



Original Article

Effectiveness of an interventional package on soft skills and perceived need among nursing students - a quasi-experimental study

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Abstract

Objectives: This study aimed to evaluate the effect of an interventional package on soft skills and perceived needs among nursing students.

Methods: A quasi-experimental study with a non-equivalent control group design was conducted on 112 nursing students (56 in the experimental group and 56 in the control group) using a simple random method at selected nursing colleges. The data were collected using a descriptive characteristics form, soft skills scale, and perceived need scale. The experimental group received a 4-session intervention package (120 minutes per day), and then the scales were re-administered to both groups after one month. Descriptive analysis was used to evaluate qualitative data, including frequency and percentage distribution, and quantitative data were evaluated using the t-test for dependent and independent groups.

Results: The mean soft skills score of nursing students in the experimental group before the interventional package was 178.86 ± 23.34 , and after the intervention was 241.02 ± 23.01 . The mean perceived need score before the interventional package was 36.29 ± 3.41 , and after was 44.70 ± 3.15 . In the experimental group, there was a statistically significant difference ($p < 0.05$) between the mean scores on both scales before and after the intervention, but not in the control group ($p > 0.05$). A statistically significant difference ($p < 0.05$) was observed in the mean post-test scores on both scales between the experimental and control groups.

Conclusion: The interventional package used in the study significantly improved the soft skills and perception of nursing students. More importantly, separate soft skills programs in nursing curricula could help them enhance their careers in today's competitive world. More experimental studies with additional soft skills variables are recommended.

Keywords: Effectiveness; nursing students; perception; interpersonal skills; program.

Understanding soft skills and how they affect the health-care profession is a new area of focus nowadays.^[1] Collins English Dictionary defines "soft skills" as "desirable qualities for certain forms of employment that do not depend on acquired knowledge: they include common sense, the ability to deal with people, and a positive flexible attitude".^[2]

Nursing is a rapidly-growing profession where nurses have

to work as part of a multidisciplinary team that includes other nurses, physicians, and other healthcare professionals.^[3] Therefore, nurses must apply both hard and soft skills to adjust to a new workplace and succeed. Only effective soft skills can make this happen since a lack of soft skills competencies is seen as more problematic for fresh graduates.^[4]

Communication, critical thinking or problem solving, time

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What is presently known on this subject?

- Soft skills are interpersonal skills or personality traits of an individual that are considered crucial for personal and professional growth. Most nursing colleges teach nursing students only clinical aspects, and definitive soft skills are not included in any course, resulting in a significant gap between student skills and the organization's requirement of soft skills. Nurses deal with various personalities, and competent soft skills are essential. This could only be achieved with an effective soft skills program in nursing curricula.

What does this article add to the existing knowledge?

- The study results indicate that the soft skills level of nursing students significantly improved after the interventional package compared to pre-intervention. Furthermore, a significant change was found in nursing students' perception regarding the inclusion of separate practical hours for a soft skills program in the nursing curriculum compared to pre-intervention.

What are the implications for practice?

- The research provides evidence that an interventional program is an effective strategy to improve the soft skills of nursing students. As student nurses have more opportunities to interact with patients, it is crucial to include soft skills in a nursing graduate program to develop confidence in their abilities, communicate effectively with others, ingrain dutifully time management skills, be flexible in ever-changing circumstances, develop critical thinking skills, boost patient satisfaction, and work harmoniously.

management, and teamwork are all crucial abilities for nurses, according to Columbia College Calgary. Student nurses have greater opportunities to engage with patients, allowing them to diagnose problems more accurately. However, poor communication skills can lead to patient mistrust, disappointment, and frequent complaints from staff nurses.^[5] In nursing, it is not easy to perform tasks that require soft skills, as hard skills are easier to master than soft skills. However, students who receive soft skills training have been shown to be more successful than those who do not.^[6] It has been claimed that hard skills account for only 15% of a person's success in keeping a job, while soft skills account for the remaining 85%.^[7] Soft skills are given less weightage in some institutions, but they can ultimately make or break a person's career.^[8]

Why soft skills are important in nursing?

