



EFFECT OF EDUCATIONAL INTERVENTION ON KNOWLEDGE REGARDING THE ADVERSE EFFECT OF SELECTED SELF MEDICATION AMONG NURSING AND NON NURSING STUDENTS, BANGALORE.

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Abstract: Self-medication is a growing global concern as it can cause serious problems, like delayed diagnosis and treatment, side effect and even toxicity, of which people are not fully aware. To address this issue a study was conducted to assess the effectiveness of structured teaching programme (STP) on knowledge regarding adverse effect of self-medication among nursing and non-nursing students of selected colleges in Bangalore. An evaluative comparative approach with quasi- experimental two group pre test-post test study design without control group was used for this study. Study was conducted on 100 respondents and by non-probability purposive sampling, 50 from nursing and other 50 of BPT, of selected colleges Bangalore were selected. Data was collected by structured knowledge questionnaire, followed by STP, and post-test being conducted after seven days. The findings revealed that mean pre-test knowledge score 19.8(SD 3.6) of nursing students, increased to 37.28 (SD 5.14) at post-test, with mean difference of 17.48 (t value =22.734, p <0.001), And the mean pre-test knowledge score of non-nursing that was 21.04 (SD 6.02) also increased to 33.34(SD 6.07) at post-test with a mean difference of 12.3 with (t value = 14.428, p<0.001) which is statistically significant. The study concludes that structured teaching program was highly effective in enhancing knowledge about the adverse effect of selected self-medication among nursing and non-nursing students, emphasizing the need of educating on adverse effect of self-medication to health care professionals and general public.

Keywords: Structured Teaching Program, Knowledge, Self-Medication, Nursing Students, Non -Nursing Students

Introduction

Every human being in his life time would have had deviation from health that would be from minor illness to major disorders which require prompt medical attention. But in all circumstances it may not be possible to seek medical assistance; there arises the use of self-medications which is one element of self-care. WHO defines self-medication as the use of medication by a patient on his own initiative or on advice of a pharmacist or a lay person instead of consulting a medical practitioner.¹ The practice of self-medication can be either for diagnosis, prescription or surveillance of treatment. In developing country like India this practice is rapidly increasing with rise in availability of wide range of drugs along with inadequate health services. The practice of over the counter, self -medication, and self -administration is found still higher in state.²

The practice of self-medication is as old as mankind. An international study conducted by Dr cindy et al, 1989 has found that with the increasing availability and accessibility of doctors, one would expect the practice of self-medication to decrease but he found that in developing countries like India most illness are treated by self-medication. A major shortfall of self-medication is the lack of clinical evaluation of the condition by a trained medical professional which could result in missed diagnosis and delays in appropriate treatment.⁴ The drugs that are considered unfavorable in developed countries and which has risk of adverse effect were still manufactured, marketed prescribed by physician recommended by pharmacies and required by the client in developing countries.⁵ When a person starts taking medicine on his own, forgetting that all drugs are toxic and their justifiable use in therapy is based on calculable risk about which people are not fully aware. It could delay accurate diagnosis and appropriate treatment and could cause adverse drug reaction, side effect, drug resistance, and unnecessary expenditure.⁶

As Agatha Christie has told "Good advice is always certain to be ignored, but that's no reason not to give it." Though self-medication is difficult to eliminate, better educational intervention should be taken to discourage the rampant practice both in public and health professionals. Hence present study is an attempt to identify the use of self-medication in young generation and make them aware of the problems, so that they can act judiciously with this problem.

