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A Study to Assess the Effectiveness of an Interactive CD Rom on Technique of Using a Newly Designed Community Health Bag

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Abstract:

Although the community health bag is the most important tool for home care nurses, there is very limited researches were carried out on this indispensable home care tool which needed a metamorphosis. Hence an innovative alternate design of community health bag and a computer assisted programmed instruction for learning Bag technique were developed.

Objectives were to design an innovative model of 'community health bag', develop an interactive CD-ROM on 'Bag Technique' and to compare the effectiveness of an 'Interactive CD-ROM' and 'Lecture Cum Demonstration' in terms of knowledge, skills, and performance.

This descriptive cum experimental study was conducted using a 'pre-test post-test parallel group design'. A Network sample of community health nursing experts (N=30) were assessed using Semi structured questionnaires, interview schedules and Delphi Discussions to develop an innovative design of community health bag.

Study elicited distinct preferences of specialists to make the bag more comfortable and efficient. Majority of the respondents opted for multiple carrying facilities and a weight of 3 - 4 kg for the bag. Respondents also suggested a waterproof, washable fabric, dark in colour, and an affordable rate of ₹.500/- for the community bags. They identified major principles and steps for performance of bag technique.

Subsequently two equivalent groups of Graduate Nursing Students (N=60) were randomly selected. One group was given a lecture cum demonstration and the other group was given the interactive CD-ROM. The pre and post tests were administered using structured questionnaires and checklists.

During immediate post tests, and delayed post tests, Interactive CD-ROM group scored significantly higher knowledge, skill and total scores than the lecture cum demonstration group ($p < 0.01$ for all scores). The percentile increment in skill scores and total scores were significantly high ($p < 0.01$ for both) in interactive CD ROM group.

Thus interactive CD ROM on bag technique was found more effective than the traditional methods.

Keywords: 'Community Health Bag', 'Bag Technique', 'Interactive CD ROM', 'Lecture cum Demonstration'

1. Introduction

Since 19th Century, When Lillian Wald founded the first formal visiting nurse service at Henry Street Settlement; visiting nurses carried bags for conducting home visits. Only limited researches were carried out on this indispensable home care tool which needed a metamorphosis very much. Although the community health bag is the most important tool for home care nurses, there is limited information in the literature about its use and nurses preferences, aspects of design and contents of the bag, and comfort issues.

Reviews in general revealed the need for re-conceptualising, re-designing and re-defining the community nursing practices in this regard. Accordingly the "bag technique" was redefined in this study as the skills and knowledge in preparing and using the materials and equipment in the community health bag for performing various nursing interventions at home. For this practice an innovative alternate design of community health bag was developed in this study suitable for the health situation and practices of nurses in Kerala.

Quality of academic instruction using practical and technological inputs is crucial in moulding professional nurses and is an obvious and contemporary answer to problems of quality improvement in nursing education. The Interactive CD ROM on bag technique was also developed in this study which is a computer assisted programmed instruction in three modes namely Tutorial, Demonstration and Review, for better learning of an essential nursing skill that is "Bag technique" using an innovative design of "community health bag".

These issues related to development of innovative tools and techniques as well as testing of instructional strategies were focussed in this study to assess the effectiveness of an interactive CD ROM on technique of using a newly designed community health bag.

2. Objectives

1. Design a community health bag for family health care activities by nurses.
2. Develop an interactive CD-ROM on technique of using a newly designed community health bag.
3. Compare the effectiveness of an 'Interactive CD-ROM' and 'Lecture Cum Demonstration' in terms of knowledge, skills, immediate performance, and delayed performance of 'bag technique'.

3. Methodology

This descriptive cum experimental study was conducted using 'pre-test post-test parallel group design'.

First phase of the study described the preferences of community health nursing experts working in Kerala state selected using snowball technique (N=30), regarding specific features of community health bag and practice of bag technique. Semi structured questionnaires and interview schedules were used to collect data from them. Along with this, the information compiled through literature review and survey of existing designs of community bags and related practices were discussed with these experts, using Delphi technique, to redesign the community health bag. Three rounds of Delphi Discussions were conducted with these experts to finalise the design of the bag among them with 100% consensus in design and technique.

Second phase of study was experimental following a 'pre-test post-test parallel group design' to compare the efficacy of an interactive CD-ROM over lecture cum demonstration in teaching 'bag technique'. Two equivalent groups of 30 Graduate Nursing Students each from two different nursing educational institutions in Kerala state were randomly selected to administer the interventions and to evaluate the effectiveness of the community health bag. Both the groups were educated regarding the innovative design of Community health bag and the newly developed technique of using it. One group was given a lecture cum demonstration using a structured lesson plan and the other group was given the interactive CD-ROM developed for the purpose.

The pre-test, interventions, immediate post-test and delayed post-tests in home settings after a period of one month were administered for data collection using structured questionnaires and checklists at each stage. The study findings were generally targeted among the community health nurse specialists and student nurses in service and educational spheres practicing home visits for family health care.