Soft skills are essential in nursing because they promote collaborative, respectful, and productive personnel. Nurses who lack good soft skills find it difficult to communicate effectively with others and may endanger patients' health by interrupting the flow of care.^[9]

In recent years, nursing has been losing its control over providing high-quality nursing care.^[10] As a result, university graduates are recommended to receive soft skills training during nursing to excel academically as well as professionally.^[11] New curricular innovations are required to make learning more engaging and to develop soft skills.^[12] Most universities in industrialized nations have included soft skills in their curricula, and most government and commercial hospitals prioritize recruiting nurses with soft skills over academic grades or experience as a prerequisite for hiring.^[13]

Nurses who can see the value of skills in a social situation and

how they affect job performance are better suited to work well in multidisciplinary teams.^[14] According to a study, 10% of 4,000 people lose their jobs due to technical inability, and for the remaining 90%, the main reason for joblessness is a personality problem.^[15] This means that in addition to hard skills, nursing graduates must improve their soft skills to be chosen over the competition.^[16]

According to the Society for Human Resource Management (2019) findings, 51% of respondents believed that academic institutions had contributed very little to bridge the gap between skills.^[17] According to the American Association of Colleges of Nursing (AACN), soft skills are vital in nursing to offer safe care to patients, recruit and retain employees, and keep the healthcare organization growing.^[18]

Therefore, student nurses must develop soft skills as part of their nursing education to succeed in today's demanding workplace.

Purpose and Hypothesis

The objective of the study was to determine the effect of an interventional package on soft skills and perceived needs among nursing students.

H1: There will be a statistically significant difference between the soft skills scores of nursing students before and after an interventional package.

H2: There will be a statistically significant difference between the perceived need scores of nursing students before and after an interventional package.

H3: There will be a statistically significant difference between the soft skills post-test scores of nursing students in the experimental and control groups.

H4: There will be a statistically significant difference between the perceived need post-test scores of nursing students in the experimental and control groups.

Materials and Method**Ethical Considerations**

Formal approval was received from the advisory committee members of Eternal University, Baru Sahib, India. Permission to conduct the study was obtained from the principal of Mata Padmawati College of Nursing, India on July 10, 2021 (letter reference MPCN/4330) and the principal of Akal College of Nursing, Baru Sahib on July 26, 2021 (letter reference no. ACN-269-A/2021). The study objective, procedure, and potential advantages were explained to the participants before data collection. Participants were assured of the confidentiality and anonymity of their personal information during the study. Voluntary informed consent was obtained from the participants, considering the principles of the Helsinki declaration.

Study Design and Participants

A quasi-experimental study was conducted using a non-equivalent control group design at selected nursing colleges in Hi-

machal Pradesh. The study population comprised 188 nursing students, and 120 participants (56 in the experimental group and 56 in the control group) who met the eligibility criteria and who were selected using simple randomization. The inclusion criteria were an age group between 18 to 25 years, currently studying in B.Sc. nursing third year and fourth year (academic year 2021-2022), provided consent to participate in the study, and who have never participated in a soft skills training program. The sample size

was calculated using Taro Yamane's formula^[19] ($n = \frac{N}{1+N(e)^2}$)

with a margin of error of 0.05 at a 95% confidence interval.

Data Collection Tools

The data was collected from participants using a tool developed by the investigator under the supervision of experts based on the study objectives. The tool was created following a thorough assessment of books,^[20,21] journals, and numerous online resources.^[22-27] It includes a descriptive characteristics form, a soft skills scale, and a perceived need scale.

Descriptive Characteristics Form

The socio-demographic information includes 12 items, including age in years, medium of secondary education, type of institute for secondary education, present academic year, type of family, habitat, family income per capita per month, education of father, education of mother, occupation of father, occupation of mother, previous knowledge about the topic, and source of information.

