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A study to evaluate the effectiveness of Self-Instructional Module (SIM) on knowledge regarding selected transdermal patches among staff nurses at selected

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Abstract
Aim: A study to evaluate the effectiveness of Self Instructional Module (SIM) on knowledge regarding selected transdermal patches among staff nurses at selected hospitals, Bangalore.
Methods: An evaluative approach with quasi experimental – one group pre-test and post-test design and purposive sampling technique was used to select 60 staff nurses working in Columbia Asia Referral Hospital Yeshwanthpur, Bangalore. The Structured Knowledge Questionnaire structured knowledge questionnaire was administered to assess the pretest knowledge and SIM was distributed. On the 8th day post-test was conducted by using the same tool. Each subject took 35 minutes to complete the knowledge questionnaire. The data was analyzed by using paired and unpaired t test to find the effectiveness and chi square test was used to find the association with demographic variables.
Results: The data reveals that majority of the respondents in the pre-test, 39 (65%) had inadequate knowledge followed by 21 (35%) had moderate knowledge, while none of them had adequate knowledge regarding selected transdermal patches. In the post-test 60 (100%) had adequate knowledge regarding selected transdermal patches. The overall mean percentage for pre-test score was 45.43 (13.22) and the overall mean percentage for post-test score was 89.26 (5.06). Overall improvement mean percentage was 43.83% with the calculated 't' value 25.336. Which is found to be statistically significant at the level of $p<0.05$. Chi square test revealed that there is statistically significant association found between the pre-test knowledge score of staff nurses with selected demographic variables like age in years, gender, education and total years of experience at the level of $p<0.05$. Hence, the researcher accepted the research hypothesis (H2) with regard to the above variables.
Interpretation and Conclusion: The study shows that an overall improvement and an enhancement of knowledge in all the aspects of selected transdermal patches among staff nurses. Hence the research hypothesis stated that, there is a significant difference between pre-test and post-test level of knowledge of staff nurses regarding selected Transdermal Patches is accepted.

Keywords: SIM, selected transdermal patches, structured self-administered questionnaire

Introduction

Pain was one of the most important issues in health care. It was also noted that every year over 50 million people experienced chronic pain. Pain accounted for more disability than cancer and heart disease and accounted over $ 60 billion in lost productivity each year. Poor management of pain was linked to reduced patient satisfaction, increased economic burden, and reflected in the length of hospital stay and number of readmissions for the treatment of uncontrolled pain. It was noted as well that there was a need for pain management methods that were easy for patients to use, give continuous pain relief, and has minimal side-effects. 1 Transdermal patches can help in pain management. But there is not enough awareness about them in India; chronic pain affects approximately 30% of the adult Indian population, especially women and the elderly. These patches can be considered a savior for cancer patients who suffer from chronic pain and often find it difficult to take pain killers orally or through injections. A number of contributing factors and recurring among health care workers such as lack of knowledge or awareness of indications, criteria for use, lack of knowledge of pharmacokinetics, lack of understanding among practitioners, patients, residents, and family members.

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Nurses are frontline provider's to educate patient by taking a careful history, which could help to prevent many problems with Transdermal patches. Hence the study was conducted entitled "A study to evaluate the effectiveness of Self Instructional Module (SIM) on knowledge regarding selected transdermal patches among staff nurses at selected hospitals, Bangalore".

The objectives of the study are to assess the existing knowledge regarding selected Transdermal Patches among staff nurses, evaluate the effectiveness of self-instructional module, and to find an association between the pretest knowledge scores of staff nurses with selected socio-demographic variables.

Need for the study

Despite guidelines for treatment of cancer pain available from agencies such as the WHO (1996, 2008) and the Expert Working Group of the European Association for Palliative Care (2001), it has been shown in a recent meta-analysis involving 26 studies that nearly half of patients with cancer have pain that is undertreated. Another meta - analysis showed that cancer pain prevalence is around 53%, irrespective of staging – in particular for patients with head and neck cancer, the prevalence is the highest of all cancers at 70%. In a pan -European survey screening over 5000 cancer patients, 56% had moderate to severe pain at least monthly. Patients with brain cancer and squamous cell cancer of the head and neck were amongst those with the highest prevalence of pain – 90% and 86% respectively.

Transdermal patches can help in pain management. But there is not enough awareness about them in India; chronic pain affects approximately 30% of the adult Indian population, especially women and the elderly. Doctors stress that the transdermal patches - adhesive skin patches that are used to deliver drugs through the skin and into the bloodstream can make a world of difference. 11

According to the Fentanyl Advisor, On July 15th 2005 the Food and Drug.