Need and significance of the study

Self-medication is now a major problem that exists worldwide. Many studies regarding self-medication has revealed that there is a higher prevalence of it in industrialized world but it is hardly equivalent to that of developing countries both in quantitative and qualitative aspects. In a survey conducted by WHO in 2011 self-medication showed a prevalence of 47.6%.⁷ There are many studies which highlights the prevalence of self-medication in developing countries, like the study conducted by Martins AD in Portuguese population⁸ and Haryana O Karavas in urban Turkey⁹. Another study which was conducted by W. Sweileh, J in 2004 on self-medication and over the counter practices in Palestine found that out of 2087 patients 1263 (60%) used one or more types of drug without prescription and highly used was paracetamol and diclofenac in analgesics. All these studies lead to the conclusion that self-medication constitutes 50% and above of all therapeutic intervention in developing countries.¹⁰

Systemic review and meta-analysis conducted by Vaibhav Choudhary, et al, 2025 on the prevalence and patterns of self-medication practice in India between 2000 and 2023 with Sixty six studies involving 29873 participants. The polled prevalence of self-medication in India was found to be 64.4% in this, in which practice among students of non-health domain ranked highest (86.1%) followed by health care domain (79%) and general population 59.7% respectively. The study identified the high prevalence of self-medication in India, and emphasized the need of addressing Potential harms of self-medication and encouraging a safe practice.¹¹

In a developing country like India, the prevalence of self-medication practice among health care students was terrifying. A study conducted by Manjusha Sajith on self-medication among health care professional students, in a tertiary care hospital pune, during 2017, found that out 318 of her participants which was 106 each from medical, nursing and pharmacy students, among them 280(87.5%) were practicing self-medication. the most common drug used were anti-inflammatory drugs (81.2%) and antipyretics (67.6%) and antibiotics (35.0%). The common reason identified for the self-medication practice was their knowledge about drugs and disease helped them (67%), and 65% considered their health problem as not serious and other reason were increased exposure to media and advertisement. The study suggested that educating students and creating awareness among them can reduce the practice of self-medication.¹²

By conducting the present study researcher believes that by imparting knowledge in students, who have the right to practice and work on healthcare education even the future generation can be made aware on potential risk associated with self-medication and bring down its practice in all.

Objectives:

1. To assess the mean pre-test knowledge scores of nursing and non-nursing students regarding the adverse effect of selected self-medication.
2. To evaluate the effectiveness of the structured teaching programme by comparing the mean pretest and mean post-test knowledge score on adverse effect of self-medication on nursing and non-nursing students.
3. To find an associations between knowledge scores and demographic variables of nursing and non-nursing students

Methodology

Research approach

An evaluative comparative approach was used.

Research design

Quasi experimental two group pre- test post-test study design without control group was selected for this study.

Setting

Fortis institute of nursing and Kempegowda institute of physiotherapy, Bangalore was selected as the study setting.

Population and sample

Study population comprise of nursing and non-nursing students in Bangalore. Out of 100 Samples selected 50 respondents were nursing students from 2nd year B.Sc., Fortis College of nursing, Bangalore and 50 non-nursing respondents were students of 2nd year BPT, Kempegowda institute of Physiotherapy, Bangalore. Fifty participants each from nursing and non-nursing respondents were selected through non probability purposive sampling technique.

Inclusion criteria

- Second year BSc nursing students studying in Fortis College of nursing, Bangalore and second year BPT students studying in Kempegowda institute of Physiotherapy, Bangalore.
- Who are willing and available during the period of study

Exclusion criteria

- Students who were not available during the time of data collection.

Tool for data collection

The data were collected using structured knowledge questionnaire: Part 1 that include socio-demographic questionnaire comprising of age, gender, religion education place of residence source of getting medical information, preference to self-medication, its frequency and approximate expense on self-medication per year. Part 2 consist of 50 structured knowledge questionnaire on which 10 were on general aspects, 6 on vitamin, 7 on antibiotics, 7 on analgesics, 5 on a antidiarrheal , 8 on cough and cold and 7 on antacids.

Validity and Reliability

Content validity was ensured by seeking opinion from 7 experts in the field of medicine pharmacology and nursing.

Reliability was obtained by using split half method, and Karl person correlation coefficient was found to be $r = 0.78$, indicating high reliability.

Intervention

A structured teaching programme on adverse effect of selected self-medication was administered using interactive lecture with AV aids covering definition of self-medication , causes, adverse effect of self-medication, indication, contraindication and adverse effect of vitamin, antibiotics, analgesics, antidiarrheal, cough and cold medicine and antacids.

