eleven organizing themes, and four global themes.

Table 1. Themes identified from Interview and Focus group discussion

Subthemes	Organizing Themes	Global Themes
Distorting thoughts, doubting the ability to cope, self-blaming, suicidal thoughts.	1.1 Distorted cognitions	1.Thought problems
Worrying about the future, overthinking on patients' sufferings and death, negative self-perception.	1.2 Distressing thoughts	
Anxiety, Feeling insecurity, worries, anger, overburden.	2.1 Anxious feelings	2. Emotional problems
Tension, hopelessness, low self-confidence, frustration.	2.2 Emotional stress	
Disappointment, hatred, sadness, discomfort, fatigue.	2.3 Depressed mood	
Unhealthy communications, conflicts with teachers and classmates, lack of cooperation, and interactions.	3.1 Poor social behavior	3.Behavioral problems
Careless life, poor time management, isolation, laziness, low self-confidence, over/under-eating.	3.2 Meaninglessness in life	
Lack of determination and purpose, over-demanding, dissatisfaction, nonattendance, low adjustment, poor hygiene, lack of interest	3.3 Lack of dedication	
Sickness and vomiting, crying, insomnia, nail-biting, low immunological response	4.1 Health-related issues	4.Physical problems
Examinations, deficiency of learning, prolonged standing in clinical postings, patients' reviews and supervisions, bed making and bed bath of the patients	4.2 Academic and clinical issues	
A financial crisis like non-payment of the tuition and hostel fees, homesickness, lack of free time, a low environment of living, family problems	4.3 Financial, family, and hostel problems	

1. Thought problems

First global theme -*Thought problems* derived from two *organizing themes,* namely distorted cognitions and distressing thoughts. Distressing cognitions derived from four subthemes: distorted thoughts, doubting the ability to cope, self-blaming, suicidal thoughts. Second organizing theme (distressing thoughts) obtained from three subthemes: worrying about the future, overthinking on patients' sufferings and death, negative self-perception.

The verbatim of the nursing students' responses to thought problems are as follows:

S2: *"... It is very miserable that I chose this course. It is my fate to undergo these challenges…"*

S4: *"...Sometimes I think of suicide because of overburden. I discussed with friends about my suicidal thoughts..."*

S5: *"...I cannot study well as I think. I am tensed about my future because it seems tough for me to go with this course…"*

S7: *"...memories of clinical postings always haunting me. I cannot see suffering patients…"*

2. Emotional problems

This study's second global theme is emotional problems obtained from three organizing themes: anxious feelings, emotional stress, and depressed mood. Organizing theme; Anxious feelings raised from the subthemes: anxiety, feeling insecurity, worries, anger, overburden. Theme emotional stress; developed from subthemes: tension, hopelessness, low self-confidence, frustration. The subthemes of depressed mood are disappointment, hatred, sadness, discomfort, fatigue.

The verbatim of the nursing students' responses to emotional problems are as follows:

S1: *"... I get angry with my classmates, teachers, even with my parents. There is a tendency to get irritated, angry for silly matters, especially with my roommate in the hostel…"*

S2*: "...I am anxious because I am not able to study my new topics. It is difficult for me to complete my nursing studies..."*

S5: *"... I am depressed because I cannot catch or grasp what is discussing in class. My English also too poor…"*

S8: *"...I feel very sad because I miss my parents and siblings. I hatred this college and hostel because they aren't allowing us to use the phone. They do not provide with land phones. We cannot contact with our parents…"*

3. Behavioral problems

The third global theme, behavioral problems, have three organizing themes. First organizing theme: poor social behavior derived from subthemes, namely: healthy communications, conflicts with teachers and classmates, lack of cooperation, and interactions. The second organizing theme is meaninglessness in life developed from the subthemes, careless life, poor time management, isolated experience, laziness, low self-confidence, and over-under-eating. Third, the organizing theme lacks dedication set from the subthemes, namely lack of determination and purpose, over-demanding, dissatisfaction, nonattendance, low adjustment, poor hygiene, and lack of interest.

The verbatim of the nursing students' responses to behavioral problems are as follows:

S3: *"...I am not caring about the time. I have no time table. I do what I would like to do. Some students always late in the class, clinics. Not ready to submit their requirements in a proper time…"*

S6: *"...It is better to be alone. Here I have no friends. Nobody can understand my difficulty…"*

S7: *"...Our teachers sometimes talk to us as if we are their slaves. Our cultural diversity creates many problems, and even we do not understand what we speak. College information is not properly communicating by the authorities…"*

S8: *"...I cannot adjust to hostel food. College hostel environments are not good..."*

4. Physical problems

This global theme contained three types of

subthemes, namely 1. Health-related, 2. academic and clinical related, 3. financial, family, and hostel problems. Analyzing this organizing theme leads to three subthemes: they are:1. Health-related: Sickness and vomiting, crying, insomnia, nail-biting, inadequate immunological response.2 Academic and clinical: Examinations, deficiency of learning, prolonged standing in clinical postings, patients' reviews, and supervisions, bed making and bed bath of the patients.3 Financial, family, and hostel problems: Financial crisis like non-payment of the tuition and hostel fees, homesickness, lack of free time, a low environment of living, family problems.

The verbatim of the nursing students' responses to physical problems are as follows:

S1: *"...Sometimes I feel discomfort to my body because of this atmosphere in the hospital. I feel headaches and vomiting frequently. I got sick always…"*

S4: *"...I need to stand in patients ward for long times, especially during the time of doctors' rounds…"*

S6: *"...I am very much tensed about my financial situations. I am too much stressed with tuition fees because still not sanctioned bank loan…"*

S7: *"...My parents are not on good terms, so it disturbed me a lot. My father is an irresponsible man. My other is suffering from cancer…"*

This qualitative research population is baccalaureate first-year female nursing students at Kerala University of Health Sciences, Kerala, South India. The present qualitative study aims to explore, analyze, and identify the causes of psychological distress and its consequences among Indian nursing students. The researchers used a purposive sampling method for this study. In-depth interviews and focused group sessions are helped the researchers to look at the issues from a different perspective.

This current qualitative investigation helped the researchers explore the experience of psychological distress among India's baccalaureate female nursing students. This result corroborates the previous international studies conducted among the nursing students[23,24]. Most of the participants described their experiences, surfacing general issues and problems they undergo. The researchers found that psychological distress experiences among participants are associated with depression, anxiety, and stress.

The participants' issues are categorized into four global themes: thought problems, emotional problems, behavioral problems, and physical problems. Distressing thoughts, doubting the ability to cope, self-blaming, suicidal thoughts, worrying about the future, overthinking on patients' sufferings, negative self-perception, etc. are categorized under thought problems. These emotional problems' significant consequences surfaced in participants are the following: anxiety, feeling insecurity, worries, anger, overburden, tension, hopelessness, low self-confidence, frustration, disappointment, hatred, sadness, discomfort, and fatigue.

Unhealthy communications, fight with teachers and classmates, lack of cooperation and interactions, careless life, poor time management, isolated life, laziness, low self-confidence, over/under eating, lack of determination and purpose, over-demanding, dissatisfaction, nonattendance, low adjustment, poor hygiene, lack of interest categorized under behavioral problems. Causes of physical problems are examinations, deficiency of learning, prolonged standing in clinical postings, patients' reviews and supervisions, bed making and bed bath of the patients, a financial crisis like non-payment of the tuition and hostel fees, homesickness, lack of free time, a low environment of living and family problems.

A study found that sixty-four percentages of nursing understudies sophisticated struggles with their staff, and over fifty percentage experienced problems in the clinical setting[25]. As a result, several nursing students are experiencing negative emotional states/conditions, frustration, hurt, stress, anxiety, and anger[26] that may affect their academic and clinical performance; stress may also be related to an immunological response[27] and psychological well-being issues[28]. Above mentioned studies corroborate the results of the current study.

This study is reliable on the specific causes and consequences of psychological distress among nursing students in India. It may guide the researchers to do further investigation on these areas. Lack of statistical support and stringent sampling style are some of the methodological restrictions of this study. An adequate sampling method can be used for future studies and

recommends a longitudinal study to investigate the prevalence and the determinants of psychological distress among nursing students.

Conflict of Interest: There is no conflict of interest involved in this work.

Source of Funding: The authors have not received any financial assistance in executing this research.

Ethical Consideration: The researchers attained the mandatory Ethical Clearance Certificate (GS-2019-PN145) from the Ethics Review Committee of the affiliated University (University of Santo Tomas, Manila, Philippines) of the researchers. All participants cooperated with this project without any conditions.

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Systematic Review as A Research Design: A Brief Overview

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Abstract

Systematic reviews and meta-analyses are proliferating in medical literature. Systematic reviews are conducted widely in medical science to answer focused and specific clinical research questions. Researchers employ a predetermined, explicit and progressive systematic methodology to comprehensively search for, select, formally evaluate, analyze and cumulate the studies which gives results for stated research problem. Meta-analysis; a further statistical step of systematic review is the statistical pooling of the results of studies. Systematic reviews critically appraise and synthesize the best available evidences and findings to provide a conclusion statement in regards to a specific answerable research question. The fame of systematic review and its application are scarce in India especially in nursing science. This paper tries to simply draw basic steps and concepts of Systematic review, along with guidelines and core methodology to be adopted while doing a Systematic review.

Keywords: *Systematic review; Research methods; nursing research, EBN.*

Introduction

Systematic reviews (SR) and meta-analyses (MA) are an inevitable part of evidence-based medicine and evidence based practice, even though as a research designs its concepts are not easily comprehensible for researchers especially for young nursing researchers. Physicians, nurses and researchers read SR and MA very often to keep up to date with their concerned field of work. SR and MA are frequently used as a referring point for constructing clinical practice guidelines[1]. Systematic review is often misrepresented as review of literature. To be precise systematic review is a qualitative synthesis and presentation of results from already published studies to get a cumulative result; because of this powerful results SR and MA are given highest status in hierarch of evidences. SR and MA gather results from multiple studies which address a common research question and give a strong conclusion with clarity. In medical research SR and MA are frequently conducted globally but in nursing discipline they are reported very scarcely. This paper tries to portray systematic review and its steps as a research design.

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Steps in conducting a systematic review

Steps in conducting SR and MA are almost same in and around, but to be exact MA is a quantitative extension of SR, MA uses bit complex statistical procedures as well to cumulate results from various studies to give a pooled result.

Steps of SR[2] can be listed as;

1. Framing research question/Formulating research questionfor SR

2. Locatingand identifying relevant studies

3. Selection of studies and assessment of study quality

4. Data synthesis and presentation of results

Steps listed above are sorted after extensive literature search from various sources and guidelines published by Cochrane collaboration[2]; it can vary in different text books and published scientific articles.

