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EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING BODY MECHANICS AMONG NURSING STUDENTS

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Abstract:

Background: Effective body mechanics encompass techniques that promote safety, efficiency, and comfort for both caregivers and patients. **Methods:** This study adopted quasi-experimental research design was employed. A total of 100 B.Sc Nursing students who met the inclusion criteria were selected using a stratified random sampling technique. Data collection was done using a structured questionnaire, which participants completed. The responses were analyzed using both descriptive and inferential statistical methods. **Results:** After-intervention results showed an increase in adequate practice from 3% to 62%, with a reduction in inadequate practice from 29% to 0%, indicating a significant improvement in practice levels. **Conclusion:** The structured teaching program significantly improved both knowledge, practice regarding body mechanics among B.SC Nursing students.

Keywords: Body mechanics, nursing students, knowledge, practice.

INTRODUCTION:

Effective body mechanics encompass techniques that promote safety, efficiency, and comfort for both caregivers and patients. This is particularly relevant for nursing students, who are often involved in physically demanding tasks that can lead to musculoskeletal disorders if proper techniques are not employed.

Studies have assessed the current knowledge and practices regarding body mechanics among nursing students and professionals. A descriptive study revealed gaps in nurses' knowledge related to body mechanics and identified barriers to effective practice, such as insufficient training and a lack of understanding of the principles involved (abdelal et al., 2022). Additionally, targeted educational programs have shown

effectiveness in enhancing nurses' competencies in body mechanics, thus reducing the incidence of work-related injuries (Abd-Elhameed, 2018; . These findings suggest that integrating comprehensive training on body mechanics into nursing curricula can significantly equip future nurses with the necessary skills to perform their duties while safeguarding their health.

MATERIAL AND METHODS:

A quasi-experimental research design was employed. A total of 100 B.Sc Nursing students were selected using convenience sampling methods who fulfil the inclusion criteria. Data collection was done using a structured questionnaire, which participants completed. The responses were analyzed using both descriptive and inferential statistical methods.

Tools

Section A included six demographic variables: age, gender, year of study, nativity, family structure, and family income. Section B assessed knowledge on body mechanics using a self-structured questionnaire of 20 multiple-choice items, with one mark for each correct response. Scores were interpreted as: 0–6 (inadequate), 7–15 (moderate), and >15 (adequate knowledge). Section C evaluated practice using a 5-point Likert scale consisting of 10 items (9 positive, 1 negative). The total score was 20, with practice levels classified as: 0–6 (unfavorable), 7–15 (moderately favorable), and >15 (favorable practice). The data was noted and analysed.

RESULT:

Table - 1: Demographic data of nursing students.

N= 100

Demographic data	F	%
Age		
<18 yrs	12	12.0
18 – 19 yrs	39	39.0
19 – 20 yrs	37	37.0
>20 yrs	12	12.0
Gender		
Male	39	39.0
Female	61	61.0
Others	-	-
Year of study		
I Year	39	39.0
II Year	41	41.0
III Year	20	20.0
IV Year	-	-
Nativity		
Rural	44	44.0
Urban	56	56.0

Type of family		
Nuclear	82	82.0
Joint	18	18.0
Family income		
Rs.15000 to Rs.20000	41	41.0
Rs.20000 to Rs.30000	28	28.0
Rs.30000 to Rs.40000	18	18.0
More than Rs40000	13	13.0

The majority of participants were aged 18–19 years (39%) and 19–20 years (37%), with smaller proportions under 18 years (12%) and over 20 years (12%). Most were female (61%), with 39% male. Participants were primarily from the first (39%) and second (41%) years of study, followed by third-year students (20%). A higher proportion were from urban areas (56%) compared to rural (44%). Most belonged to nuclear families (82%), and the predominant family income range was Rs. 15,000 to Rs. 20,000 (41%), followed by Rs. 20,000–30,000 (28%), Rs. 30,000–40,000 (18%), and above Rs. 40,000 (13%). (Table 1)

Table 2: Level of knowledge regarding body mechanics.

Level of Knowledge	Pretest		Post Test	
	F	%	F	%
Inadequate (≤ 10)	76	76	0	0
Moderately adequate (11 – 15)	24	24	31	31
Adequate(16 – 20)	0	0	69	69

The data revealed that in the pretest, 76% had inadequate and 24% had moderately adequate knowledge; post-test results showed 69% had adequate and 31% had moderately adequate knowledge, indicating marked improvement after the intervention. (Table 2)

Table 3: Level of practice regarding body mechanics.