Data collection procedure

After collecting institutional permission and informed consent from participants, the pretest was conducted using questionnaire. The Structured teaching programme was administered on the same day. The post test was conducted seven days later using the same questionnaire.

Data analysis

The study adopted evaluative comparative approach. Data collected were analyzed used descriptive and inferential statistical method. Descriptive statistics regarding frequency, percentage, mean and standard deviation were used to summarize the demographic characteristic of participant and to describe the level of knowledge regarding adverse effect of selected self-medication before after educational intervention. While chi square test was used to determine the association between pretest knowledge score and selected demographic variables such as age, gender, religion, education, place of residence source of getting medical information, preference to self-medication, its frequency and approximate expense on self-medication per year.

Result

This section presents findings of the study conducted to examine and compare the effectiveness of educational intervention on knowledge regarding adverse effect of self-medication on nursing and non-nursing students. The results are organized under three main heading: demographic characteristic of participants, pre and post-test knowledge score of nursing and non-nursing students, association of pretest knowledge score with selected demographic variables. Both descriptive and inferential statistics were used to summarize participants' demographic information and knowledge levels, while inferential statistics, including the paired *t*-test and chi-square test, were applied to assess the effectiveness of the structured teaching programme and the relationship between knowledge scores and demographic variables.

Table-1:

Demographic characteristics

Sl.No	Demographic Variables	Category	Nursing Students		Non Nursing Students	
			Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1	Age (yrs)	19	17	34.0	40	80.0
		20	28	56.0	7	14.0
		>20	5	10.0	3	6.0
2	Gender	Male	3	6.0	6	12.0
		Female	47	94.0	44	88.0
3	Religion	Hindu	12	24.0	36	72.0
		Christian	36	72.0	7	14.0
		Muslim	2	4.0	7	14.0
4	Education	2 nd yr BSc. Nursing	50	100.0	0	0
		2 nd yr BPT	0	0	50	100.0
5	Residence	Urban	50	100.0	50	100.0
		Rural	Nil	Nil	Nil	Nil
6	Source of Information	Print Media	5	10.0	15	30.0
		Electronic Media	7	14.0	11	22.0
		Both	38	76.0	24	48.0
7	Preference to self-medication	Yes	50	100.0	50	100.0
8	Rate of taking Self medication	Often	1	2.0	1	2.0
		Sometimes	16	32.0	27	54.0
		Rarely	33	66.0	22	44

	Expense on self-medication per year	<Rs.100	26	36
9		Rs.101 to 200	24	14

Table 1. shows that among 50 nursing students 56% were aged 20 yrs., 34% aged 19 yrs. and 10% aged >20yrs. whereas in 50 non nursing students 80% were aged 19 yrs. , 14% aged 20 yrs. and only 6% were >20 yrs. Female ranked the highest number in both the respondents group which was 94% and 88% respectively and most of the nursing respondents were Christians 72% and non- nursing respondents were Hindus.

It can be seen that all respondents from nursing as well as non -nursing were residing in urban area and majority used both print and electronic media as a source for gaining information. It was remarkable to find that all the 50 nursing and 50 non-nursing had preference to take self-medication that was by 100% each. The response based on rate of taking self- medication shows that in nursing highest 66% use it rarely and 32% of respondents used it sometimes whereas in non -nursing were most of them 54% use it sometimes and rarely used were only 44% respondents.

In the present study it was identified that the mean expenditure on self -medication by nursing students were 48 (SD 32.20) with expense ranging from Rs 50- 200 per year with median of 40. Whereas the mean expense of non- nursing for self- medication was 31.20 (SD 20.44) and expenses ranged from Rs 50 -200 per year with median of 30.