1: Framing research questions for SR

The problems to be addressed by the SR should be specific, unambiguous and structured form of questions before beginning the review. The ultimate goal of a systematic review is to answer a specific research question. For example, a question might be: *'How effective is back massage in the treatment of insomnia?'* The research question can be specified by indicating exactly which population (P), intervention (I), and outcome is of interest (O)[3]. Sometimes the question may be more specific adding a comparison (C) and a time frame (T), making research question in PICOT format. Other formats like PICO and SPIDER are also used widely[4]. An example of a specific question is: *'Which dosage of Risperidone is most effective in reducing hallucinatory events and improving the functional recovery of a Schizophrenia client?*

· **Inclusion and exclusion criteria**

After formulation of a specific research question adequate points of inclusion and exclusion criteria need to be written. This is done to avoid any kind of bias and errors in selecting studies. Study inclusion can be based on PICOT/PICO/SPIDER format. Studies which are duplicated, without full text availability, abstracts only papers, which does not answers our research question will be excluded after the search of studies. The eligibility and exclusion of study details are usually depicted using PRISMA[5] flow chart which draws flow of information in systematic review and sometimes followed by a meta-analysis.

Example of inclusion and exclusion criteria;

· **Inclusion criteria**

1. All randomized controlled trials evaluating the efficacy of drug Risperidone.

2. Studies without any restriction on the basis of country, date, gender, age, language of publication.

· **Exclusion criteria**

1. Study of drug in non-human subjects.

2. Study of drug in small scale studies.

3. Study with data not reliably retrieved.

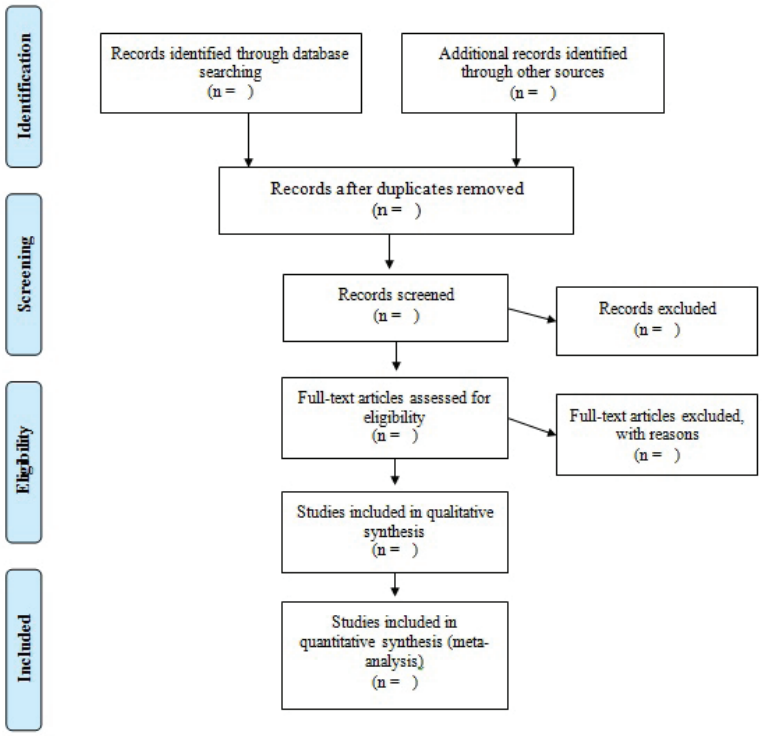

Figure 1: PRISMA flow chart[5]

2. Locating and identifying relevant studies

Extensive and comprehensive search for studies should be performed. Multiple resources (both computerized and printed) should be searched without any kind of language restrictions should be included primarily. The study inclusion criteria should flow directly from the review questions and be specified prior itself. Indications for inclusion and exclusion should be recorded and mentioned in flow chart[1].

3. Selection of studies and assessment of study quality

Various search engines and websites along with unpublished literature need to be searched. Several techniques including BOOLEAN operator searches are done to get maximum and optimal results. Pub-Med, Scopus, Web of Science, EMBASE, VHL, Cochrane collaboration website, Google Scholar, Clinicaltrials. gov, mRCTs, CINAHL, Conference papers index, Psych INFO, The Campbell Collaboration, POPLINE, and SIGLE are some of the prominent data bases which covers published articles from various disciplines globally. Studies located may be inculcated with wide range of biases. Inorder to avoid and filter such biases "The Cochrane Collaboration risk of bias assessment tool"[6] can be used for the appraisal of primary studies specifically for RCTs. Questions in the form of checklist to assess risk of biases are as follows;

- § Adequate sequence generation done?
- § Allocation concealment used?
- § Blinding done?
- § Concurrent therapies were similar?
- § Incomplete outcome data addressed?
- § Uniform and explicit outcome definitions?
- § Free of selective outcome reporting?

4. Data synthesis and presentation of results

Synthesis of collected data comprises of tabulation of study characteristics including year, author, sample size, quality and core results of study are written up[7]. The results are presented often in a table that clearly conveys the results.

Example of a SR results table

Table 1: Double blind randomized controlled clinical trials of Risperidone for adolescents with Hallucinations and irritability.

Study, Year	Patient Condition	Design	Sample size	Intervention	Main outcome	Adverse effects
X, 2020	Psychosis	RCT	630	Risperdal 2mg	Irritability	Itching
Y,2019	F20	RCT	526	Risp 2mg BD	Hallucination	Sleep disturbances

Readers can refer an article to grasp the structure of SR - *Ghanizadeh, Ahmad et al. "Aripiprazole for treating irritability in children & adolescents with autism: A systematic review." The Indian journal of medical research vol. 142,3 (2015): 269-75.*

Systematic review as a research design in Nursing

The research design systematic review comprises of a number of components as discussed above: Formulation of the specific research question, inclusion and exclusion criteria statements, performing comprehensive literature search from valid data sources, selection of articles included in the review, appraisal using evaluation checklist of the methodological quality of each study, data synthesis and analysis of collected data in the form of studies, and the formulation of conclusions for the

formulated research question. SR are not only to reviews in which the results of RCTz are summarized and synthesized, but also to reviews that summarize findings of non-experimental and descriptive studies or reviews looking on the value of a specific diagnostic test[8]. There are only few published articles using SR and MA as a research design when nursing is concerned, especially in India.

Problems encountered commonly while conducting SR

Heterogeneity and publication bias are two main problems in a systematic review. Heterogeneity as the term depicts the studies we locate are not adequately comparable in one or other form as some studies will be having varying paradigm in design, outcome and variables studied. This issue can be dealt by strict application of the inclusion and exclusion criteria's, it will be less in chance there is of heterogeneity, but the risk of ending up with no studies at all is also high and possible. Second problem is publication bias which occurs in the review because studies conducted globally are not been published throughout. It is generally came to a consensus that the risk of publication bias is greatest with regard to smaller studies in which no effects or even negative effects have been found, researchers often not prefer to publish studies resulting in negative outcomes is also a matter of concern[9].

Meta-Analysis and Systematic Review: Different; yet interconnected entities

Systematic reviews and meta-analyses are not entirely the same even both these terms are used synonymously and also in connection. Systematic review as I discussed above is comprehensive high-level synthesis of primary research on a specific research question that attempts to identify, select, synthesize, and appraise all high-quality evidence relevant to that question to answer it. Further, systematic reviews collate all evidence pertinent to previously selected eligibility criteriato address formulated research question. A meta-analysis on the other side clearly utilizes statistical methods (Not performed in systematic reviews) to evaluate pooled data quantitatively from selected individual research studies. Individual studies are given a weight based on the sample size. Conclusions are reported based on the accuracy and precision (Mean and confidence interval [CI] relative to a "zero effect" line on a forest plot) of individual research studies' results; however the flow of both research designs are more or less same except the analysis part and mode of reporting findings[10]. Every Meta analysis is preceded by a well conducted systematic review but every systematic review may not progress towards a Meta analysis.

Conclusion

With great rise of focus on formulating and suggesting guidance and recommendations for evidence based practice through systematic reviews, all medical/ nursing and other health care professionals need to grasp the principles, concepts and guidelines of preparing such systematic reviews. Some systematic reviews are followed by a meta-analysis which is a statistical extension of SR which is not warranted in all situations. Systematic reviews critically appraise and synthesize the best available evidences and findings to provide a conclusion statement in regards to a specific answerable research question.

Ethical Clearance: As it is a review paper no ethical concerns is encountered.

Source of Funding: Self.

Conflict of Interest: Nil.

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Research Article On E- Learning

Perception of Students on E Learning At Selected Institution, Salem

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Abstract

Education facilities at a distance have recently been recognized as a mean of providing access to knowledge. The widespread use of information technology (IT) and the mass popularization of the Internet/World Wide Web have meant that opportunities have been identified for developing distance learning activity into a more advanced online environment. A quantitative evaluative research approach with Non experimental survey research design was used to conduct the study among 180 students at Sri Gokulam College of Nursing, Salem using Purposive sampling technique . Descriptive rating scale was used to collect the data. Item analysis was done to assess the perception of students on E Learning . It revealed that majority (82%)statements were agreed by students, equal percentage (9%) of statements were undecided and disagreed by students. Overall mean score of perception of Students on E-Learning was 46.64+_4.5 and mean percentage was 46.64%. Majority of the students (160) had favorable perception on E-Learning and 20(12%) of them had neutral perception on E –Learning.There was significant association found between perception of students with selected demographic variables except the year of study.

Key words: *Perception , E Learning, Digital platform , Online learning, Distance learning.*

Introduction

E-learning has grown tremendously and has been integrated into education and training. E-learning or online learning is used increasingly in healthcare professionals' education. There is no single agreed definition of e-learning, but it generally refers to internet based forms of learning, rather than face to face interaction and where traditional methods of learning are supported by online resources[1].

The use of technologies has modified the ways lecturers distribute course materials to students. Course materials are disseminated online through Power Point presentations, and web links, with e-dissemination enabling access to electronic learning resources. The use of technologies has also brought alterations to students' ability to communicate with lecturers and fellow students, through the use of e-mail, online chat rooms and video conferencing[4]. In addition, technologies have changed the ease with which students can access further information to read outside of the course material and conduct research through the use of online journals and databases[3].

E-learning is believed to take a competitive advantage over the conventional methods due to the speed and efficiency of the Internet, especially in making announcements. Moreover, E-learning could be the dream for people with work or family commitments; due to the high flexibility in time and place it offers. . E-Learning creates an interactive environment for teachers and students, as well as the opportunity for discussion and clarification of class content.. It also enables educational institutions to target learners who are unable to participate in traditional-learning environments[2].

