A study to assess the effectiveness of structured teaching programme on knowledge regarding risk factors in preventing infective thyroiditis among adolescent girls studying in selected college, Gonda city, Uttar Pradesh

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Abstract
Thyroiditis is an inflammation of the thyroid gland that may be painful and tender when caused by infection, radiation, or trauma, or painless when caused by autoimmune conditions, medications, or an idiopathic fibrotic process. Hence, the degree of radioactive iodine uptake by the gland is reduced in most patients with viral, radiation-induced, autoimmune, or drug-induced inflammation of the thyroid. Treatment primarily is directed at symptomatic relief of thyroid pain and tenderness, if present, and restoration of euthyroidism. Awareness of adolescent girls regarding knowledge on risk factors of thyroiditis can prevent infective thyroiditis and complications.

Keywords: risk factors, thyroiditis, college girls

Introduction
The main causes of thyroid dysfunction is that the poor nutrition (iodine deficiency) was the main cause (50%) and the second main factor was stress that is (30%) followed by genetic (10%). The deficiencies of vitamin A, magnesium and iron are the other causes of thyroid malfunction (10%). More over the nutritional deficiency, stress and genetic disorders are responsible for thyroid disorders. [13]

Objectives of the study
1. To assess the pre-test knowledge score regarding risk factors in preventing infective thyroiditis among adolescent girls in selected colleges at Gonda, Uttar Pradesh.
2. To develop the structured teaching programme regarding risk factors in preventing infective thyroiditis among adolescent girls studing in selected colleges.
3. To assess the effectiveness of Structured teaching programme on knowledge regarding risk factors in preventing infective thyroiditis among adolescent girls in selected college at Gonda, Uttar Pradesh.
4. To analyse the association between the level of pre-test knowledge score regarding risk factors in preventing infective thyroiditis among adolescent girls with their demographic variables.

Hypothesis
H₁: There will be a significant difference between the mean pre-test and mean post-test knowledge scores level of adolescent girls regarding risk factors in preventing thyroiditis.
H₂: There will be a significant association between the pertest knowledge score level of adolescent girls with their socio-demographic variables.

Assumptions
This study assumes that
1. Adolescent girls may have inadequate knowledge regarding risk factors in preventing infective thyroiditis
2. Structured teaching programme may improve the knowledge of adolescent girls regarding risk factors in preventing infective thyroiditis.

Operational Definitions
1. **Assess:** It refers to the statistical measurement of effectiveness of structured teaching programme on the level of knowledge regarding risk factors in preventing infective thyroiditis among adolescent girls.
2. **Effectiveness**: It refers to evaluate the result of structured teaching programme on the level of knowledge regarding risk factors in preventing infective thyroiditis among adolescent girls by post test score.
3. **Structural teaching programme:** It is a systematically planned teaching programme designed to provide information regarding risk factors in preventing infective thyroiditis among adolescent girls.
4. **Knowledge:** It refers to the understanding of risk factors in preventing infective thyroiditis among adolescent girls
5. **Prevention:** It refers to the measures adopted by the adolescent girls to prevent infective thyroiditis which was caused by risk factors.
6. **Risk factors:** It refers to factors like gender, family history, virus, bacteria, fungal; parasites are causes for infective thyroiditis.
7. **Infective Thyroiditis**: In this study it refersto the inflammation of thyroid gland due to microorganisms like, Bacterial, viral and fungal infections.
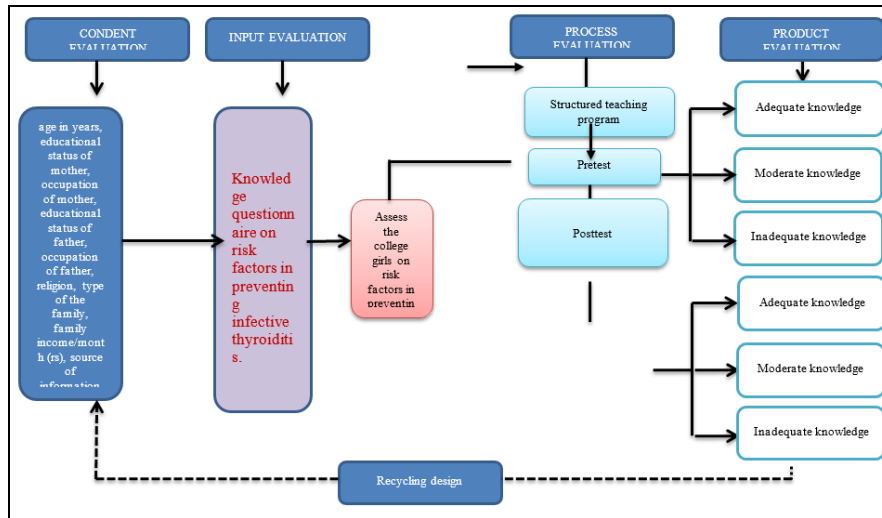
Fig 1: Schematic representation of conceptual framework based on Stufflebeam's context, input, process, and product model (cipp mode

Methodology
Research Approach: a quantitative research approach
Research Design: a Pre-experimental one group pre and post-test design

Fig 2: Schematic Representation of Research Design

Setting of the Study
The setting is the location where a study is conducted. The study was conducted at SCPM College of Nursing and Paramedical Science, Gonda.