Soft Skills Scale: This was a self-reported scale created by the researcher to assess nursing students' soft skills. Based on the findings of the pilot study, the Cronbach's alpha coefficient was determined to be 0.70 before the interventional package and 0.803 after the interventional package. Reverse coding was done for negatively scored items. The soft skills scale consists of 60 statements ranging from "strongly disagree" to "strongly agree" on a 5-point Likert scale. The response of "strongly disagree" scores 1, "disagree" scores 2, "neutral" scores 3, "agree" scores 4, and "strongly agree" scores 5. The scale also had 25 negatively scored statements. The possible score ranges from 60 to 300; a score >226 was regarded as above average, 150-225 was considered average, and <149 was considered below average level of soft skills.

Perceived Need Scale: The perceived need scale was developed by the researcher to determine nursing students' perception of the need for separate soft skills programs in the nursing curriculum. This scale includes 10 statements on a 5-point Likert scale ranging from 1 to 5, with options ranging from "strongly disagree" to "strongly agree". A score greater than 38 was regarded as a positive perception, a score of 26 to 37 was considered a neutral perception, and a score lower than 25 was considered a negative perception for the soft skills program. According to the results of the pilot study, the

reliability was determined by the Cronbach's alpha coefficient, which was 0.69 before and 0.86 after the interventional package. The content validity of the tool was completed by ten experts in the fields of psychiatric nursing, psychology, English, and changes were made in response to their suggestions.

Data Collection

Data were collected from participants from July 2021 to August 2021, after receiving informed consent. In the first stage, pre-test data were collected directly from the experimental group by distributing data sheets and online from the control group due to the distance education format necessitated by the COVID-19 pandemic. Participants were invited to complete the Google form via social media or mobile phone, and the average time for data completion was 30-35 minutes. During the second phase, an interventional package was administered to the experimental group on the same day as the pre-test for four consecutive days (120 minutes per day). The researcher has a certification in soft skills training, which includes the introduction of soft skills and their importance in nursing. The researcher focused mainly on three soft skills: interpersonal communication skills, time management skills, and critical thinking skills. Interpersonal communication skills included an introduction, characteristics, elements, principles, context, styles, and techniques of interpersonal communication. Time management skills included their definition, benefits, and consequences, as well as how people perceive personality in terms of time, sources of poor time management, strategies to control time, handling procrastination, and self-monitoring biological clock. Critical thinking skills included the definition of thinking and critical thinking, systems of thinking, cognitive ease and cognitive strain, stages of critical thinking, aspects of critical thinking, indicators of critical thinking, critical thinking skills, critical thinking standards, techniques of critical thinking, barriers of critical thinking, common biases and errors, debasing techniques, benefits of critical thinking, and the checklist of critical thinking.

To prepare the content of the interventional package, seven experts in the field of psychiatric nursing were consulted, and literature, books,^[20,21,28] and online resources were used.^[29-38] The researcher also held certification in soft skill training. The interventional package included four sessions (each 120 minutes long) delivered through lectures, PowerPoint slides, a self-prepared video on nonverbal communication (5 minutes long), a booklet, scenario-based activities (30 minutes), and discussions (20 minutes) to stimulate active learning. The third step involved a post-test for both groups using the same tool.

Data Analysis

The statistical software package (SPSS 20.5) was used for data entry and statistical analysis. Descriptive statistics in the form of frequencies and percentages were used for qualitative variables, whereas means and standard deviation were used for quantitative data. To determine the difference between pre-test and post-test, paired sample t-tests and indepen-

Table 1. Distribution of sociodemographic characteristics of the experimental and control group students (N=112)