During this period of COVID -19 lockdown, students are taught via the digital platform. Hence this research was done to discover the students' opinion of e-learning which was followed in alternative to traditional classroom teaching and learning.

Statement of the Problem:

A Study to Assess the Perception of Students on E-Learning at selected Institution, Salem.

Objectives:

Ø To assess the perception of students on E Learning .

Ø To associate the perception of students on E Learning with their selected demographic variables .

HYPOTHESES:

Ø **H_1:** There will be significant association between the perception of students on E- Learning and selected demographic variables at $p \leq 0.05$ level.

RESEARCH METHODOLOGY: (MATERIALS and METHODS)

A quantitative evaluative research approach with Non experimental survey research design was used to conduct the study among 180 students at Sri Gokulam College of Nursing, Salem using Purposive sampling technique . Descriptive rating scale was used to collect the data. The setting was selected by using convenient sampling technique. Descriptive Rating scale was used to assess the perception of students on E learning. E – Survey with Google form was used to assess the perception of students with 20 items by using descriptive rating scale. Part 1 was used to assess their demographic variables and Part 2 was used to assess the Perception of students on E- Learning . The response to each statement was given as Agree, Undecided & Disagree. Score was given 3,2,1 for the positive statements and 1,2,3 was given for the negative statements. Total score was 60. The data was collected for a period of 1 week. After obtaining permission from the concerned authorities, E Survey form was given to students through Email and data was collected individually.

Results and Discussion

Table 1 :- Frequency and Percentage Distribution of Students according to their Demographic Variables. n=180

Demographic Variables		Frequency	Percentage (%)
Age(Yrs)	18 -19	51	28
	19 – 20	62	34
	20 – 21	46	26
	21-22	12	7
	22-23	9	5
Types of programme	MSc. Nursing	4	2
	BSc. Nursing	160	89
	DGNM	16	9
Year of study	1st year	48	27
	2nd year	43	24
	3rd year	47	26
	4th year	42	23

Cont... **Table 1 :- Frequency and Percentage Distribution of Students according to their Demographic Variables. n=180**

Gender	Males	37	21
	Females	143	79
Previous experience in attending online class	Yes	118	66
	No	62	34
	Online learning	68	38
Understanding the terminology of	Watching pre recorded videos	8	4
E- learning			
	Having live lecture via internet	20	11
	All the above	71	40
	Have no idea	13	7

Table-2 Students Perception on E- Learning

S.No	Item Analysis	Agree		Undecided		Disagree	
		Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
1	E- learning is an innovative concept which helps in learning subjects	167	93	8	4	5	3
2	E-learning is user friendly and helpful students to find more information	155	86	17	10	8	4
3	*Absence of internet facility at home for all students causes lack of uniformity in learning	158	88	9	5	13	7
4	E- learning allows students to learn at their own pace	158	88	13	7	6	3
5	*Students may not fully pay attention to the class regularly	146	81	14	8	20	11
6	E- learning permits study from anywhere in the world	149	83	23	13	8	4

Cont... **Table-2 Students Perception on E- Learning**

7	E-learning provides variety of material and activity to promote learning	144	80	23 23	13	8	4
8	Interaction between teachers and students is possible	140	78	18	10	22	12
9	Interaction among students is possible	136	76	18	10	26	14
10	E- learning encourages self learning	148	82	16	9	16	9
11	*E- learning is not cost effective	125	69	15	8	40	22
12	Test and assignment can be submitted electronically	144	80	16	9	20	11
13	Able to access web which makes the work to be done easier and in less time	146	81	14	8	20	11
14	Develops the computational skills of students	157	87	16	9	7	4
15	*Group discussion and doubt clarification is difficult in E- learning	127	71	20	11	33	18
16	*Network problem affects the quality of the learning	151	84	13	7	16	9
17	Downloaded documents can be stored for future reference and studies	162	90	11	6	7	4
18	E- learning induces interest of students and motivates them to learn in depth	140	78	20	11	20	11
19	*Procedural skills cannot be mastered through E-Learning	142	79	16	9	22	12
20	*Students may not fully pay attention to the class regularly	146	81	14	8	20	11

*Negative statements which are reverse scored.

Table -3 Mean, Standard Deviation ,Mean Score Percentage Of Perception of Students on E-Learning n=180

S.no	Total Items	Mean	Standard Deviation	Mean Score Percentage
1	20	46.64	4.5	46.64%

The above table shows that Overall Mean score of perception of Students on E-Learning was 46.64+_4.5 and mean percentage is 46.64% .

Table -4 Distribution of Samples according to the Perception of Students on E-Learning n=180

S.no	Perception Of Students	Frequency	Percentage
1	Unfavourable(1-20)	-	-
2	Neutral (21-40)	20	12%
3	Favourable(41-60)	160	88%

The above table majority of students (88%) had favorable perception on E-Learning and 20(12%) students had neutral perception on E –Learning.

Table 5: Association of Level of Perception of Students on E-Learning with their Selected Demographic Variables. n=180

S.no	Demographic variables		df	Table value	Chi-square value
1	Age	18 -19	4	9.49	64.056*
		19 – 20			
		20 – 21			
		21-22			
		22-23			
2	Types of programme	MSc. Nursing	1	3.84	251.2*
		BSc. Nursing			
		DGNM			
3	Year of study	1st year	3	7.81	0.578
		2nd year			
		3rd year			
		4th year			

Cont... **Table 5: Association of Level of Perception of Students on E-Learning with their Selected Demographic Variables. n=180**

4	Gender	Males	1	3.84	62.422*
		Females			
5	Previous experience in attending online class	Yes	1	3.84	17.42*
		No			
6	Understanding of E-Learning	Online learning	4	9.49	106.05*
		Watching pre recorded videos			
		Having live lecture via internet			
		All the above			
		Have no idea			

*P< 0.05 – SignificantThere was significant association between perception of students with all demographic variables except the year of study. Hence hypothesis H_2 is accepted for all the demographic variables except the year of study.

Conclusion

E-learning is rapidly growing as an alternative way of delivering education in nursing. well planned e-learning programmes can support the development of nursing students' skills, knowledge and attitudes **E**-learning platform and tools are perceived to be easy to use. Students have very good ability to make use of the various tools and technologies that enable one to participate in E-learning with ease and to be successful.

Ethical Clearance: Taken from Institutional Ethical Committee.

Source of Funding: Self

Conflict of Interest: Nil.

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Effectiveness of Structured Teaching Program on Knowledge Regarding Sexual Behaviour among Male Students at Selected Degree College in Tumkur

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Abstract

The research work undertook was "**Effectiveness of Structured Teaching Program on Knowledge Regarding Sexual Behaviour among Male Students at Selected Degree College in Tumkur."** The objectives of the study were to assess the pre-test knowledge score regarding sexual behaviour among male students at selected Degree College in Tumkur , To assess the post-test knowledge score regarding sexual behaviour among male students at selected Degree College in Tumkur, To evaluate the effectiveness of structured teaching programme by comparing the pre-test and post-test knowledge score regarding sexual behaviour among male students at selected Degree College in Tumkur, To determine the association between the pre-test level of knowledge with selected socio-demographic variables among male students at selected degree college in Tumkur.

H_1- There will be significant difference between pre-test knowledge score and post-test knowledge score on sexual behaviour among male students at Degree College in Tumkur.

H_2 - There will be significant association between knowledge and selected socio-demographic variables among male students at Degree College in Tumkur.

Quantitative research approach was used in the study. One group pre-test post-test pre experimental design and convenient sampling was used.60 students were selected as samples. Permission from the concerned authority .Consent was obtained from the respective samples, good interpersonal relationship maintained with the samples. Data regarding socio demographic variables and knowledge on sexual behaviour was collected. Followed with a structured teaching program on sexual behaviour and methods to prevent sexual transmitted diseases and a post test was done after one week. There was a significant difference between pre-test knowledge score and post-test knowledge score on sexual behaviour among male students at Degree College in Tumkur.

The study also reveals that, there was significant association between knowledge with age, residential area, education of mother and previous sex education class among selected degree college students at Tumkur.

Keywords: *Structured teaching programme; knowledge; Sexual behaviour; Degree College Students.*

Introduction

"Adolescence is perhaps nature's way of preparing parents to welcome the empty nest."

- Karen savage & Patricia Adam.

All humans are sexual being, regardless of gender, age, race, socio- economic status, religious beliefs, physical and mental health, or other demographic factors; we express our sexuality in a variety of ways throughout our lives. Human sexuality is difficult to define. " Maleness, femaleness, sexuality, sense of self, ego, perception of self in relation to the world and others, the quality or state of being sexual, the condition of having sexual activity or intercourse, the expression of

receiving and expressing sexual interest are connotative of human sexuality.[1]

The sexual behavior expresses not only the psychosexual makeup but also the entirety of our personality. Sex is the one realm of conduct which involves the full gamut of emotions, cognitions, socialization, traits, heredity, and learned and acquired behaviors. By observing one's sexual predilections and acts, the trained psychotherapist and diagnostician can learn a lot about the patient. Human sexual activity has biological, physical and emotional aspects. Biologically, it refers to the reproductive mechanism as well as the basic biological drive that exists in all species and can encompass sexual intercourse and sexual contact in all its forms. Emotional aspects deal with the intense personal bonds and emotions generated between sexual partners by a sexual activity. Physical issues around sexuality range from purely medical considerations to concerns about the physiological or even psychological and sociological aspects of sexual behavior.[2]

Statement of Problem

"Effectiveness of Structured Teaching Program on Knowledge Regarding Sexual Behaviour among Male Students at Selected Degree College in Tumkur."

Objectives of the Study

1. To assess the pre-test knowledge score regarding sexual behaviour among male students at selected Degree College in Tumkur.

2. To assess the post-test knowledge score regarding sexual behaviour among male students at selected Degree College in Tumkur.

3. To evaluate the effectiveness of structured teaching programme by comparing the pre-test and post-test knowledge score regarding sexual behaviour among male students at selected Degree College in Tumkur.

4. To determine the association between the pre-test level of knowledge with selected socio-demographic variables among male students at selected degree college in Tumkur.

Hypothesis – Tested at 0.05 level of significance

$\mathbf{H_1}$ – There will be significant difference between pre-test knowledge score and post-test knowledge score on sexual behaviour among male students at Degree College in Tumkur.

$\mathbf{H_2}$ – There will be significant association between knowledge and selected socio-demographic variables among male students at Degree College in Tumkur.