Variables
Variables are qualities, properties or characteristics of persons, things or situation that change or vary.
Independent variable: structured teaching programme is the independent variable.
Dependent variable: Knowledge regarding risk factors in preventing infective thyroiditis is the dependent variable.
Demographic variables: The demographic variables are age in years, educational status of mother, occupation of mother, educational status of father, occupation of father, religion, type of the family, family income/month (rs), source of information.

Population
The population referred to us is the target population, which represents the entire group or all the elements like individuals or objects that meet certain criteria for inclusion in the study. In this study the population are adolescent college girls in SCPM College of Nursing and Paramedical Science, Gonda.

Sample
Sample refers to subset of the population that is selected to participate in a particular study. In this study, the sample consists of 60 adolescent college girls in SCPM College of Nursing and Paramedical Science, Gonda who fulfilled the inclusion criteria for the study.

Sampling Technique
Non-probability purposive sampling technique

Inclusion Criteria
1. For this study the samples are selecting who are
2. Available at the time of data collection.
3. Willing to participate in the study.
4. Knows Hindi & English for reading & writing.
5. Sound in physically and mentally.

Exclusion criteria
For this study the samples are selecting who are
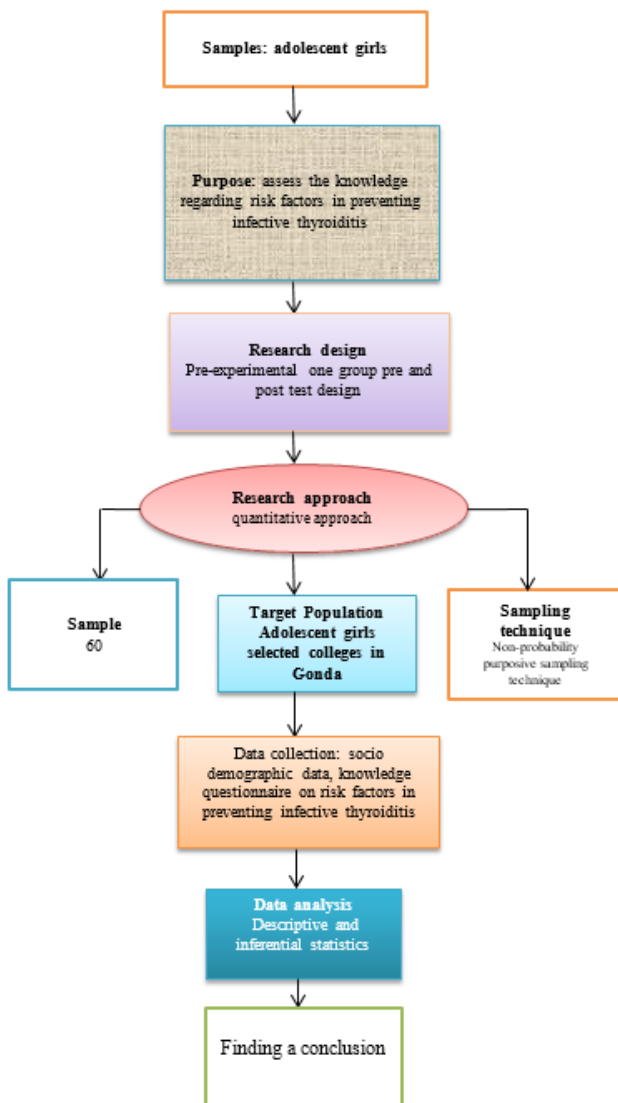
1. Absent at the time of data collection.
2. Not willing to participate in the study.
3. Do not Knows Hindi & English for reading & writing.
4. Not sound in physically and mentally.

Selection and Development of Tool
Based on the research problem and objectives of the study, the following steps were undertaken to select and develop the data collection tool.
a. **Selection of the tool:** A structured knowledge questionnaire on risk factors in preventing infective thyroiditis was selected based on the objectives of the study, as it was considered to be the most appropriate instrument to elicit responses from the participants was selected.
b. **Development of tool:** The instrument selected in a research should be as far as possible the vehicle that would best obtain data for drawing conclusions, which were pertinent to the study.

A structured knowledge questionnaire on risk factors in preventing infective thyroiditis was prepared to assess the level of knowledge. The tool was developed;
▪ After reviewing the related literature.
▪ Based on the experience of the investigator.
▪ Based on the consultation with the subject experts.