Variables (Categories)	Experimental group (n=56)		Control group (n=56)		p
	(f)	(%)	(f)	(%)	
Age in years					
a) 18-21	35	62.5	28	50	p= 0.182 ^{NS} $\chi^2= 1.77$
b) 22-25	21	37.5	28	50	
Medium of secondary education					
a) Hindi	4	7.1	5	8.9	p=0.728 ^{NS} $\chi^2= 0.121$
b) English	52	92.9	51	91.1	
Type of institute for secondary education					
a) Government	19	33.9	17	30.4	p=0.68 ^{NS} $\chi^2= 0.164$
b) Private	37	66.1	39	69.6	
Present academic year					
a) 3rd year	28	50	28	50	p= 0.704 ^{NS} $\chi^2= 0.14$
b) 4th year	28	50	28	50	
Type of family					
a) Nuclear	40	71.4	33	58.9	p=0.165 ^{NS} $\chi^2= 1.92$
b) Joint	16	28.6	23	41.1	
Habitat					
a) Urban	23	41.1	21	37.5	p= 0.699 ^{NS} $\chi^2=0.150$
b) Rural	33	58.9	35	62.5	
Family income per capita per month					
a) $\geq 52,734$	8	14.3	5	8.9	p=0.818 ^{NS} $\chi^2=1.55$
b) 26,355-52733	20	35.7	17	30.4	
c) 19,759 -26,354	12	21.4	15	26.8	
d) 13,161-19758	8	14.3	10	17.9	
e) $\leq 13,160$	8	14.3	9	16.1	
Education of father					
a) No formal education	4	7.13	5.4		p=0.749 ^{NS} $\chi^2=1.21$
b) Primary education	8	14.3	5	8.9	
c) High school/Higher secondary	25	44.6	25	44.6	
d) Graduate /PG/More	19	33.9	23	41.1	
Education of mother					
a) No formal education	6	10.7	3	5.4	p=0.163 ^{NS} $\chi^2=5.14$
b) Primary education	9	16.1	10	17.9	
c) High school / Higher secondary	23	41.1	33	58.9	
d) Graduate /PG/More	18	32.1	10	17.9	
Occupation of father					
a) Government employee	21	37.5	26	46.4	p=0.302 ^{NS} $\chi^2= 3.64$
b) Private employee	5	8.9	9	16.1	
c) Self emp.	22	39.3	17	30.4	
d) Others	8	14.3	4	7.1	
Occupation of mother					
a) Government employee	9	16.1	12	21.4	p=0.903 ^{NS} $\chi^2=0.569$
b) Private employee	7	12.5	7	12.5	
c) Self emp.	22	39.3	21	37.5	
d) Home maker	18	32.1	16	28.6	
Previous knowledge about topic, if yes what is the source of information					
a) No previous knowledge	38	67.9	50	89.3	NA
b) Mass media	16	28.6	5	8.9	
c) Workshop	0	0.0	0		
d) Conference	2	3.61	1.8		

^{NS}- Not significant (p>.05), *Significant (p<0.05), NA- Not Applicable

dent sample t-tests were utilized in inferential statistics. The Cronbach alpha coefficient was used to determine the internal consistency and reliability of the tool. The hypothesis was examined at the 0.05 level of statistical significance.

Results

The experimental and control groups had similar sociodemographic characteristics in terms of age, medium of secondary education, type of institute for secondary education, present academic year, type of family, habitat, family income per capita per month, education of father, education of mother, occupation of father, occupation of mother, previous knowledge about the topic, and source of information. The demographic data of the two groups showed no statistically significant difference ($p>0.05$), confirming homogeneity (Table 1).

The experimental group received four intervention sessions, whereas the control group received no intervention. Soft skills and perceived need scales were used to assess both groups' pre-test and post-test scores. The findings revealed a statistically significant difference ($p<0.05$) in mean soft skills and perceived need scores in the experimental group. There was no statistically significant difference ($p>0.05$) in mean scores in the control group, conforming hypotheses 1 and 2 (Table 2). Table 3 compares the post-test scores of the experimental and control groups, where the experimental group received intervention but the control group did not. The results revealed a statistically significant difference ($p<0.05$) in post-test scores of soft skills and perceived need, confirming hypotheses H3 and H4. This implies that the interventional package was effective in improving nursing students' soft skills and perceived needs levels.

Discussion

The aim of this study was to determine if an interventional package could increase nursing students' soft skills levels and their perceptions of the need for a separate soft skills program in the nursing curriculum.