Review of Literature

A study was carried on reasons to have sex, personal goals, and sexual behaviour during the transition to college. The subject of the study were 18 years Gender, personal goals (dating, friendship, academic), and past sexual behaviour were examined as predictors of reasons to have and not to have sex. Men rated Self-focused reasons to have sex as more important; women rated Partner-focused reasons to have sex and Ethical reasons not to have sex as more important. Importance of Pregnancy and STD reasons not to have sex did not differ by gender. Before college entrance, sexual history and personal goals predicted endorsement of reasons for against sex. Personal goals predicted first intercourse during freshman year. Personal goals and reasons for and against sex are associated with sexual behaviour and should be addressed in programs designed to promote sexual health among emerging adult college students[3].

A cross sectional study was carried on sexual behaviour among rural residents of China. A non-experimental research design was used for the study. The subjects of the study a total of 1057 were interviewed. The study states that among 886 sexually active individuals, 7.8% had more than one sexual partner, 22.8% had premarital sex, 2.4% had anal intercourse, 4.1% had oral intercourse, and 2.3% had both anal and oral intercourse. Less than 2% reported past or current sexually transmitted diseases. Overall 10.4% used condoms; only 11.2%for every sexual act. The study concluded that sexual norms in rural China are changing rapidly and high-risk sexual behaviour among young rural residents is increasing. Strategies to prevent HIV/AIDS should include education to promote delayed onset of sexual activity, safer sexual behaviour, and condom use[4]

A comparative study was conducted on the cognitive and a motivational approach reducing denial and sexual risk behaviours in college students at India. One hundred

and fifty sexually active male and female undergraduates were assessed at baseline for denial of STD/HIV risk, knowledge of sexual risk behaviours, and self-report of sexual behaviours and were randomly assigned to either a motivational or cognitive intervention or a control condition. After the intervention, subjects were offered the opportunity to purchase condoms and were assessed for denial and intent to use condoms. Two months later, sexual risk behaviours and denial were measured. The motivational approach was most effective in reducing denial and in increasing intent to use condoms immediately following the intervention and in reducing sexual risk behaviours 2 months later[5].

A study was conducted on knowledge, attitudes, and use patterns of female condoms among high-risk adolescents. The subject for the study was 65 high-risk adolescents at an emergency homeless shelter. A peer-led intervention was conducted and pre-test and post-test interviews explored barriers to female condom use. The study concludes 63% used the male condom as their primary contraceptive method; almost half (48%) said they always used a male condom, but 44% reported having sex without using one at least once in the 2 weeks prior to the pre-test. 95% had heard of the female condom, but only 15% had ever used one. At post-test all respondents gave reasons they might use a female condom in the future, and 77% gave reasons why they might not. Most (73%) adolescents said they would still prefer the male condom[6].

Methodology

One group pre-test post-test pre experimental design was used for this study to find out the effectiveness of structured teaching programme. The samples between the age group of 18-21years male students were selected. The samples were drawn from DegreeCollege, Tumkur. They were selected by using convenient sampling technique. Structured teaching programme was given to the samples after pre-test. One week after post-test was done to assess Knowledge Regarding Sexual Behaviour. In this study a comparison between the pre-test and post test knowledge score was done to find out the effectiveness of structured teaching programme and determine the association between knowledge and demographic variables.

Data Collection

Before starting the study, researcher obtained written permission from the Principal of University College, Tumkur. The data collection period for the study was 01-10-2011 to 31-10-2011.Totally 60students were selected by using convenient sampling method. Consent was obtained from the respective samples. The data's were collected through self-structured questionnaire.

Data Analysis and Interpretation

Descriptive Analysis

1. Frequency and percentage analysis were used to describe the demographic characteristicsamong male students in degree college Tumkur.

2. Mean, standard deviations were used to assess the knowledge regarding sexual behaviour among male students in degree college Tumkur.

Inferential Statistics

1. The paired-t test was carried out to assess the statistical significant differencebetween pre and post-test knowledge scores on knowledge regarding sexual behaviour among the male students of degree college Tumkur.

2. The chi square ($\chi 2$) analysis was used to determine the association between knowledge with demographic variables.

Results

There was a significant difference between following STP on the knowledge regarding sexual behaviour among male students. Pre-test mean is 13.03, SD is 4.08 and after STP mean is 24.91 SD is 2.76.

Paired t-test value 34.52 which is higher than the table value 1.67 with the degree of freedom 59 at $p < 0.05$ level.Hence the H1 is accepted. The results of Chi-square analysis indicated that there was significance association of knowledge with age, religion, residential area, previous sex education class and source of information.

Interpretation and Conclusion

There was a significant difference obtained following

STP on the knowledge regarding sexual behaviour among male students. This study enlightens that there is a need for educational programmes in the schools or community based educational programmes to improve the knowledge regarding sexual behaviour. This study motivates other researchers to conduct further studies to evaluate the attitudes and practices of adolescents regarding sexuality and related behaviours.

Discussion

In the present study, a total sample of 60 male students was selected by convenient sampling.The effectiveness of Structured Teaching Program on Knowledge regarding Sexual Behaviour among Male Students was assessed by comparing pre- and post-test knowledge score using paired t-test. There was a significant difference between following STP on the knowledge regarding sexual behaviour among male students. Pre-test mean is 13.03, SD is 4.08 and after STP mean is 24.91 SD is 2.76.

Paired t-test value 34.52 which is higher than the table value 1.67 with the degree of freedom 59 at $p < 0.05$ level. Hence the H1 is accepted.The present study finding is consistent with another study, which was conducted in Udupi District Karnataka. An experimental study was carried out over a period of one year, a total of 791 rural boys in the age group 16-19 years were randomly selected from coastal villages in Udupi District Karnataka. The objective of the study to determine the effectiveness of educational intervention program on knowledge of reproductive health among adolescence. The result showed that a significant increase in overall knowledge after the intervention regarding contraception. They concluded the study that an educational intervention programme can bring about a desirable change in knowledge among adolescent boys regarding reproductive health**7**.In India very few studies are conducted among adolescents regarding knowledge and attitude regarding sexual behaviour. This study enlightens that there is a need for educational programmes in schools or community based educational programmes to improve the knowledge regarding different and safe sexual behaviour.

Ethical Clearance - Taken from institutional ethical committee.

Source of Funding- Self

Conflict of Interest - Nil

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Assessment of the Level of Coping Strategies in Patients with Depression Attending Psychiatric Outpatient Department at Selected Teritary Care Hospitals Coimbatore

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Abstract

Depression is one of the four major diseases in the world. Patients with depression uses different coping styles to cope up with their problems. The objective was to assess the coping strategies adopted by the patients with depression and to find out the association between coping strategies and selected demographic variables. The descriptive study was undertaken among patients with depression and non-probability purposive sampling technique was used. The data was collected using structured questionnaire. In overall 60% of patients have moderate level of coping strategies, 30% of patients have inadequate level of coping strategies and 10% of patients have adequate level coping strategies. There was significant association between the level of coping strategies and the demographic variable like domicile. This study concluded that selected patients with depression had moderate level of coping strategies.

Key Words: *Copingstrategies, Depression, Demographic Variables.*

Introduction

Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity[1].Mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community[2]. Depression is a common mental disorder that presents with depressed mood, loss of interest of pleasure, feeling of guilt or low self-esteem, disturbed sleep pattern or loss of appetite, low energy and poor concentration.[3].Physical health is closely related to emotional and mental health, particularly among middle-aged and older adults, a fact documented by a multitude of studies. The person who has depression can be affected with mental illness and their physical health also affected. Those people cannot able cope up with their life style hence coping plays a major role in persons with depression.Depression is a widespread mental health problem affecting many people. The lifetime risk of depression in males is 8-12% and in females it is 20-26%. Depression occurs twice as frequently in women as in men. The highest incidence of depressive symptoms has been indicated in individuals without close interpersonal relationships and in persons who are divorced or separated. Depression often is associated with a variety of medical conditions[4]. In 2017, WHO estimates more than 300 million people are now living with depression, an increase of more than 18% between 2005 and 2015 and it estimates that 9.23% of people suffering from Schizophrenia, 10.4% of people suffering from Drug use disorders, 14.53% ofpeople suffering from Anxiety disorder, 32.0% of people suffering from Depressive disorders and 33.84% of people suffering from other disorders.[5]

Globally, 3.1 million young people between the ages of 12 and 17 have experienced major depressive disorders, 70% of adolescents experienced depressions among these 19.4% were adolescent girls and 6.4% were adolescent boys, 2 to 3 percent of children ages 6 to 12 may have serious depression. Nearly 50% of all people diagnosed with depression are also diagnosed with an anxiety disorder.[6]

It is understood from various studies that typical coping strategies include; denial, selective ignoring, information seeking, taking refuge in activity, avoidance, learning specific illness-related procedures, engaging in wish-fulfilling fantasy, blaming others and seeking help from others.These thoughts and experiences motivated the investigators to conduct a research study to assess the coping strategies in patients with depression.

Methodology and Materials

A Quantitative research approach and Non-experimental Descriptive research design was chosen for this study.The study was conducted in PSG Hospitals. Non probability Purposive sampling technique was adopted for this study. 30 subjects who fulfill the inclusion criteria were selected as study subjects. The tool used for data collection are Socio demographic variables proforma. A semi structured questionnaire on socio demographic data consists of 8 items to know the sample characteristics and Brief Cope Scale consists of 28 items 1-28 and are scored as 1,2,3,4 which indicates I haven't been doing this at all, I've been doing this a little bit, I've been doing this a medium amount, I've been doing this a lot. The maximum score is between 85-112 it indicates adequate coping and minimum score is between 28-56 it indicates inadequate coping.

Disucssion and Results

In the present study, a significant percentage 37% of the sample were in the age group of 31- 40 years, majority of them were females 60%, regarding the education many of them are graduated 40%, concerning the occupational status most of them were unemployed 37%, considering the economic status 40% of them are having income less than Rs.5000 and majority of them were married 83%, many are Hindu 86% and they lives in city 53%.

The similar study was conducted to assess the depression and ways of coping with stress in the department of adult psychiatry, among them the female were more than men, regarding the education 40% of them were graduated, and regarding their occupational status 40% of them were unemployed. The result revealed that patients with depression in stressful situation more often use strategies based on avoidance and denial and have more difficulties in finding positive aspects of stressful events[7]

A standardized tool brief cope scale was given to the patients with depression. Out of 30 sample, 18 sample (60%) have moderate level of coping strategies, 9 sample (30%) have inadequate level of coping strategies and 3 sample (10%) have adequate level coping strategies.

A similar study was conducted to assess the coping, anxiety, depression in Turkish patients. The result showed that anxiety was determined in 61.5% and depression in 81.3% of patients[8]

There was significant association with level of coping and the demographic variable like domicile $\chi^2 = 3.981$. There was no significant association with level of coping and demographic variables age, gender, occupation, education, socio economic status, marital status and religion. It was inferred that education and domicile had association with the level of coping strategies among patients with depression.