Table-2:

Knowledge score

Respondents	Test	Mean	SD	Mean Difference	T- Value	P- Value
Nursing	Pre-test	19.80	3.60	17.48	22.734	0.001*
	Post-test	37.28	5.14			
Non Nursing	Pre-test	21.04	6.02	12.3	14.428	0.001*
	Post-test	33.34	6.07			

*significant -p<0.05 level of significance

Table 2 represents the comparison of mean knowledge score before and after the structured teaching program on adverse effect of self –medication for nursing and non -nursing respondents. The findings reveal that the mean pretest knowledge score of nursing students were 19.80 ± 3.60 , whereas the mean post-test knowledge score significantly increased to 37.28 ± 5.14 . The mean difference between pretest and post -test knowledge score of nursing was 17.48, with t –value 22.734 and p- value <0.001, indicating statistically high improvement in knowledge following educational intervention for nursing students

The mean pretest knowledge score of non- nursing students were 21.04 ± 6.20 , and the mean post-test knowledge score increased markedly to 33.34 ± 6.07 . the mean difference between pretest and post-test knowledge score of nursing was 12.3 , with t –value 14.428 and p- value <0.001, indicating statistically good improvement in knowledge following educational intervention for non- nursing students. These results clearly demonstrates that the structured teaching program was effective in enhancing the knowledge of nursing as well as non -nursing students about the adverse effect of selected self-medication.

Table-3:*Association of pre-test knowledge score with selected demographic variables*

Sl.No	Demographic Variables	Category	χ^2 Value	df	P-Value
1	Age (yrs)	19,20 & above	5.326	1	0.022
2	Gender	Male Female	Fisher's exact probability =0.561		
3	Religion	Hindu,Christian,Muslim	2.751	1	0.099
4	Source of Information	Print Media, Electronic Media	0.077	1	0.781

Table 3 illustrated the association between pretest knowledge score on self-medication and selected demographic variables among nursing and non-nursing students of selected colleges. The chi square test was used to find the association between age, gender, religion and source of information, the results indicate that except age ($\chi^2 = 5.326$, p value=0.022) which shows significant association, none of the other demographic variables showed a statistically notable association with pre-test knowledge scores, as all p -values were greater than 0.05. Specifically, religion ($\chi^2 = 2.751$, $p = 0.099$) source of information ($\chi^2 = 0.077$, $p = 0.781$) which did not exhibit any significant relationship with participants' baseline knowledge levels. This finding suggests that the pre-existing knowledge regarding adverse effect of self-medication was relatively uniform across different demographic groups except with age before the execution of the structured teaching programme.

Discussion

The present study is aimed to assess the effectiveness of structured teaching program on knowledge about the adverse effect of self-medication among nursing and non-nursing students in selected colleges Bangalore. The findings revealed there was a marked improvement in knowledge following the educational intervention, indicating STP was highly efficacious in improving the understanding about self-medication and its adverse effect

Implication

The findings of the study has a significant implication on nursing practice, education and research. The demonstrated evidence from the research suggest nurses working in clinical setting to find opportunities and teach both professionals and non-professionals about the adverse effect of self-medication, so that we can discourage the practice of self-medication. Even the nurse educators should use the ample opportunity to teach students in detail on adverse effect and encourage them incorporate this teaching with their practice in community and hospital. The main goal for the nursing researchers is to conduct further research about self medication practice and the undiagnosed side effect associated with it.

Recommendation

Based on the findings of the present study, government is recommended to conduct large scale studies to identify the attitude, predisposing factor, prevalence and unidentified risks related to self-medication in general population. No medicine without proper prescription policy can be bought into practice. A good explanation on any medicine right at all point of medication prescription and handling can reduce the self-medication practice lower.

Conclusion

The study concluded that the structured teaching programme was highly effective in improving the knowledge regarding adverse effect of selected self-medication among nursing and non-nursing. The remarkable increase in post-test knowledge score demonstrates that educational intervention can successfully bridge the gap on adverse effect of self-medication and by genuine attempts of teaching we can make remarkable changes in the wrong practice of self-medication. Doctors, nurses and other health care workers has pivotal role in improving knowledge of every common man regarding the adverse effect of self-medication.

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