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Effect of time management educational program on academic' achievement of nursing students at the College of Nursing, ABHA, King Khalid University

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Abstract
Background: Effective time management is typically the practice of allocating time to complete learning tasks in a way that is suitable and varies gradually throughout the course of the learning process. Among nursing students, this is typically associated with improved academic achievement. The aim of this study was to assess the effectiveness of a time management educational program on nursing students' academic achievement levels.
Methods: Using an experimental design, the study was carried out at King Khalid University's College of Nursing, ABHA, in the Kingdom of Saudi Arabia. In the academic year 2023/2024, all 86 nursing students enrolled in the communication skills and health education course were randomly split into two equal groups: the experimental and control groups. Two tools were used for data collection: Time Management Inventory and Students 'achievement test.
Results: The results of the study show that, in terms of overall self-report time management skills, there was a very significant difference between the experimental and control groups in the post program implementation (t=2.52, Sig=0. 001**). In this instance, the experimental group gotten the highest mean score compared to the control group (mean values of 57.43±7.54 and 51.02 ±4.80, respectively). Furthermore, a statistically significant difference in academic achievement levels was seen between the experimental and control groups (chi square = 298.07, Sig = 0.001*).
Conclusion and Recommendation: In comparison to the nursing students in the control group, it was found that the time management educational program significantly improved the academic achievement and time management skills of the experimental group of nursing students. Thus, at the start of the academic year, nursing students should attend several courses or training workshops regarding time management skills. These classes may help students overcome their uncertainties and introduce them to the ideas of goal-setting, planning, and time management.

Keywords: Academic' achievement, nursing students, time management educational program

Introduction

Everyone has time, which is a valuable resource. However, because they may not have the time management skills, they may not use their time effectively. Empirical data in the academic setting showed a correlation between academic achievement and efficient time management. In order to enhance their academic performance and accomplishments, nursing students must possess efficient time-management abilities. (Tsai & Liu, 2015) [20].

The ability to plan, organize, and regulate one's time is part of time management. It is the process of identifying needs, choosing objectives to meet those needs, prioritizing activities, and organizing work to reach objectives. (Shafii *et al*., 2018) [17]. A common practice of effective time management is setting aside time to do learning tasks in a way that is suitable and consistent across the course of the learning process (Khiat, 2022) [12]. According to a study, there are four different sorts of time management approaches: administrative, pedagogic, technical, and shared (Oyarzun, Martin & Moore, 2020) [14].

As the future's healthcare professionals, nursing students have enormous responsibility. When time management behaviors are inadequate, some nursing actions may be overlooked, which can lead to problems with the patient, organization, professionalism in the workplace, and lower quality of care. Future nursing students must be well equipped to handle the demands of the ever-evolving and complicated health environment.

Thus, in order to have a deeper understanding of both themselves and the society they serve, students need possess strong time management abilities (Nayak, 2018) [13].

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Learning time management techniques gives students a sense of control over their surroundings and future (Razali *et al.*, 2018) [15].

In addition, time management techniques are significant cognitive aspects of selfregulated learning that can result in academic achievement. Time management is intended to guide a set of scheduled goals toward creativity and innovation in the workplace in order to improve life, reduce costs and missed opportunities, reduce errors, and reach a proper rest time (Al-Zoubi, 2016) [5].

The ability to manage one's time well (TMS) is correlated with attributes including self-esteem, motivation, entrepreneurship, stress, anxiety, and personality. Academic achievement is one of the variables that is associated to time management skills; students who attended time management training sessions had better academic performance and higher achievement than those who did not receive any training to enhance their time management skills (Gajewska & Piskrzyńska, 2017; Adams and Blair, 2019) [11, 2].

Theoretical framework
The current study is based on Britton and Glynn's (1989) [8] theoretical cognitive model of time management, which consists of three components and is intended to maximize the time manager's mindset. The first part of the time manager, called "Goal Manage," accepts a person's wishes and outputs a list of objectives and sub-goals with corresponding priority. The second part of the time manager is called "The Task Planner," and it uses the prioritized list of goals and sub-goals produced by the "Goal Manager" as its input. After working on those objectives and sub-goals, the planner produces an output that comprises a list of tasks and subtasks with priorities listed. The "Scheduler," which is the third part of the time management, receives as input the list of tasks and subtasks produced by the "Task-Planner." The "To Do List," created by the Scheduler, is used to decide what has to be done next

Significance of the study
In the higher nursing education settings, nursing students is less prepared for the college workload level than their antecedents. Once they get into college, procrastination seems to make them put off their academic work or deferment in exhibiting their assignments amid the whole course of studies. Thus, students may become disturbed with a low motivation level that influences to great extent their learning and achievement.

Nursing students in higher education settings are not as prepared as their predecessors for the degree of effort in college. Procrastination appears to cause students to postpone their academic work or display tardiness in submitting assignments during their entire academic tenure once they enroll in college. As a result, decreased motivation can cause students to get upset and have a significant impact on their learning and performance. Time management is a key factor that influences students' academic achievement in nursing because it is a limited resource that needs to be appropriately managed.

Nursing students have a notable problem with time management, which affects how they perceive and use their free time.

The results of this study are intended to be a step toward improving time management behaviors through the implementation of a time management educational program for nursing students, which may subsequently improve their academic achievement. Additionally, how they adhere to their academic responsibilities.

Aim of the study
The current study was carried out to assess the effectiveness of a time management educational program on nursing students' academic achievement levels.