A similar study was conducted to assess the depression and way of coping with stress in the department of adult psychiatry. The result revealed that patients with depression in stressful situation more often use strategies based on avoidance and denial and there is a significant association with the level of coping and demographic variable like education $\chi^2 = 4.15$[9].

Conclusion

The study was conducted to assess the level of coping strategies in patients with depression. A brief cope scale was used to analyze the level of coping strategies. In overall patients with depression, 9 patients with depression (30%) has inadequate coping strategies, 18 patients with depression (60%) has moderate coping strategies and 3 patients with depression (10%) has adequate coping strategies

Ethical Clearance: Obtained from Institutional Human Ethics Committee of PSG Institute of Medical Science and Research.

Source of Funding : Self

Conflict of Interest : Nil

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The Level of Test Anxiety among Final Year Bsc. Nursing Students

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Abstract

Background: Test anxiety has been a problem for many individuals not only in the workforce, but also in many schools and colleges(Driscoll, Evans , Ramsey and Wheeler 2009).According to Driscoll et al.., when compared to high school students and the general public (17%), nursing students have shown to have over double (55-60%) the rate of moderately high to high test anxiety.

Aim: The main purpose of the study is to assess the level of test anxiety among nursing students and to associate test anxiety with selected demographic variables.

Methodology: A quantitative descriptive design was used. A sample of 30 final year B. Sc. nursing students in MTPG &RIHS, Puducherry were selected by using Purposive sampling technique who fulfilled the inclusion criteria. The Data collected through Email using standardized test anxiety questionnaire.

Result: Among 30 participants, the majority 28 (93.33 %) of subjects were females, only 2 (6.67%) are males. Majority 16 (53.4%) of them were 21 years, 12 belongs to age 20yrs (40%), and only one subject in age 19 years (3.3%), and one in age 22 (3.3%). In the study it was found that 23.3% of students do not suffer from test anxiety and 3.3% have unhealthy level of anxiety and majority of subjects 22 (73.3 %) exhibit some of the characteristics of test anxiety.

Conclusion: The study conducted among 30 final year B.Sc. nursing student. There was a high prevalence of test anxiety among nursing students. Majority of subjects ,73.3 % exhibit some of the characteristics of test anxiety which is healthy and only 3.3 % of subjects have an unhealthy level of test anxiety. The researcher concluded that the association between the selected demographic variables of students and test anxiety is not significant statistically.

Key words: *Test anxiety, nursing students, test anxiety scale.*

Introduction

Anxiety is a normal phenomenon, which is characterized by a state of apprehension or uneasiness arising out of anticipation of danger. Normal anxiety becomes pathological when it causes significant subject distress and impairment of functioning of the individual.[1]

Feelings of anxiety are so common in our society that they are almost considered universal. Anxiety arises from the chaos and confusion that exists in the world today. Fears of the unknown and conditions of ambiguity offer a perfect breeding ground for anxiety to take root and grow. Low levels of anxiety are adaptive and can provide the motivation required for survival. Anxiety becomes problematic when the individual is

unable to prevent the anxiety from escalating to a level that interferes with the ability to meet basic needs.[2]

Narrowing on a specific source, test anxiety is a subcategory of anxiety defined as "a set of phenomenological, physiological and behavioural responses that accompany concern about possible negative consequences of failure on an exam or similar evaluative situation" [3].

The anxiety typically stems from the concern about failing an exam. Test anxiety is situational and dispositional, meaning it is a type of state anxiety, though it can be influenced if a person experiences trait anxiety as well [4].In other words, if a person is nervous about an exam, the anxiety is situational or a type of state anxiety, but if the person has other personality characteristics that make them worry more frequently, the person may be more likely to develop test anxiety. It has been estimated that 25-40% of the United States population suffers from test anxiety [4]

Anxiety disorders affect an estimated 25 percent of 13- to 18-year-olds. Untreated childhood anxiety can cause children to perform poorly in school and on tests. According to a 2010 study, text anxiety can affect anywhere between 10 to 40 percent of all students. That percentage has seemed to increase alongside the increase in standardized testing.[5]

Students preparing to take their exam can become over anxious because of their thoughts regarding passing or failing their exam. Indeed, this fear and anxiety among students though it prepares their minds and bodies for automatic action, they are also at risk; for some it will lead to very serious, negative consequences. The experience of fear or anxiety may at times unpleasant and may lead to loss of physical and psychological balance. It is a proven fact that anxiety causing autonomic changes such as increase heart rate, blood pressure and changes in breathing pattern disturbs homeostasis of the body changes HPA activity with increased serum cortisol. In one of the literature studies it has been observed increased level of cortisol from relaxed state to stress state on the day of viva examination [6].

A recent systematic review explores test anxiety among nursing students. Test anxiety affects 30% of nursing students and has detrimental effects on academic performance and student success. Significant effects of treatment are discussed, including hypnotherapy, aromatherapy, and relaxation. Test anxiety has multiple ramifications and is a determining factor in student success among this population. Nurse educators can have a significant impact on student outcomes by recognizing test anxiety, intervening early, and implementing effective, supportive strategies [7]

Nursing students are going through highly stressful curriculum and they are under pressure for taking various tests during their theory sessions and practical block .Exam anxiety can also make you worry during the exam, for example you may feel that other people are managing the exam better than you or that they will be finding it really easy whereas you are struggling. This can cause you to feel that your mind has "gone blank" on information that you know that you have revised or that you know well. Nursing students have been found to be more test anxious than other students in general (Evans et al.,). Nursing students had a combined moderately high to high test anxiety scores 56 % using the westside test anxiety scale which is comparable to other scales used for test anxiety (Driscoll et al., 2009). [8]

Test anxiety is the emotional reaction when students' need to cope with examination. However, it varies among students depends on their preparedness and certainty to facing the exam. One of the past researches identified test anxiety emotional reaction that experienced by some students that they faced before exams; this emotional reaction consists of two components; "worry" identified as cognitive expression students concern about performance and "emotional" identified as an autonomic reactions which tend to occur examination stress [9].Test anxiety specifically mentions to the effects of anxiety on student concentration and performance prior to the examination, when preparing for the examination and while completing examination [10,11]. The purpose of the study is to find the prevalence and the levels of test anxiety among the final year B.Sc. Nursing students.

Materials and Methods

A quantitative descriptive research design was used. 30 final year BSc nursing students were selected by using purposive sampling technique who fulfilled the inclusion criteria and who were using smart phone

with internet connection during the period of data collection at Mtpgi&Rihs nursing college, Puducherry. Data was collected by using a standardized test anxiety questionnaire send through Email. The tools used for data collection were divided into two sections. Section A includes demographic variables and section B comprised of standardized 10 questions with score ranging from 10 to 50. The total score above 35 indicates that there is an unhealthy level of test anxiety while a score below 19 points no test anxiety at all. A score between 19 to 35 refers students are having healthy level of exam anxiety.

The data was collected after obtaining permission from the concerned authority. Informed consent was obtained from each sample prior to data collection. The data was collected by using Standardized Questionnaire schedule to all population who fulfilled the inclusion criteria and available at the time of data collection in MTPGI RIHS Puducherry.

Data Analysis

Plan for data analysis were done using Statistical Package of Social Sciences (SPSS) version 16.0 software for Windows. Descriptive statistics were used to analyze the frequencies, percentage and mean

Results

Table1. shows the demographic characteristics of all participants involved in this study. Majority 16(53.4%) of students, were 21 years, 28 (93.33%) were come under female gender, 29 (96.67%) students were belongs to Hindu religion, 19 (63.33%) students' father and 23 (76.67%) students' mother were completed up to secondary level education. 30 (100%) father,2 (6.67%) mothers of study participants were government employees. ,16 (53.4%) of student's family income ranges between 10000-15000.

Table 1: Distribution of subjects based on Sociodemographic variables. (N = 30).

S. No	Demographic Variable	frequency	Percentage
1.	**Age group**		
	19	1	3.3
	20	12	40
	21	16	53.4
	22	1	3.3
2.	**Gender**		
	Male	2	6.67
	Female	28	93.33
3.	Religion		
	Hindu	29	96.67
	Muslim	1	3.33
4.	**Father's education**		
	Uneducated	1	3.33
	Primary level	4	13.34
	Secondary level	19	63.33
	College level	6	20
5.	**Mother's education**		
	Uneducated	1	3.33
	Primary level	1	3.33
	Secondary level	23	76.67
	College level	5	16.67
6.	**Father's occupation**		
	Employed	30	100
	Unemployed	0	0

Cont... **Table 1: Distribution of subjects based on Sociodemographic variables. (N = 30).**

7.	**Mother's occupation**		
	Employed	2	6.67
	Unemployed	28	93.33
8.	**Family income**		
	<5000	0	0
	5000-10000	9	30
	10000-15000	16	53.4
	>15000	5	16.6

Table 2: Distribution of subjects based on Area of Residence N=30

Area of Residence	Frequency	Percentage
Urban	22	73.4
Rural	8	26.6

The above table 2 describes the distribution of subjects based on Area of Residence. Majority 22 (73.4%) of them were belongs to Urban area and 8 (26.6%) of them were belongs to Rural area.

Table 3: Distribution of subjects based on level of difficulty in college N=30

Level of difficulty in college		
yes	12	40
no	18	60

The above table 3 describes the distribution of subjects based on Level of difficulty in college Majority 18 (60%) of them did not felt difficulty while ,12 (40%) students felt difficulty in studying in mtpgi&rihs college Puducherry.