4. Major Findings

First phase of the study elicited distinct preferences of community health nursing specialists that would make the bag more comfortable and efficient. Existing inconveniences and discomforts and suggested measures to eliminate them were reported. Majority of the respondents opted for multiple carrying facilities with ample soft padding and a weight of 3 - 4 kg for the newly designed bag. Respondents also suggested a waterproof, washable fabric, dark in colour, durability of at least for 5 years, and an affordable rate of Rs.500/- for the community bags.

All these needs and distinct preferences regarding features and facilities of the community health bags were elicited and addressed appropriately in the new design. The contents of the bag were decided as per preferences of majority and they were systematically arranged according to the degree of cleanliness for which the bag was designed with different compartments as inner cleanest, inner cleaner and outer clean pockets. The experts also identified six major principles of bag technique⁵ and a sequence of 25 steps in performing the bag technique based on these principles. The major principles identified in the study were principle of cleanliness, principle of sterilisation, principle of protection and aftercare, principle of improvisation, principle of restocking, and principle of economy of materials and time.

Accordingly a lesson plan for lecture cum demonstration and an interactive CD ROM on bag technique were developed and compared for their effectiveness.

The Hypothesis tested in second phase was that "the median score of performance of 'bag technique' after intervention will be significantly different among the student nurses who attended the lecture cum demonstration and interactive CD-ROM on bag technique" which was accepted.

Two instructional strategies were compared in terms of median of performance scores comprising knowledge, skills and total scores. Difference in knowledge, skill and total scores among the two intervention groups were not significant during pre-tests ($p > 0.05$ for all scores).

During immediate post tests, group who accomplished the interactive CD-ROM programme scored significantly higher knowledge, skill and total scores than the group attended lecture cum demonstration ($p < 0.001$ for all scores). Similarly during delayed post tests, the group who accomplished interactive CD-ROM scored higher in knowledge ($p < 0.001$), skill ($p < 0.01$) as well as in totals ($p < 0.001$).

The percentile increment in knowledge scores between the pre-test and delayed post-test was not statistically significant ($p > 0.05$) whereas the percentile increment in skill scores and total scores were significantly high ($p < 0.01$ for both) in group who accomplished interactive CD ROM.

The major findings can be summarised as in following table.

Mode of Evaluation		Median scores obtained		Test value (H)
		Lecture cum demonstration group (n=30)	Interactive CDROM Group (n=30)	
Immediate Post Test	Knowledge	26	30	20.41 **
	Skills	39.5	46	25.36 **
	Total	65.5	76	27.42 **
Delayed Post Test	Knowledge	27	28	07.06 **
	Skills	39	47	33.16 **
	Total	66	75	26.04 **
% Gain Pre test to delayed post test	Knowledge	70.8 %	81.3 %	0.9
	Skills	39 %	47 %	33.16 **
	Total	314.9 %	375 %	03.84 *

Table 1: It showing comparison of median scores (N=60)

Level of significance: $p < 0.01^*$, $p < 0.001^{**}$.

5. Discussions

The results showed that both the instructional strategies were effective in learning bag technique, but the interactive CD ROM on bag technique was found more effective than the traditional methods. It was also found that the application of skills in the field situations was better by the graduate students who attended the CD ROM, which is a powerful evidence for its widespread use in nursing education. Other factors contributing to the results were effect of test familiarity, Hawthorn effect, and novelty of experience which were considered as the confounders in the study design.

The duration for accomplishing Interactive CD ROM programme was 1 hour less than lecture cum demonstration on an equivalent content. The findings showed that in skill area like bag technique, programmed interactive packages would provide better instruction nearer to real life situations and covers all component elements at learners own pace.

6. Implications

By using newly designed community health bag, nurses can conduct home visits with better tools in a decent and more organized carrier. Study led to development of a valid literature on bag technique. The Interactive CD ROM on bag technique is stable in its performance and will not vary among teachers as in lecture cum demonstration which will help to unify the procedure of bag technique all over the state. The self instructional capacity of the CD-ROM Package made it relevant in the context of increasing computer literacy among nurses and emerging trend of open learning in nursing.

7. Conclusion

As whole, the study provided better equipment to tackle a wider range of health issues in the community and an effective tool for teaching nursing. You must do today's job with today's tools and if you are doing today's job with yesterday's tools, tomorrow you will be out of the business.

8. Acknowledgements

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9. References

1. Stanhope M & Lancaster J. (2000) Community and public health nursing. Philadelphia: Mosby publications
2. Park JE & Park K. (2000) Essentials of community health nursing. Jabalpur: Banarasidas Bhanot publishers
3. Sreeraj S. (2002) Innovations are inevitable. Nursing journal of India. IXXXXIII (12): 273.
4. BloswickSD, KatheleenLS, & Pett MA. (2002) An exploratory study of nurse bag use by home visiting nurses. Home health nurs. APRIL; 20(4): 237-43.
5. Friedman M. (1998) Homecare policy and procedure manual. Marietta GA: Home health systems Inc