

Research Article

A Study to Redesign the Community Nursing Bag and Assess its Acceptability among Student Nurses in a Selected College of Nursing at New Delhi

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A B S T R A C T

Introduction: Community Nursing Bag though in practice for quite a long time has never been used extensively during home visits. It was therefore prudent to undertake a study to redesign the community nursing bag and assess its acceptability amongst student nurses of a selected college of nursing at New Delhi with the primary objective to validate the redesigned community nursing bag by experts.

Material and Methods: The design of the study was methodological. The final study with 150 student nurses was conducted at Rufaida College of Nursing, Delhi to assess the acceptability of the bag using a semi-structured questionnaire. To validate the redesigned bag, a structured questionnaire was given to the 17 experts.

Result: The data collected was analyzed using descriptive statistics. Content Validity Index (CVI) was used to validate the characteristics of the redesigned community nursing bag. A CVI score of more than 0.73 was valid for this study. Following validation by the experts, the acceptability of the nursing bag was estimated. The major findings of the study showed a very positive validation by all the experts with mean CVI score of 0.9156. From acceptability perspective, 97% of the student nurses found the redesigned bag highly acceptable.

Conclusion: The community nursing bag was redesigned taking inputs from a panel of selected community health nursing experts who validated the changes. Following this, student nurses used the bag during home visits in the community and found it highly acceptable.

Keywords: Community Nursing Bag, Redesign, Acceptability

Introduction

Lillian Wald, a 26-year-old nurse founded the first formal

visiting nurse service at Henry Street Settlement, New York in 1893. The community nursing bag which was made popular by this Henry Street Settlement group of nurses

has continued into the practice of community nursing ever since. However, there is limited information in the literature about its use, preferences, aspects of design, and contents of bag and comfort issues.¹

Nurses today are active in two important systems of healthcare delivery. The first and most often talked about is their role in hospitals and nursing homes, where they cater to nursing in different specialities often as a team or in individual capacity depending on the set up. The second is their role in the community, where nurses visit communities including individual homes to expand the scope of quality of health care taking care of the sick and elderly people and at the same time spread health education giving importance to disease awareness and prevention. The role of nurses in hospitals has been traditionally of that of secondary and tertiary level prevention; while in the community, this is often expanded to include concepts of primary and even primordial prevention.²

India has a huge population who have no access to health care insurance and cannot afford tertiary health care in institutions or hospitals. In this scenario, the role of community nursing becomes vital, as they can make quality health care available literally at the doorsteps of the patient's house. A key component of this community nurse visit is the kit bag that they carry with them, which includes essentials of PPE (Personal Protective Equipment), simple tools to measure vitals (measuring tape, blood pressure machine etc.) including supplies of drinking water, small snacks and so on. This helps the nurses to conduct a comprehensive and holistic assessment while conducting home visits besides and offers the nurse barrier protection from infection or communicable diseases.³

The role of the public health nurse has expanded and changed because of significant changes in communicable and non-communicable diseases existing in the community in current times.⁴ David S did a study on how planned treatments are delivered in homes of patients and examined the nursing bags used in this practice towards their delivery, design, materials and cleanliness. He also captured the professional challenges of nurses in great details and redesigned the nursing bag that would improve patient safety, productivity and the patient's experience after proper validation of its effectiveness by appropriate people who had the technical expertise to do so.⁵

In another study, Mc Goldrick M looked at the nursing bag as a vector for transmission of communicable diseases from one home to the other by virtue of the bag's contact with the nursing staff's hands and contact with the patient's environment. She went on to examine guidelines for the management of the nursing bag used by home care nursing staff and offered strategies to prevent and control the transfer of microorganisms through its use.⁶

However, despite recommendations from the Trained Nurses Association of India regarding the same, the use of this Community Nursing Bag in recent times has seen a wane. The reasons for the same are various and includes, lack of knowledge about the bag, lack of understanding about the contents therein and lack of proper understanding and demonstration of its usage in community nursing practice. Besides, portability of the existing nursing bag is also an issue, as most community nurses have to rely on public transport during their community visits.

The old community nursing bag in view of present community needs to be redesigned and validation of the same before being put into practice was required and hence the current study was undertaken.

Objectives of the Study

The objectives of the study were:

- To redesign the community nursing bag and validate the bag.
- To assess the acceptability of bag among student nurses.

Materials and Methods

The present study aimed at redesigning the community nursing bag considering the present scenarios applicable to community health nursing after proper validation by technical experts and then assesses its acceptability amongst the student nurses. The research design selected for the study was Methodological design.¹¹

The final study with 150 student nurses was conducted in Rufaida College of Nursing, Delhi in 2016 for B.Sc. Nursing 2nd year, 3rd year, 4th year, DGNM 1st year, 2nd year, 3rd year and Post Basic B.Sc. 1st year and 2nd year students. Inclusion criteria for the subjects were nursing students who already had community visits in their scope of work. Both, the samples were randomly selected and the rationale for selecting these colleges were, familiarity with the setting, feasibility of conducting the study, availability of subjects and economy of time and easy access.