Table 4: Frequency and level of test anxiety among nursing students N=30

Level of test anxiety	Frequency	percentage
No test anxiety	7	23.3
Moderate (exhibit some of the characteristics of test anxiety)	22	74
Unhealthy	1	3.3

With respect to table 4, which depicts the level test anxiety, Majority of subject 22 (73.3 %) exhibit some of the characteristics of test anxiety, 7 (23.3 %) do not suffer from test anxiety and only 1 (3.3 %) has unhealthy level of test anxiety

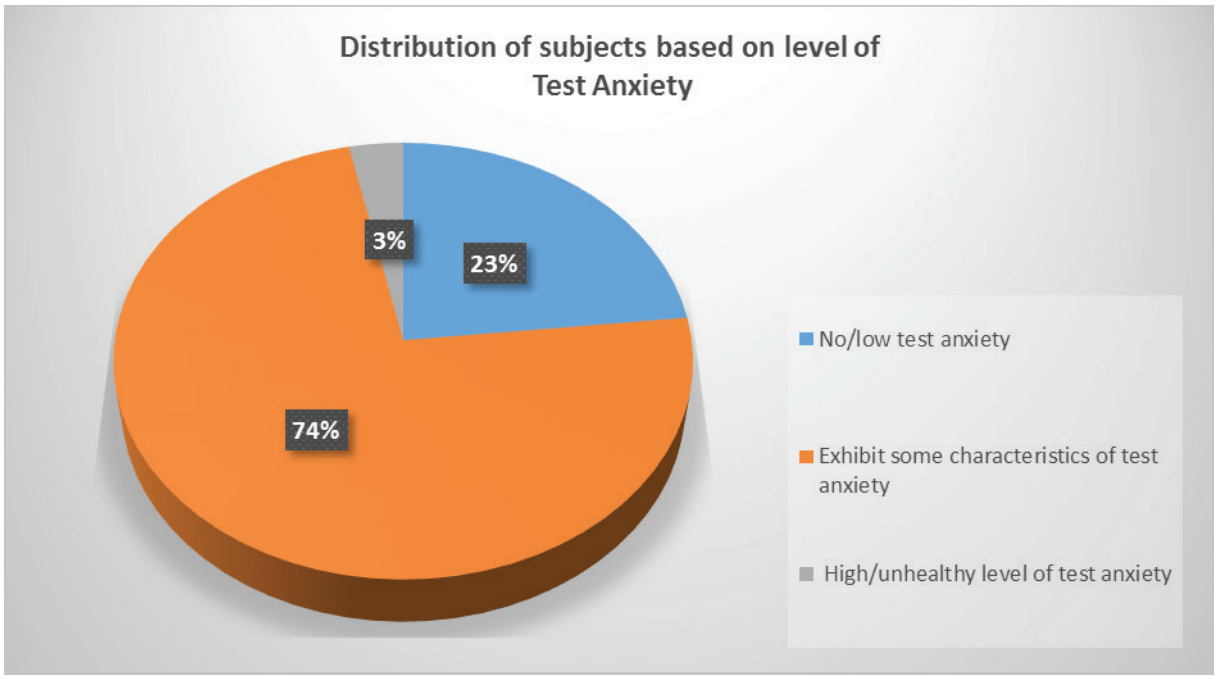

Fig 1; distribution of subject based on level of test anxiety

Discussion

The study result findings showed that there is no significant association between the selected demographic variables and test anxiety among nursing student .Majority of subject 22 (73.3 %) exhibit some of the characteristics of test anxiety, 7 (23.3 %) do not suffer from test anxiety and only 1 (3.3 %) has unhealthy level of test anxiety.

The present study was supported by Brad Edward Moore (2013) conducted a primary descriptive analysis of test anxiety among nursing students in east Tennessee state university, US, using a cross-sectional survey. The findings of study shown that more than half of nursing students who were surveyed shown moderate to high cognitive test anxiety and that intervention is needed to reduce the numbers and increase grade point averages. Similar studies show that when test anxiety scales are given to high school students and the general populations, as well as nursing students, nursing students have higher test anxiety levels. [12]

The present study was supported by the study conducted by Charlet J Vaz (2018) Factors Influencing Examination Anxiety among Undergraduate Nursing Students: An Exploratory Factor Analysis in selected universities, Karnataka. the level of text anxiety was found 209 (61%) students being normal or no test anxiety, 87 (25%) with mild test anxiety,40 (12%) show moderate test anxiety and 5 (2%) have severe test anxiety [13].

The present study was supported by the study conducted by Farrahdilla Hamzah (2018) Assessing Test Anxiety among the First Year Nursing Students' a cross sectional study at University of Sultan Zainal Abidin, Terengganu, Malaysia. The study results revealed that only 1.7% respondents no anxiety, 36.7% respondents experienced of mild anxiety, more than half 58.3% respondents had moderate anxiety and 3.3% respondents experienced of severe anxiety.[14]

The present study was supported by Mohammed G Qutishat (2018) Extent of Test Anxiety among Nursing Students and impact on academic performance in Sultan Qaboos University, Oman. A descriptive correlational study. The findings of the study shown that majority of the students have moderate test anxiety or worry 66 (43%), impairment 85 (56%) and overall, 85 (55.6%) [15]

The present study was supported by Husam Al Khatib (2019) A descriptive analytical study to assess the Exam Anxiety among Nursing Students and Its Relationship

with Some Variables at Al-Ahliyya Amman University, Jordan. Results of the study indicated that more than half of the participants were suffering from medium levels of exam anxiety. Whereas one-third of the participants were suffering from high levels of exam anxiety.[16]

The present study was supported by a study conducted by Hamid Reza Miri (2013). A descriptive cross-sectional study, that Determining the Level of Test Anxiety and Some of Its Contributing Factors among the Freshmen Students at Hormozgan University of Medical Sciences, Iran. Findings of the study revealed 47.85 % of students suffered from low level of test anxiety, 40.3 %from moderate level and 11.95% from severe level.[17]

Conclusion

The study conducted among 30 final year BSc nursing students. The present study concluded that there was high prevalence of test anxiety among nursing students. Majority of them have moderate anxiety showing only some characteristics of test anxiety and the level of stress and tension that they have is probably healthy. We provide opportunities for nursing students to get an understanding of their level of test anxiety.

Recommendation

Based on findings of the present study, the following recommendations have been made

· Similar study can be conducted in large sample size.

· Similar study can be conducted at different settings.

· Similar study can be conducted with interventional strategies

Ethical Clearance- Taken from the Principal and Dean, Mother Theresa College of Nursing, Puducherry.

Source of Funding- Self.

Conflict of Interest – Nil.

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Perinatal Mental Health Problems –What Midwives and Nurses can do?

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Abstract

Maternal mental health is largely neglected in low and middle income countries. There is no routine screening or treatment of maternal mental disorders in primary care settings in most parts of our country. Women of every culture, age, income level and race can develop perinatal mood or anxiety disorder. Symptoms can appear any time during pregnancy and the first 12 months after childbirth. According to the World Health Organization, worldwide about 10% of pregnant women and 13% of women who have given birth experience a mental disorder, primarily depression.

Risk factors involved in causing maternal mental health issues include previous history or family history of mental health problems, poverty, extreme stress, childhood abuse and neglect, violence, interpersonal conflict, inadequate support from family, alcohol or drug abuse, and unplanned or unwanted pregnancy, natural disasters, and negative experiences from previous pregnancies. With severe depression, the mothers fail to adequately eat, sleep, bathe or adequately care for herself or the baby. The risk of suicide or harming the baby is also possible. Prolonged or severe mental illness affects family life, hampers mother infant bonding, breastfeeding and infant care.

Specialized midwives can be effectively involved in promoting healthy pregnancies, in primary and secondary prevention, early identification, and timely provision of quality specialist care to the affected women. However, identification and management of mental disorders by non- specialized health providers is strongly recommended by the World Health Organization.

Key Terminologies: *Midwives, Perinatal Mental Health, Screening, Counseling.*

Introduction

"There is no health without mental health"

International Mental Health Day is observed on the 10th of October every year. Perinatal mental health as a public health issue is getting more recognition. Maternal mental health is largely neglected in low and middle income countries. There is no routine screening or treatment of maternal mental disorders in primary care settings in most parts of our country. With informed case worsening of the symptoms can be prevented with a full recovery. Midwives and nurses need to be adequately prepared to take on a more developed role in preventing, recognizing and managing perinatal mental health problems.

Perinatal mental health refers to a woman's mental health during pregnancy and the first year after childbirth. Women of every culture, age, income level and race can develop perinatal mood or anxiety disorder. Symptoms can appear any time during pregnancy and the first 12 months after childbirth.

How serious is the problem?

Between 10 -20% of women develop a mental illness during pregnancy, or within the first year after having a baby. Depression and anxiety are the most common problems during pregnancy, with around 12% of women experiencing depression and 13% experiencing anxiety at some point [1]. In a recent experimental study, it was found that 14% of mothers showed possibility to develop postnatal depression compared to none in the

experimental group whose husbands attended Parent Preparedness Programme[2]. The study also showed strong negative correlation between scores on postnatal depression and involvement of father [2.] Suicide is an important cause of death among pregnant and post-partum women. Depression causes enormous suffering and disability and reduced response to child's needs. Evidence indicates that treating the depression of mothers leads to improved growth and development of the newborn and reduces the likelihood of diarrhoea and malnutrition among them [1].

Globally maternal mental health problems are considered as a major public health challenge. WHO advocates low cost interventions with the involvement of non-specialized or community health providers. Impact of such measures can be demonstrated not only on mothers but also on growth and development of children[3]

Examples of perinatal mental disorders include Antenatal and Postnatal mental depression, Anxiety disorders, Eating disorders, Sleep disturbance, and Post traumatic stress disorder (PTSD), Postpartum psychosis and Mania. These diseases can be mild, moderate, or severe requiring different kinds of care or treatment. Quite often these disorders go unnoticed, unrecognized, undiagnosed and untreated. If left untreated they can cause serious harm to parents and their children[4].

Mental health disorders in the perinatal period can affect the mother inadvertently. There can be increased risk of postpartum episodes, poor social functioning, and decreased productivity due to negative recognition. If left untreated, it may lead to suicidal ideation. Diarrhoeal episodes are common among babies born to the affected mothers and are usually of small birth weight with tendency for growth retardation. Poor academic performance is yet another developmental defect noted in many of these children. Due to mother's failure to keep up appointments, the vaccination status of babies of these mothers are often incomplete.

What causes Perinatal Mental Health Disorders?

Studies show that changes in the level of hormones during pregnancy and after birth can trigger changes in mood, whereas only some women go on to develop a perinatal mental health problem.[4]

Risk factors include marital disharmony, poverty, homelessness, extreme stress, and exposure to violence, conflict situations, natural disasters, poor social support, unwanted or unintentional pregnancy, previous negative experiences of childbirth etc. It is seen perinatal mental health disorders are more common among women with a family history of mental disorders in first degree relatives. The possibility of developing postpartum depression is 50% in women with a history of suffering from it in previous pregnancy and childbirth. A troubled marriage is often counted as a strong predisposing factor. A recent stressful experience like having a difficult and prolonged labour, emergency caesarean section, forceps/vacuum delivery, complications during delivery, and any serious birth defects or health problems in the newborn are other stressful situations.

With severe depression or even anxiety or other severe psychotic conditions, the mothers fail to adequately eat, sleep, bath or adequately care for herself or the baby. The risk of suicide or harming the baby is also possible. Suicide is a leading cause of death for women during pregnancy and in the first year following childbirth. Prolonged or severe mental illness affects the mother-infant bonding negatively. Breastfeeding and infant care also are affected. Identification and management of mental disorders in the perinatal period by non-specialized health providers is strongly recommended by the World Health Organization.