Administration (FDA) issued a public health advisory concerning the safe use of Duragesic Patches in response to deaths in patients using patches. The reasons were many to the cause of death, but one factor that was noted that too often the patient or care givers are not properly educated about several factors relating to application and environmental factors increasing the dangers from misuse

It is found that the high risk in deaths and complication due to use of Transdermal Patches with varied degree of knowledge among health care providers were significantly hazardous. But the knowledge on benefits and importance of safe use of Transdermal Patches seem to reach the beneficiaries. Hence the investigator felt that the need for study to evaluate the effectiveness of SIM on knowledge regarding prevention of hazards in the use of various Transdermal Patches among Nurses in selected hospitals, Bangalore is essential.
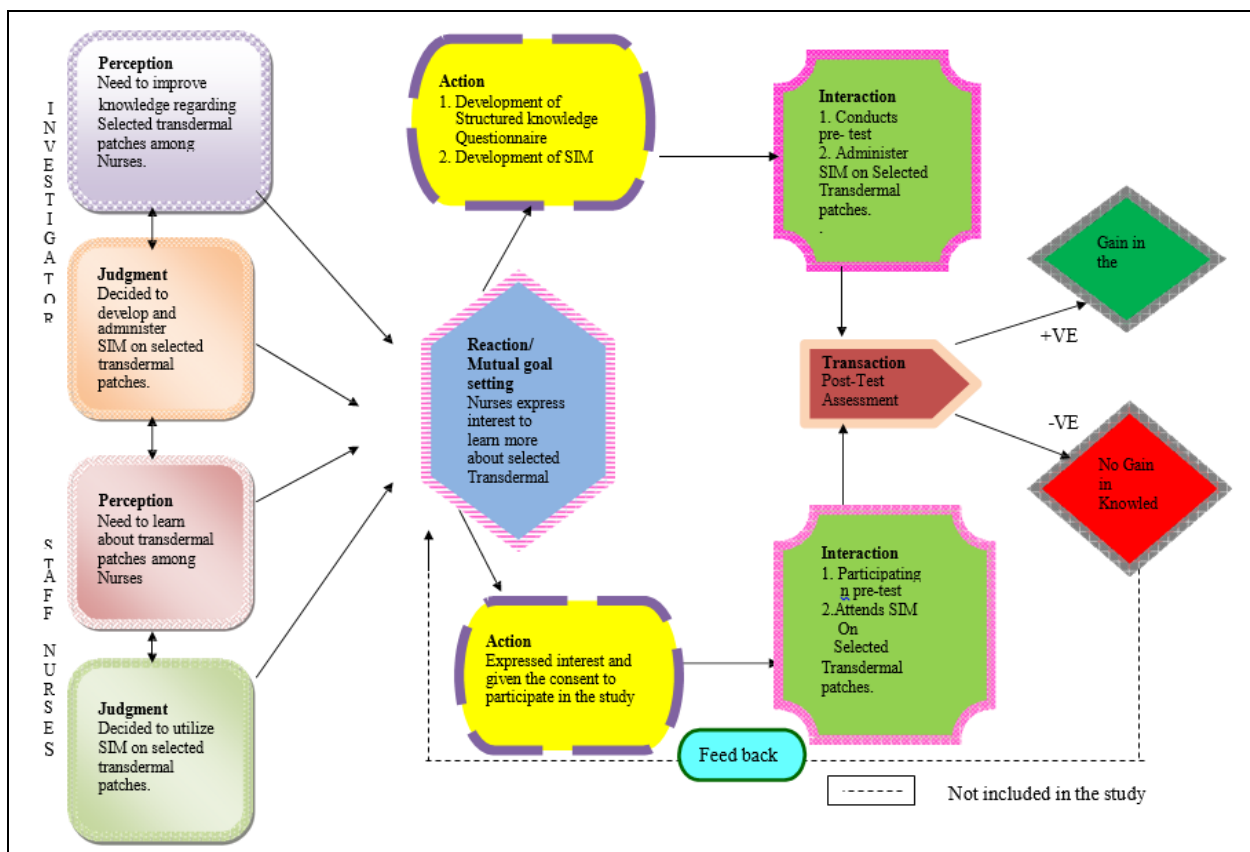

Fig 1: Modified conceptual framework based on Imogene King's goal attainment theory (1981)

Objectives of the study

- Assess the existing knowledge regarding selected Transdermal Patches among staff nurses.
- Evaluate the effectiveness of self-instructional module on knowledge regarding selected Transdermal Patches among staff nurses by comparing mean pretest and mean posttest knowledge scores.
- Find an association between the pretest knowledge scores of staff nurses with selected socio-demographic variables.

Hypotheses

H₁: There will be significant difference between pretest and posttest knowledge scores on selected Transdermal Patches among staff nurses.

H₂: There will be significant association between pretest knowledge scores of staff nurses with selected socio-demographic variables.

Assumptions

- Staff nurses may have knowledge regarding Transdermal Patches.
- Self-instructional module may improve the level of knowledge of staff nurses regarding Transdermal Patches.

Research approach

An evaluative research approach was considered to be the most appropriate and adopted to assess the effectiveness of Self Instructional Module on knowledge regarding selected transdermal patches among staff nurses working in selected hospital, Bangalore.

Research design

In the present study, Quasi- experimental one group pre and post-test design was selected for the study. The primary objective of the study was to find the effectiveness of self-instructional module.

The design chosen for the study is presented in the figure as:

Group	Pre-test	Intervention	Post-test
	O₁	X	O₂

Setting

The investigator selected Columbia Asia Referral Hospital yeshwanthpur, Bangalore to carry out the present study which is 400 bedded multi-specialty hospitals with strength of 300 staff nurses.