Permission to conduct study was taken from the Institutional Ethical Committee of Jamia Hamdard. Written informed consent was taken from the subjects. While carrying out the study, subjects were empowered with full autonomy to participate in the research and withdraw from the study at any point of time without assigning any reason thereof.

To validate the redesigned bag a structured questionnaire was given to the 17 experts and to assess the acceptability of the bag a semi-structured questionnaire was used, which was done by 150 students. Experts were selected from different colleges of nursing in Delhi and the content validity of the tool was measured by Law She's Content Validity Index. The CVI score was calculated by the following

formula:

N/n_{3-4} , where n_{3-4} is number of experts giving a score of 3 to 4 & N= total score of one item.

To assess the acceptability of the redesigned bag, the structured questionnaire had 36 items. Each of the items had a scoring of 1-5 where 5=Strongly Agree, 4=Agree, 3=Undecided, 2=Disagree and 1=Strongly Disagree. Overall a score of 121-170 was considered to be highly acceptable, while a score of 70-120 acceptable and a score of below 70 unacceptable.

Result

Validation of the Community Nursing Bag by Experts

The redesigned community nursing bag was validated by a group of 17 experts. The experts provided their comments on 36 features of the community nursing bag, each variable being scored on a scale of 1 to 4 where, 1 represented Strongly Disagree, 2 represented Disagree, 3 represented Agree and 4 represented Strongly Agree. The entire score was collected for each expert and tabulated.

Findings Related to Acceptability of the Different Characteristics of the redesigned

The subjects evaluated the characteristics of the redesigned Community Nursing Bag in terms of redesigned features.

Table 1. Content validity index of Community Nursing Bag

S. No.	Items	Total Expert Marks	CVI
1.	Colour	56	0.82
2.	Size	53	0.77
3.	Weight	50	0.73
4.	Space	57	0.83
5.	Pockets	58	0.85
6.	Material	59	0.86
7.	Liquid Hand Wash	58	0.85
8.	Digital Thermometer	64	0.94
9.	Digital B.P Apparatus	65	0.95
10.	Haemochek	67	0.97
11.	Glucometer	67	0.97
12.	Urosticks	67	0.97
13.	Spring Balance	67	0.97
14.	Tablet Paracetamol	64	0.94
15.	Tablet Iron	65	0.95
16.	Tablet Folic Acid	63	0.93

17.	Tablet Metronidazole	63	0.93
18.	Cotrimoxazole	63	0.93
19.	ORS	64	0.94
20.	Mala N	62	0.92
21.	Condoms	62	0.92
22.	A V Aids Prevention of Diarrhoea	67	0.97
23.	Antenatal Care	67	0.97
24.	Breast Feeding	66	0.96
25.	Care of Elderly	67	0.97
26.	Family Planning	67	0.97
27.	Immunization	67	0.97
28.	Lifestyle Modification	67	0.97
29.	Play Therapy	63	0.93
30.	Mental Illness	62	0.92
31.	Tobacco Cessation	63	0.93
32.	Personal Protective Equipment	66	0.96
33.	Space for Water Bottle	60	0.91
34.	Space for Mobile Phone	58	0.85
35.	Space for Lab Coat	57	0.82
36.	Zinc Tablet	62	0.92

* n_{17} (number of experts to validate the Community Nursing Bag).

The data given in Table 1, indicates that the CVI scores of characteristics of the bag i.e. size, weight and colour of the community nursing bag were borderline with values 0.77, 0.73 and 0.82 respectively (the CVI value of 0.73 was considered borderline for Law She Content Validity Scale). The CVI scores of the other items ranged from 0.83 to 0.97 and were valid. The data contained in Table 2 indicates that the mean, median, mode and standard deviation of all the CVI scores obtained through validation of the community nursing bag by 17 experts. The standard deviation of less than 1 (Figure 1) indicates homogeneity of observations and limited scope of inter-observer variations in the present study.

Table 2. Mean, median, mode and standard deviation of CVI score

CVI Score	Mean	Median	Mode	Standard deviation
	0.9156	0.93	0.97	0.06236

The data in table 3 indicates the finding related to the acceptability of different features of the redesigned community nursing bag to conduct home visits in the community.