Parent education, open discussions, early assessments and intervention can reduce the risk of onset, intensification and negative effect of mental health problems[6]

Childbirth involves many psychological and emotional changes for women. The recent Commonwealth Government of Australia, National Perinatal Mental Health Action Plan recommends all pregnant and postnatal women have a psychosocial assessment including completion of the Edinburgh Postnatal Depression[7]. The future direction for improving maternity care will require midwives to assess mental health needs of women, and refer them on, for timely intervention. It is critical midwives are prepared and able to make this kind of assessment [5].

Barriers in accessing care

Lack of knowledge and\or experience, unclear /lack of policies, staff shortage, less time to spend with the mother, lack of tools for assessment, limited childcare facilities, poor continuity of care, poor knowledge on referral pathways are the most common reported barriers in accessing care for the affected women [8] Language barrier is reported by both women and HCPs. Differences in cultural values such as women of certain cultures insist female doctors attending them may stop them getting timely care.

Early recognition

At the first visit in the antenatal clinic itself, the woman can be asked if she has been feeling down, depressed or hopeless for the last one month and has little interest or pleasure in doing things. If the answer is yes, it is to be assumed that there is a clinical concern and she needs to be referred for mental consultation. If the answer is 'Yes', ask if she finds herself avoiding places or activities and does this cause her problems? If the answer is 'Yes' to the third question a detailed tool must be used for assessment eg: EPDS. A culturally sensitive tool may be prepared in local language for the initial screening as well as for detailed screening. It is also equally important to elicit any history of severe mental illness (during pregnancy or the postnatal period or at any other time). Ask for family history of mental disorders. If suggestive, refer for mental consultation.[1]

Assessment in pregnancy and the postnatal period

Physical wellbeing including weight, smoking, nutrition, activity level and history of any physical health problem must be assessed as a routine measure. Domestic violence and abuse, sexual abuse, trauma or childhood mal treatment are other sensitive areas to be explored. Interpersonal relationships, her attitude towards the pregnancy, including denial of pregnancy must be delved into.

How is Postpartum Depression manifested?

These women usually feel or look depressed, with tearfulness or crying spells. They also feel anxious, sometimes with obsessions and compulsions, often about the baby's welfare or about being able to carry out responsibilities as a mother. Feeling hopeless, worthless or guilty and feeling irritable or burdened are also noted. Sleeplessness is one of the early and common symptoms found. Losing interest or pleasure in all activities, including pleasure in being a mother is also experienced by these mothers. Changes in appetite (either overeating or not eating enough) are also common. Suicidal thoughts and or thoughts of harming the baby must be taken as very serious and need immediate steps. Fathers of new babies also can suffer from postpartum depression[1].

What can we as Nurses do in the present Scenario?

We acknowledge of course that the greatest burden of COVID-19 care provision, morbidity and death has fallen on those working in medicine, social care and nursing, in community care provision, in care homes, in mental health settings. Yet women and midwives remain very much affected; care during pregnancy, birth and the postnatal weeks has changed radically and fast, and basic elements of the midwife-woman relationship such as meeting in person and providing a comforting touch have been upended in an attempt to maintain distance and reduce cross-infection and also due to COVID 19, woman may not come forward with problems [11.] .As nurses we must emphasize on adequate online follow up services, online consultation and workshops through Health & Wellness Network.

Assess whether the woman has adequate social support and is aware of sources of help. If not, arrange help. Inform all relevant healthcare professionals including the nurses and midwives in the ward, nurse supervisors, treating obstetrician, consultant psychiatrist including clinical psychologist regarding the condition of the woman. The husband, parents including in-laws (consider the woman's consent) must be made aware of the condition. Advise the woman, and her partner, family or by-stander to seek further help if the situation deteriorates.

Postpartum blues or "baby blues"

Tend to occur in most new mothers between 4th to 10th day postpartum. The woman may be tearful, sad, irritable, anxious, and confused. These symptoms do not tend to affect the individual's ability to function. The women normally recover from these symptoms by day

10 and if prolonged may end up with PPD.[4]

Anxiety Disorders: Approximately 6% of pregnant women and 10% of postpartum women develop anxiety. Postpartum Panic Disorder and Postpartum Obsessive Compulsive Disorder are two forms of anxiety. The risk factors include a personal or family history of anxiety, previous perinatal depression or anxiety, stressful living situations, and thyroid imbalance. Clinical manifestations include panic attacks, constant worry, feeling that something bad is going to happen, racing thoughts, Disturbances of sleep and appetite, Inability to sit still and physical symptoms like dizziness, hot flashes, and nausea.

Managing Postpartum Depression & Anxiety Disorders include Psychotherapy (talk therapy) with educational programs and support groups. Cognitive Behavioural Therapy (CBT) is designed to help correct faulty, thought patterns. Interpersonal Therapy (IPT) can help a person sort out conflicts in important relationships or explore past events or issues. Couples Therapy can help the mother and father to plan how to manage possible areas of disagreement or how best to support each other[8].

Currently the SSRI (Selective Serotonin Reuptake Inhibitors) and SNRI (Serotonin Nor epinephrine Reuptake Inhibitors) are more commonly used compared to the old generation drugs such as MAO (Monoamine Oxidase Inhibitors) and TCA (Tricyclic Antidepressant) group of drugs as they are considered to be safer than the MAOs and TCAs. Benzodiazepines are given for short term anxiety[1].

Alcohol, Drug misuse, Post traumatic Stress Disorder: Refer the woman to a specialist substance misuse service for advice and treatment. Offer detoxification / de-addiction in collaboration with specialist mental health and substance misuse services. The newborn should be observed for 'withdrawal symptoms.' Only high intensity psychological (CBT) interventions are recommended for Post Traumatic Stress Disorder. **Eating disorders and sleep Disturbances** Offer a psychological intervention. Monitor the woman's condition carefully throughout pregnancy and the postnatal period. Assess the need for fetal growth scans. Discuss the importance of healthy eating during pregnancy and the postnatal period. Advise pregnant women to follow a healthy bedtime routine, avoid caffeine and reduce activity before sleep. For women with a severe or chronic sleep problem, consider promethazine.

Postpartum Psychosis

Postpartum psychosis occurs much more rarely and is thought to be a severe form of postpartum depression. Symptoms include delusions and hallucinations. Suicidal thoughts and or thoughts of harming the baby also are common. Severe depressive symptoms and postpartum psychosis requires immediate treatment and hospitalization. A combination of medication such as antipsychotics, mood stabilizers, and benzodiazepines, in combination with high intensity psychotherapy to control signs and symptoms are preferred. Electro Convulsive Therapy may be considered if symptoms do not subside with above management.

Advice to Mothers with Perinatal Mental Health Problems

Rest/sleep when baby sleeps. Do only what is needed. Get emotional support. Ventilate your feelings to someone. Enjoy social media like Whatsapp, Facebook, or Twitter. Exercise when you can. Eat a variety of healthy foods. Take care of yourself. Shower and dress each day and meet friends and relatives. Call your emergency number if you think about hurting yourself or your baby. Example. Call-112, the national emergency number. Women helpline- 1091, 181. **Prognosis:** If diagnosed and treated early, most mothers with perinatal mental health disorders recover completely. About 50% of women who recover from postpartum depression develop the illness again after future pregnancies. To decrease this risk, some doctors suggest that women with a history of postpartum depression should start antidepressants immediately after the baby is delivered, before the onset of depression symptoms..

Advice and Information by the Midwife: Ensure the woman understands that mental health problems are common in the perinatal period. Instill hope about the treatment of the condition. Preconception counseling for women must be planned if she has a current or past severe mental health problem and is planning a pregnancy. The potential benefits of psychological interventions and psychotropic medications must be

made clear to the woman. The possible consequences of not taking treatment regime including the possible harms associated with treatment. The woman and the family must be briefed on starting, using, and stopping treatment. Remember to appreciate the woman/parent[1].

How Can Midwives Improve Maternal Mental Health?

Move away from the medical model of care. Raise awareness among mothers, and family regarding any deviation in mental well being of mothers through building a trusting relationship with the woman. Always ensure continuity of care. Reduce stigma with meaningful communication. Provide supportive antenatal care to increase self-efficacy and reduce anxiety. Using customized and culturally sensitive tools to identify risk and current wellbeing can be a proactive step in identifying women at risk. If screening is indicative, refer women for additional counseling and care. Develop an evidence-based framework for maternal mental health[8].

Support family members. Find time to listen to their concerns. Do not forget mental health problems can affect fathers as well. Remember to attend ongoing training programs to update your knowledge and skill in managing perinatal mental health problems. To get a clear outlook on the issue, take up research related to maternal mental health problems. Ensure the parents get adequate antenatal parent preparation. Promote father involvement in childbirth care and empowerment and participation of mothers and families.

Use of information technology is the most effective and easiest way of maintaining continuity of care and follow up. Collaborate with the IT dept. to set up Mobile Instant Messaging (MIM). Help form WhatsApp groups of mothers with similar problems. Message on appointments, reminders, and send wishes on special days and occasions like Mother's Day, and Birthday of mother or baby. Post educational material on websites and provide web addresses to the parents. Tips to keep the baby and themselves healthy and in many more ways.

Is it possible to prevent postpartum depression?

Yes, to a great extent. All pregnant and postnatal women must have a psychosocial assessment including completion of a depression screening tool. Visit new mothers at home by a midwife/ nurse to ensure continuity of care through community health centers. Pre-pregnancy of both the parents for the early signs are some of the proactive steps and gathering history about family members would throw limelight into the possibility of the woman developing perinatal mental health problems.

Make time to exercise.

"Taking a brisk walk, getting fresh air, and enjoying nature can improve your outlook," says Karen Rosenthal, Ph.D., a psychologist in Westport, Connecticut A study of more than 1,000 mothers found that those who exercised before and after the birth of their baby tended to feel better emotionally and were more social than women who didn't [12]

In the context of sustained COVID-19 anxiety, we as nurses should continue to support women to have a positive pregnancy and birth with reduced visits and online breastfeeding support .We must try to ensure safe, high quality care for women and families during the COVID-19 era.

Conclusion

Maternal mental disorders are preventable and treatable. The vast majority of future mothers do NOT require psychiatric treatment. They just need effective emotional support. Interventions aimed at strengthening mother's ability to rally social support may not only reduce early postpartum depressive symptoms but may enhance a mother's postpartum recovery. Effective interventions can be delivered even by well-trained non-specialist health providers –that includes midwives and nurses as well.

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Certificate of Originality and Authorship

This is to certify, that the article submitted is an independent and original work. We have duly acknowledged all the sources from which the ideas and extracts have been taken. The article is free from any plagiarism and has not been submitted elsewhere for publication and has been approved by ethical committee.