Description of the Tool
A socio demographic data and knowledge questionnaire on risk factors in preventing infective thyroiditis was constructed by the investigator which contains items in the following aspects.
Section I: Socio- demographic data consist of age in years, educational status of mother, occupation of mother, educational status of father, occupation of father, religion, type of the family, family income/month (rs), source of information.
The details of socio-demographic schedule are given in annexure.
Section II: knowledge questionnaire consists of 30 items which includes causes and early symptoms. Each item has 4 options to select write one. Write answer has 1 mark and wrong answer has 0 mark.
Minimum Score = 0
Maximum Score=30
Knowledge levels on risk factors in preventing infective thyroiditis.

Reliability of the Tool
Reliability refers to whether or not you get the same answer by using an instrument to measure something more than once. In simple terms, research reliability is the degree to which research method produces stable and consistent results.
A specific measure is considered to be reliable if its application on the same object of measurement number of times produces the same results. [70]
The reliability of the measuring instrument is a major criterion for assessing the quality and adequacy. The reliability of instrument is the degree of consistency with which it measures the attribute it is supposed to be measuring.
In order to establish the reliability of the tool, it was administered to adolescent college girls other than the study

sample. The split half method was used to test the reliability of the tool. The test was first divided in to two equivalent halves and correlation for the half test was found by using Karl Pearson's correlation co-efficient formula and significance of correlation was tested by using probable error (r ½ = 0.80). The reliability co-efficient of the whole tool was then estimated by spearman Brown prophecy formula. The tool was found reliable (r = 0.80).

Presentation of data
The data collected was organized and presented under following sections:
Section 1: Analysis of the demographic variables of the subjects.
Section 2: Assess the pre-test knowledge score regarding risk factors in preventing infective thyroiditis among adolescent girls in selected colleges at Gonda, Uttar Pradesh.
Section 3: Assess the posttest knowledge score regarding risk factors in preventing infective thyroiditis among adolescent girls in selected colleges at Gonda, Uttar Pradesh.
Section 4: Assess the effectiveness of structured teaching programme on knowledge regarding risk factors in preventing infective thyroiditis among adolescent girls in selected college at Gonda, Uttar Pradesh.
Section 5: To analyse the association between the level of pre-test knowledge score regarding risk factors in preventing infective thyroiditis among adolescent girls with their demographic variables.

The following conclusions are made from the study findings
▪ Maximum 31 (51.7%) adolescent girls were aged between 19-20 years.
▪ Maximum 17 (28.3%) adolescent girls' mothers completed upto Primary education.
▪ Maximum 20 (33.3%) adolescent girls' mothers working as private employees.
▪ Maximum 16 (26.7%) adolescent girls' fathers were degree and above education holders.
▪ Maximum 23 (38.3%) adolescent girls fathers working in Private institution.
▪ Maximum 23 (38.3%) adolescent girls' fathers were private employees.
▪ Maximum 27 (45.0%) adolescent girls were Hindus.
▪ Maximum 30 (50.0%) adolescent girls belong to nuclear family.
▪ Maximum 31 (51.7%) adolescent girls' family income/month (rs) was 5000-10000.
▪ Maximum 19 (31.7%) adolescent girls' source of information was friends.
▪ Maximum 43% of adolescent girls studying in selected college were having inadequate knowledge on risk factors in preventing infective thyroiditis, 42% were having moderate level of knowledge and the remaining 15% were having adequate knowledge.
▪ Maximum 65% of adolescent girls studying in selected college, Gonda were having adequate knowledge on risk factors in preventing infective thyroiditis, 27% were having moderate level and other 8% were having inadequate knowledge on risk factors in preventing infective thyroiditis.
▪ In pretest mean score of knowledge was 14.82 ±7.78,

and the posttest mean score of knowledge was 23.05 ± 6.41. In this study is calculated 't' value 6.454 is higher than the tabulated 't' value of 2.027. So, the H_1 hypothesis is accepted. The researcher concluded the structured teaching programme was effective.

- The chi-square table implies that there is a significant association between pretest knowledge scores and the sociodemographic variables such as type of family and source of information at 0.05 level of significant as the calculated chi-squares values are higher than the tabulated value. Therefore, the H_2 hypothesis was accepted.

The collected data was tabulated according to various parameters and the complete analysis was done with descriptive and inferential statistics. Maximum 15% college girls were having adequate knowledge during pretest and in the posttest, it became 65%. The Calculated 't' value 6.454 is higher than the tabulated 't' value of 2.027. So, the H_1 hypothesis is accepted. The researcher concluded the structured teaching programme was effective. The chi-square table implies that there is a significant association between pretest knowledge scores and the sociodemographic variables such as type of family and source of information at 0.05 level of significant as the calculated chi-squares values are higher than the tabulated value. Therefore, the H_2 hypothesis was accepted.

The findings of the study suggest that the adolescent college girls had little knowledge on risk factors in preventing infective thyroiditis. There is a need for awareness program to improve the adolescent college girl's knowledge on risk factors in preventing infective thyroiditis. This study revealed the various associated factors influencing the nature of knowledge of adolescent college girls on risk factors in preventing infective thyroiditis.

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