Variables

Independent variable: In this study the independent Variable refers to self-instructional module on knowledge regarding selected transdermal patches.

Dependent variable: In the present study it refers to knowledge of staff nurses regarding selected transdermal patches.

Population: The target population of the present study comprises of staff nurses working in selected hospitals, Bangalore.

Sample: Sample size of the present study consists of 60 staff nurses working in the Columbia Asia referral hospital yeshwanthpur, Bangalore.

Sampling technique: Purposive sampling technique was adopted to select the samples for the present study based on inclusion criteria

Sampling criteria inclusion criteria

- Staff nurses who are willing to participate in the study.
- Staff nurses who are available during the period of data collection.

Exclusion criteria

- Staff nurses who are in night duty during the period of data collection.
- Staff nurses who are in administrative level.

Development of the tool

After an extensive review of literature, discussion with the guide and the various experts in the field of nursing and based on the investigator's personal experience the self-administered Structured Knowledge Questionnaire on selected transdermal patches is developed.

Description of the tool

Structured knowledge questionnaire consists of 2 parts i.e. Part I and part II.

Part I: Consists of items on demographic variables like, age, sex, professional Qualification, Years of Experience, exposure to in-service education on selected transdermal patches and managing the client with transdermal patches.

Part II: Consists of 30 knowledge items related to selected transdermal patches which include. Section A: General information (Anatomy and physiology of skin) (3 items), Section B: Introduction to transdermal patches (4 items), Section C: Information about selected transdermal patches (11 items), Section D: Guidelines to use transdermal patches (12 items).

Method of data collection

After obtaining the formal permission from the Nursing superintendent of Columbia Asia Referral Hospital Yeshwanthpur, Bangalore. The main study was conducted from 4th March 2013 to 31st march 2013 among 60 subjects are selected by purposive sampling technique. The investigator given self-introduction explained the purpose of the study, subjects willingness to participate in the study was ascertained. The subjects are assured anonymity and confidentiality of the information provided by them and written informed consent was obtained. After that Structured Knowledge Questionnaire structured knowledge questionnaire was administered to assess the pretest knowledge and SIM was distributed. On the 8th day post-test was conducted by using the same tool. Each subject took 35 minutes to complete the knowledge questionnaire.

Results

Presentation of data: The analyzed data has been organized and presented in the following sections.

Section 1: Description of distribution of socio-demographic variables of the in relation to age in years, gender, education, total years of experience, present area of work, managed a patient with transdermal patches and attended any in-service training programme on transdermal patches.

Section 2: Overall and Aspect wise knowledge scores of Transdermal Patches among staff nurses.

Section 3: Effectiveness of self-instructional module on knowledge regarding selected Transdermal Patches among staff nurses.

Section 4: Association between the pretest knowledge scores of staff nurses with selected socio-demographic variables.

Description of sample characteristics

Age distribution of the samples showed that 57(95%) were in the age group of 21-30 years, 3(5%) were in the age group of 31-40 years. Majority of the subjects 37 (61.7%) were females and only 23 (38.3%) of the samples were male. Among the respondents 28 (46.7%) were having diploma in nursing, 29(48.3%) were having graduate in nursing and a few respondents 3 (5%) were having post graduate in nursing. Pertaining to distribution of years of experience most of the subjects 30 (50%) had 2-5 years' experience and only 5 (8.3%) subjects had experience of 6-10 years. This was evident from the study findings of Beena (2004) that most of subjects 27(54%) were less than 5years of experience. The data revealed 20(33.3%) nurse were managed a patient with transdermal patches and 40(66.7%) nurse were not managed a patient with transdermal patches. With regard to in-service training programme attended most of the participants, 55 (91.7%) had not undergone any in-service training programme regarding selected transdermal patches and only 5 (8.3%) had undergone training regarding selected transdermal patches.

Considering the various area of selected transdermal patches had a pre-test mean percentage of 46 (SD% = 28.83) in the area of general information and in post-test it was increased to 88.33 (SD% = 20.20) after the administration of SIM. Similarly the subjects had mean percentage of 45 (SD% = 29.05) in pre-test regarding introduction of transdermal patches, whereas in the post-test it was increased to 80.75 (20.77). The improvement means score for overall knowledge was 43.83 with the 't' value of 25.336 and found to be significant at the level of $p < 0.05$. It evidenced that developed SIM was effective in improving the knowledge of staff nurses regarding selected transdermal patches. It was evident that there was statistically significant association between the knowledge score with demographic variables like age, sex, professional education and overall experience at the level of $p < 0.05$.

Conclusion

It was found that majority of the subjects 39 (65%) had inadequate knowledge, followed by 21 (35%) had moderate knowledge in the pre-test score. The post-test score showed that 60 (100%) had adequate knowledge regarding selected transdermal patches. Overall improvement mean post-test knowledge score was (26.78) which was higher than the mean pre-test knowledge score (13.63). The obtained 't' value 25.336*, indicating significant difference in the knowledge level before and after the Self Instructional Module. Hence the research hypothesis H1 was accepted.

Conflict of Interest
Not available

Financial Support
Not available