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Effect of a Brief Intervention on Anger Management among Adolescents

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Abstract

Background: Adolescence is the transition period between childhood and adulthood, during which an individual experiences a number of emotional issues. Adolescents' anger may be triggered and/or intensified by variety of factors. To be healthy and safe, adolescents need to be equipped with skills that allow them to cope with anger in a productive manner. This study was aimed to assess the effect of anger management techniques on the level of anger among adolescents.

Method: An experimental pre-test, post-test design was adopted to achieve the objectives of the study. A simple random sampling technique was used to select 120 adolescents, studying at Government schools of Puducherry. Socio-demographic details were collected by a semi-structured proforma. The level of anger was assessed by Adolescent anger rating scale before and after the intervention. Anger management techniques such as deep breathing exercises, assertive communication and the techniques to improve interpersonal relationship were taught to the subjects over a period of one-week.

Results: Majority of the subjects was in the age group of 14 years, in both the experimental (n=28, 46.67%) and control group (n= 26, 43.33%). There was a significant reduction in the level of anger among the experimental group from the pre-test mean (SD) score of (92.5 ± 19.13) to post-test (68.95 ± 11.58) and the paired 't' test value (12.91) demonstrated that the difference was statistically significant at $p<0.001$.

Conclusion: The study results indicate that anger management intervention was effective in reducing the level of anger among adolescents. The techniques adopted in the study are simple and cost effective and the regular practice of these techniques would definitely enhance the coping skills of adolescents in controlling their anger.

Key Words: *Adolescents, Anger Management Techniques, behavioural changes*

Introduction

Anger is one of the basic feelings that the individuals experience when they do not meet their needs in daily life. Anger may be viewed as an acute emotional reaction elicited by any of a number of stimulating situations including threat, overt aggression, restraint, verbal attack, disappointment, or frustration.[1] When a person gets anger, it triggers physiological and biological changes, such as increased heart rate and blood pressure, high energy levels, and a rise in adrenalin, noradrenalin, and hormones. [2] Anger manifests itself both outwardly in physical and verbal aggression, and inwardly in various forms of self-harm. School personnel are confronted not only with the direct effects of anger and aggression, such as threats of violence and fighting among students, but also with the indirect effects such as learning difficulties and social adjustment problems.[3] Adolescents' anger may be intensified by feelings of frustration, during which they experience a desire for greater privacy and independence. Some adolescents express their anger covertly by withdrawing from social activities

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or not following through with their home or classroom obligations, while others express it overtly by screaming, throwing objects, or slamming doors. Some may exhibit both overt and covert anger behaviors.[4]

Risk among adolescents can be attributed to the many stressors, including: (1) peer pressure to conform the values and ideologies that may conflict with family and/or societal norms; (2) adjusting to the demands and expectations of school; (3) coping with physical, sexual, or emotional abuse by parents, teachers, and/or significant others; and (4) grappling with feelings of worthlessness, loneliness, and helplessness. Other stressors, such as parental divorce or death, poverty, neglect, and alcoholism, as well as bullying by peers may trigger anger outbursts in adolescents.[5] To be healthy and safe, adolescents need to be equipped with skills that allow them to cope with anger in a productive manner. Most anger management groups have the potential to help adolescents develop the resources to creatively and effectively manage their anger. Studies revealed that school-wide emotional-behavioral interventions focused on anger management techniques yielded a positive effect.[6] The aim of the present was to assess the effect of a brief intervention on anger management among adolescents.

Materials and Methods

An experimental pre-test, post-test design was adopted to achieve the objectives of the study. A simple random sampling technique was used to select 120 adolescents, studying at Government schools of Puducherry. Permission was obtained from the Joint director of school education, Puducherry for conducting the study and the information was passed to the respective school head masters and class teachers.

By lottery method, subjects were assigned either to the experimental group (n=60) or to the control group (n=60). Adolescents of both gender, aged between 13-16 years and those subjects who lived with their parents or biological relatives were enrolled in the study. Subjects who stayed in the hostel were excluded. Written informed consent was obtained from the subjects and their parents after explaining the details of the study. Confidentiality was assured and the privacy was maintained throughout the study. Socio-demographic details were collected by a semi-structured proforma. The level of anger was assessed by Adolescent anger rating scale (AARS) [7] before and after the intervention.

AARS is a 41 item, self-reported four point rating scale, ranging from hardly ever (1), some times (2), often (3), and very often (4) and is designed to measure the specific expressions of anger of adolescents. It has three domains: instrumental anger with twenty items, reactive anger with eight items, and anger control with thirteen items.[7] The score ranges from 41 to 164. Higher the score reflects greater endorsements of anger. Score of ≤ 50% is categorized as mild anger, 51-75% as moderate anger and >75% as severe anger.

Anger management techniques

Anger management comprises of quick control (deep breathing exercise), effective communication (assertiveness) and inter personal relationship (dealing with anger). Deep breathing exercise is done by taking in air through nose for four counts, holding it for two seconds, and then letting air out through mouth for six counts. As participants were doing the exercise, they were asked to notice the air going in and out of the body. Effective communication techniques with different styles of communication like assertive communication were taught to the participants by explaining how the ways of communication with others can make a difference to the responses that are received by someone. Further, the importance of interpersonal relationship that are helpful and supportive was explained to control the anger.

Participants in the experimental group were divided in to three sub groups (20 in to each group) and were administered anger management techniques for three days and practiced the techniques for another four days under the supervision of the researcher. Control group participants were asked to communicate their reaction to different anger provoking situations in writing. After a week, post-test was administered to both the groups. The content was validated by the experts from the field of Psychiatric Nursing, Clinical Psychology and Psychiatry.

Results

Socio-demographic characteristics of the participants

Out of 120 subjects, majority were in the age group

of 14 years, in both the experimental (n=28, 46.67%) and control group (n=26, 43.33%); Gender distribution was 30 (50%) equal in both the groups; Mostly, the subjects were second born child in both the experimental (n=24, 40%) and control group (n=27, 45%); 58 (96.67%) and 55 (91.67%) subjects were living with both of their parents in the experimental and control group respectively; 47 (78.33%) subjects in experimental group and 51 (85%) subjects in control group were from nuclear family. Majority of the subjects had their residence in urban area, in both the experimental (n=57, 95%) and control group (n=57, 95%).

Different types of anger reactions are shown in **table 1**. Majority of the subjects (n=32, 53.33%) expressed their anger through verbal in the control group. Comparatively, 25 (41.67%) subjects in the experimental group had used other methods apart from the verbal and physical methods of reaction.

Table 1: Different types of anger reactions of study participants (N=120)

Type of anger reaction	Experimental Group		Control Group	
	No	%	No.	%
Verbal	24	40	32	53.33
Physical	11	18.33	8	13.33
Others	25	41.67	20	33.33

The pre-test and post-test means scores of anger in different domains in both the groups are summarized in Table 2.

Table:2. Comparison of mean scores of anger before and after the intervention between experimental and control group (N=120)

Level of anger on different domains	Experimental Group				Control Group			
	Pre- Test		Post- Test		Pre- Test		Post- Test	
	No.	%	No.	%	No.	%	No.	%
Instrumental anger								
Mild Anger (51 – 75%)	31	51.67	54	90	24	40	25	41.67
Moderate Anger (51 – 75%)	24	40	6	10	29	48.33	30	50
Severe anger	5	8.33	0	0	7	11.67	5	8.33
Reactive anger								
Mild Anger (51 – 75%)	19	31.67	50	83.33	22	36.67	19	31.67
Moderate Anger (51 – 75%)	37	61.67	9	15	34	56.67	37	61.67
Severe anger (>75%)	4	6.67	1	1.67	4	6.67	4	6.66

Cont... **Table:2. Comparison of mean scores of anger before and after the intervention between experimental and control group (N=120)**

Anger control								
Mild Anger (51 – 75%)	8	13.33	35	58.33	19	31.67	19	31.67
Moderate Anger (51 – 75%)	45	75	24	40	39	65	37	61.67
Severe anger (>75%)	7	11.67	1	1.67	2	3.33	4	6.66
Total anger								
Mild Anger (51 – 75%)	21	35	52	86.67	22	36.67	20	33.33
Moderate Anger (51 – 75%)	34	56.67	8	13.33	37	61.67	40	66.67
Severe anger (>75%)	5	8.33	0	0	1	1.67	0	0

Before the intervention, the mean anger score in the experimental group was 92.5 ± 19.13 and it was reduced to 68.95 ± 11.58 after the intervention. The effect of anger management intervention was analyzed using the paired *t*-test. The value (12.91) demonstrated that the difference was statistically significant at p<0.001 and it is illustrated in **Table 3.**

Similarly, in the control group, the pre-test mean anger score was 92.00 ± 16.10 and the post-test score was 91.80 ± 13.88. The calculated't' value was 0.22 and the p value was 0.827 and did not approach the statistical significance. Further, the Chi-square analysis revealed that none of the socio-demographic parameters were associated with the level of anger except gender.

Table 3: Comparison of pretest and posttest anger scores in the experimental Group (N=60)

	Anger score Mean ± S.D	**Paired 't' value**	**P value**
Pre-test	92.50 ± 19.13	t = 12.91	p = 0.001 *
Post- test	68.95 ± 11.58		

***** Significant at p<0.001

Discussion

The results of the present study demonstrated that the anger management techniques were effective in reducing the level of anger among adolescents. The study results are consistent with the previous studies conducted by various researchers. [8-10] A similar study from Tehran conducted by Mokhler et al had shown that the anger management training significantly decreased the level of anger among adolescent girls aged 15-18 years.[11] The literature review suggested that many of the anger management programmes employed deep breathing exercises, relaxation training and cognitive restructuring.[10, 11] Putranto et al developed an animated video for Indonesian car drivers to reduce their anger level. This educational video was used to reduce the risk associated with road safety and to change the driver's behaviour to control their anger.[12] The similar kind of intervention may be implemented for the children and

adolescents as a school based intervention to reduce the violence incidents.

Learning healthy anger management requires patience, a willingness to try different ways of dealing with anger, commitment, and practice.[13] Lenic et al described a creative group counseling approach for adolescents to manage their anger. Being aware of triggering factors, identifying the causes and practicing anger control techniques may be beneficial to control and prevent anger.[14]

Adolescents who learn to effectively manage their feelings of anger greatly decrease the incidence of self defeating behaviors, increase self-awareness, develop a healthier self-concept, and increase their ability to build positive and healthy relationships.

Conclusion

The current study had explored the effectiveness of a school-based anger management intervention. Even though, it is not routinely taught in the schools and practiced by the students, the study findings have important implications in the field of education and mental health of adolescents. Since, today's adolescents face many situations that provoke anger, they should be helped to cope with this problem in an effective way. It is the responsibility of everyone in the society including the parents, teachers, counselors and the mental health professionals.

Conflicts of Interest : Nil

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