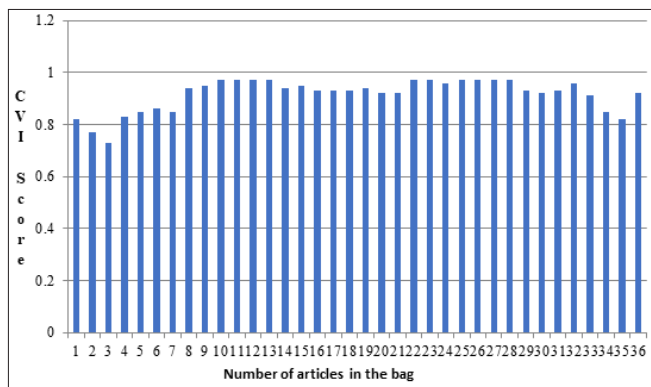


Figure 1. Bar Diagram of Item-wise CVI scores of Community Nursing Bag

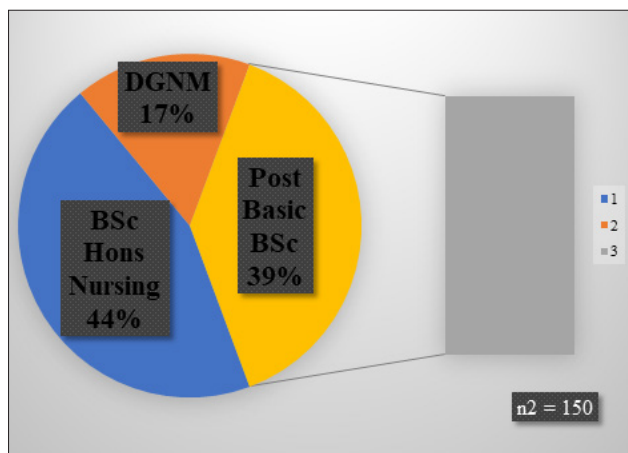


Figure 2. Pie Diagram showing course-wise study subjects

Table 3. Acceptability score of the community nursing bag as evaluated by the student nurses

$n_2=150$

Category	Score	Frequency	%
Highly acceptable	121-170	145	97
Acceptable	70-120	5	3
Not Acceptable	<70	0	-

* n_2 = number of student nurses.

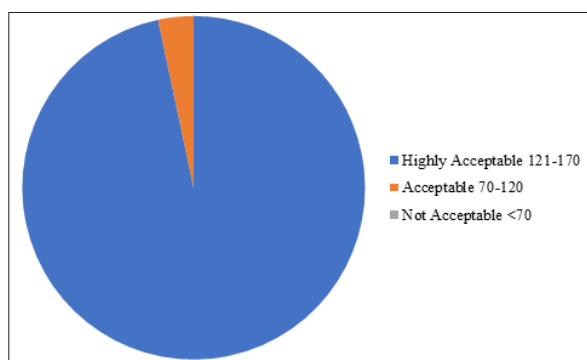


Figure 3. Pie chart showing acceptability of community nursing bag by student nurses

The subjects ($n_2=150$) evaluated the characteristics of the redesigned Community Nursing Bag in terms of redesigned features, articles, medications, audio visual aids contained therein, and space for personal articles and items.

145 (97%) of the study subjects found the features of the Community Nursing Bag as highly acceptable, while remaining 5 (3%) found it to be acceptable and none of them found it not acceptable.

Discussion

The present study dealt with the community nursing bag and its acceptability amongst student nurses. The findings revealed that 97% of the subjects found the redesigned community nursing bag as highly acceptable, while remaining 3% of them found it to be acceptable. The subjects provided their acceptance on various redesigned features of the community nursing bag and included features like colour, fabric, back belt, space or pockets, various articles and medications contained therein and space for personal protective equipment. During validation of the redesigned community nursing bag by technical experts prior to the conduction of the study, a CVI score was used. This revealed a positive validation by all the experts with a mean CVI score of 0.9156 where CVI score of more than 0.73 was considered to be valid for this study.

In a related study, specialists were asked to spell out preferences to make out the nursing bag more comfortable and efficient. Majority of the respondents opted for multiple carrying facilities and a weight of 3-4 kg for the bag. They also suggested a waterproof, washable fabric, dark in colour, and an affordable for the community bag. They also identified major principles and steps for performance of bag technique⁵. This was however not an objective of the present study.

In another study, 35 respondents concluded that the current nursing community bags were unsafe and unfit for purpose. They cited various reasons for the same including shape & size-52% of bags used in practice were classified as a camera bag, item of hand luggage or a plastic tool box, material-77% of bags used in practice were manufactured from an absorbent textile fabric, colour- 69% of bags were coloured black or black/blue, fastening material-73% of the bags used Velcro as the primary method of fastening, 15% used plastic clips, method of carrying-57% of the bags were carried in the boot of their car, 15% stored the bag in the garage at the weekend, lack of cleaning-55% never cleaned, 26% cleaned once a year while only 6% of nurses cleaned their bag once a week.⁶

The present redesigned community nursing bag took into consideration all these contemporary recommendations and shortcomings and adaptations were accordingly made.

Limitation of the Study

The practice implications of the redesigned nursing bag could not be evaluated in the present study. This can be the scope for a future study. The present study was done in one city and a future study with a larger sample size drawn from various cities and settings could be conducted to understand the reproducibility of the results concluded from the present study.

Conclusion

Content Validity Index was used to validate the different characteristics of the redesigned community nursing bag. The study showed a very positive validation by all the experts (N=17) with mean CVI score of 0.9156, CVI score of more than 0.73 was valid for the study. From an acceptability perspective, 97% of the subjects found the redesigned bag highly acceptable.

Conflicts of Interest: None

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