Level of Practice	Pretest		Post Test	
	F	%	F	%
Inadequate (≤ 10)	29	29	0	0
Moderately adequate (11 – 15)	76	76	38	38
Adequate(16 – 20)	3	3	62	62

The data revealed that in the pretest, 29% had inadequate, 76% had moderately adequate, and 3% had adequate practice; post-test results showed 62% achieved adequate and 38% had moderately adequate practice, reflecting significant improvement after the intervention. (Table 3)

Table 4: Association between posttest knowledge and demographic data.

Demographic Data	Moderately Adequate		Adequate		Chi-Square Test
	F	%	F	%	
Age					$\chi^2=1.269$ d.f=3 p=0.736 N.S
<18 yrs	4	4.0	8	8.0	
18 – 19 yrs	14	19.0	25	25.0	
19 – 20 yrs	9	9.0	28	28.0	
>20 yrs	4	4.0	8	8.0	
Gender					$\chi^2=4.738$ d.f=1 p=0.030 S*
Male	17	17.0	22	22.0	
Female	14	14.0	47	47.0	
Others	-	-	-	-	
Year of study					$\chi^2=1.685$ d.f=2 p=0.431N.S
I Year	15	15.0	24	24.0	
II Year	11	11.0	30	30.0	
III Year	5	5.0	15	15.0	
IV Year	-	-	-	-	
Nativity					$\chi^2=1.057$ d.f=1 p=0.304N.S
Rural	16	16.0	28	28.0	
Urban	15	15.0	41	41.0	
Type of family					$\chi^2=0.639$ d.f=1 p=0.424N.S
Nuclear	24	24.0	58	58.0	
Joint	7	7.0	11	11.0	
Family income					$\chi^2=1.087$ d.f=3 p=0.780 N.S
Rs.15000 to Rs.20000	14	14.0	27	27.0	
Rs.20000 to Rs.30000	7	7.0	21	21.0	
Rs.30000 to Rs.40000	5	5.0	13	13.0	
More than Rs.40000	5	5.0	8	8.0	

*p<0.05, S – Significant, N.S – Not Significant

Table 5 shows a statistically significant association between the demographic variable relationship and post-test knowledge levels on body mechanics ($\chi^2 = 4.738$, $p = 0.030$) at the $p < 0.05$ level.

Table 5: Association between posttest practice and demographic data.

Demographic Data	Moderately Adequate		Adequate		Chi-Square Test
	n	%	n	%	
Age					$\chi^2=3.128$ d.f=3 p=0.372 N.S
<18 yrs	5	5.0	7	7.0	
18 – 19 yrs	18	18.0	21	21.0	
19 – 20 yrs	10	10.0	27	27.0	
>20 yrs	5	5.0	7	7.0	
Gender					$\chi^2=0.848$ d.f=1 p=0.357 N.S
Male	17	17.0	22	22.0	
Female	21	21.0	40	40.0	
Others	-	-	-	-	
Year of study					$\chi^2=3.869$ d.f=2 p=0.144 N.S
I Year	18	18.0	21	21.0	
II Year	16	16.0	25	25.0	
III Year	4	4.0	16	16.0	
IV Year	-	-	-	-	
Nativity					$\chi^2=0.510$ d.f=1 p=0.475N.S
Rural	15	15.0	29	29.0	
Urban	23	23.0	33	33.0	
Type of family					$\chi^2=0.387$ d.f=1 p=0.534N.S
Nuclear	30	30.0	52	52.0	
Joint	8	8.0	10	10.0	
Family income					$\chi^2=-0.088$ d.f=3 p=0.993 N.S
Rs.15000 to Rs.20000	16	16.0	25	25.0	
Rs.20000 to Rs.30000	10	10.0	18	18.0	
Rs.30000 to Rs.40000	7	7.0	11	11.0	
More than Rs.40000	5	5.0	8	8.0	

N.S – Not Significant

Table 5 shows no statistically significant association between demographic variables and post-test practice levels regarding body mechanics ($p < 0.05$).

DISCUSSION:

The study demonstrated that prior to the intervention, the majority of students (76%) had insufficient knowledge, while 24% showed a moderate understanding of body mechanics. Following the structured teaching program, knowledge levels improved, with 69% attaining adequate knowledge and 31% reaching a moderate level. Regarding practice, the pretest showed 29% with inadequate practice, 76% with moderate, and only 3% with adequate practice. After the intervention, 62% demonstrated adequate practice, and 38% showed moderate levels, indicating substantial improvement. These outcomes confirm the effectiveness of the structured teaching program in enhancing both knowledge and practice. Similar improvements have been noted in earlier studies by Lawim (2020), Contractor (2019), and Shrestha (2022), further validating the positive impact of educational interventions on body mechanics awareness among nursing students.

CONCLUSION:

The study results concluded that the structured teaching program significantly improved both knowledge and practice regarding body mechanics among B.Sc Nursing students..

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