Regarding socio-demographic variables, the majority of the participants in this study were between the ages of eighteen and twenty-one years, had received secondary education in English medium, and lived in rural areas. These findings were consistent with previous studies,^[39] which also revealed that most participants were under the age of twenty-four and had secondary education in English. However, in contrast to our study, the majority of participants in the previous study lived in urban areas. Most of the participants in our study had no previous knowledge of the topic, which was also consistent with the findings of another study^[40] that showed most participants had no prior knowledge of soft skills.

The results of this study demonstrate a highly significant difference in soft skills scores before and after the implementation of the interventional package. These findings are consistent with the results of a study^[39] that indicated a soft skills training strategy for nurse interns was effective and recommended for implementation in all nursing curricula. The results are also consistent with studies^[41,42] showing that a soft skills program had a beneficial effect on nursing students' communication and clinical interaction skills and positive problem-solving orientation. Another study^[43] observed that soft skills training enhanced the curative factor in nursing.

The study^[44] found that incorporating soft skills into a new curriculum was effective in improving the soft skills of nursing students.

Table 2. Comparison of soft skills and perceived need scale scores before and after intervention (N=112)

Variable	Group	Pre-test Mean \pm SD	Post-test Mean \pm SD	Mean difference	Paired t value	p value
Soft skills scale	Experimental group (n=56)	178.86 \pm 23.34	241.02 \pm 23.01	62.16	15.00	.000***
	Control group (n=56)	177.05 \pm 25.54	193.91 \pm 21.51	16.86	4.29	.091 ^{NS}
Perceived need scale	Experimental group (n=56)	36.29 \pm 3.410	44.70 \pm 3.156	8.41	13.38	.000***
	Control group (n=56)	36.34 \pm 3.455	38.09 \pm 3.825	1.75	2.47	.061 ^{NS}

$p>0.05$ -^{NS}-Not significant, *** $P<0.05$ - Highly significant

Table 3. Comparison of soft skills and perceived post-test scores in experimental and control group (N=112)

Variable	Experimental group (n=56)	Control group (n=56)	Mean Difference	Independent t value	p value
Soft skills post-test score	241.02 \pm 23.015	193.91 \pm 21.518	47.11	11.40	0.000***
Perceived need post-test score	44.70 \pm 3.156	38.09 \pm 3.825	6.61	9.97	0.000***

$p>0.05$ -^{NS}-Not significant, *** $P<0.05$ - Highly significant

be integrated into undergraduate nursing programs to improve nursing practice.^[21,48-50]

According to the researcher, this outcome could be attributed to the positive impact of the interventional package on nursing students' soft skills and perceived needs, as evidenced by their performance.

Limitations of the Study

As the researchers only collected data from B.Sc. nursing third year and fourth year students, the results may not be generalizable to other nursing students. Researchers collected data from the control group online, so the students could not clarify their doubts with the researcher while completing the data-sheet. Additionally, the responses from the participants were self-reported, so there may have been reluctance to express their genuine ideas.

Conclusion

Based on the responses of nursing students, it can be concluded that the soft skills intervention package is an effective strategy to enhance the soft skills of nursing students. The experimental group of nursing students had greater advantages in improving their level of soft skills. Furthermore, most responses identified the need for separate soft skills programs within the nursing curriculum. The findings of this study conclude that soft skills are critical to an individual's overall personality growth and improving their career prospects.^[51-53] Even if someone has all the technical knowledge required in a given field, hard skills will be useless if they are unable to effectively communicate, get along with others, think critically, and manage their time efficiently.^[54] When determining nurses' soft skills learning needs, nurse educators and service providers should work together to develop effective policies.^[46]

Recommendations

Based on the study's results, it is recommended that further research be conducted to determine the effectiveness of an interventional package in strengthening the soft skills of nursing students. New measures to assess the soft competencies of nursing students are required, and nurse researchers need to develop new and innovative techniques in university or clinical fields with pre-determined criteria to promote soft skills. It is recommended that further experimental research be conducted with other soft skill variables. Several researchers recommended the inclusion of non-technical skills in undergraduate and graduate nursing programs.^[15,55-57] Nursing requires more than just technical skills; it involves interactions with a variety of people and families, so the nursing curriculum must begin training with these interactions in mind to improve skills.

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