Research Hypotheses
A review of the literature led to the identification of two specific hypotheses for this research
1. According to the first hypothesis, nursing students in the experimental group who received the time management training program would acquire more time management skills than those in the control group.
2. According to the second hypothesis, nursing students in the experimental group who received the time management educational program would perform better academically than those in the control group

Study design
The current study's goal was accomplished through the use of experimental design.

Subjects
All nursing students (totaling 86) participating in the course on communication skills and health education during the academic year 2023/2024 were split into two equal groups at random: the experimental group (n = 43) and the controls group (n = 43). The age group of over 20 years old had the largest percentage of nursing students, with a mean age of 21 years (85%). and 75% of the nursing students were from urban areas, all of whom were female and single.

Setting of the study
Five scientific departments nursing administration and education, fundamentals of nursing care, community nursing care, medical surgical nursing, and maternal and pediatric nursing are part of the College of Nursing, ABHA, King Khalid University, Kingdom of Saudi Arabia, where this study was carried out. The institution was founded by the Council of Higher Education's No. 14/42/1427 to provide distinguished education, community services, and innovative research in the field of nursing, through the best use of available resources.

Tools of data collection
The tool used in this study was composed of two instruments as follows:

Tool I: Time Management Inventory (TMI)
Britton and Tesser (1991) [9] created this instrument to evaluate nursing students' time management behaviors. It is divided into two sections. The first was created to collect information about the students' demographics, including their age, marital status, and place of residence during the study. The instrument's second section had twenty-seven self-reported items divided into three subscales: (1) Time planning (16 items). The subscale for time planning, which stands for both short- and long-term (daily or weekly) planning. The nursing students who performed well on this subscale manage their time better than other students, demonstrating their mastery of time management. (2) An individual's time management was determined by the seven items of the time attitudes subscale. It was clear from the results of this subscale that students with high scores could effectively manage their time by adjusting their needs to fit the time allotted. (3) The subscale of "time wasters" (4 items) showed

how students negatively spend their time. Students who scored highly on this sub-scale appeared to be efficient with their time, whereas those who scored poorly appeared to be indolent with it. A five-point Likert scale was used to rate the items, with the endpoints (1) never and (5) always marked.

Tool II: Students 'achievement Test (final written exam):
The researchers created it using the material from the health education and communication skills courses that the nursing students taught at levels five and seven at the end of the semester.to evaluate the several cognitive levels knowledge, understanding, application, analysis, synthesis, and evaluation - that make up learning. There are forty-two multiple-choice, true-false, and essay questions in all.

Scoring system
One point was awarded for a right response to a question, and zero for a wrong one. The exam results of the students will be scored using the following scoring system, which is used by the College of Nursing, ABHA, King Khalid University: There are six possible outcomes: fail (less than 60%), pass (60–<65%), pass+ (65–<70%), good (70–<75%), good + (75–<80), very good (80–<85%), very good +(85–<90), and excellent (90–<95%), excellent+ (95-100).

Content validity & reliability
A panel of specialists evaluated the Time Management Invent ory to determine its content validity. They looked at the tool's clarity, relevance, comprehensiveness, applicability, and unde rstanding.
Cronbach's alpha was used to establish internal consistency re liability, which measures the consistency of test outcomes acr oss items. The Cronbach's alpha coefficients were 0.87 by the original authors.

Fieldwork
The purpose of the study, its anticipated results, a description of the program, and its sessions were all clarified during the introductory session. Every session typically began with an overview of the lessons covered in the previous ones as well as the goals for the current one. The experimental group was split up into three subgroups at random, with eleven students in each. A two-week time management training experiment was set up, with each group receiving session on the same day. The field study was conducted in two months, in 2023, starting in September and ending in October. Five sessions have been used to apply the program created for this study. These sessions lasted for 8 hours.
The course was divided into two main sections.

The first covered theory and included topics such as an overview of time management and its benefits, how to spot cognitive errors that result in time waste, timewasting reasons, and techniques for enhancing time management.
The second section is practical and involves presenting scenarios and exercises that teach nursing students how to prioritize tasks, create daily schedules, and use various time management tools. Role playing, brainstorming, and group discussions were among the instructional techniques used. White papers and PowerPoint were among the instructional resources.
The program evaluation was conducted twice for nursing students in both the experimental and control groups: once prior to the program and again immediately after completion of the program. The same instrument that was used for the pre-program assessment was utilized to ascertain how the program affected the academic achievement levels of the nursing students. Following the program, posttest data collecting was completed for both the experimental and control groups. The students' achievement test was used to gauge their academic progress for both groups after implementation of the educational program.

Pilot study
A pilot study measuring the time required to fill out the data collection tool and testing the questions' clarity was conducted on ten percent of nursing students. The students were part of the primary study sample because no changes were made.

Administrative and ethical considerations
The study's conduct was authorized by After outlining the purpose of the study, the Dean of King Khalid University's Nursing College (ABA) and the King Khalid University ethics committee granted permission (approved number: ECM#2021-5610). Every nursing student involved in the study has received a written explanation outlining the purpose and nature of the study. They were informed that they might withdraw from the study at any time and given the option to accept or decline participation.

Statistical Analysis
Using SPSS software (Statistical Package for the Social Sciences, version 19, SPSS Inc. Chicago, IL, USA), the gathered data were arranged, tabulated, and statistically analyzed.

Results

Table 1: Comparison between experimental and control groups self-report means scores in relation to nursing students time management skills throughout the program phases (n=86)

Time Management Dimensions	Program phases	Experimental group (N=43)	Control group (N=43)	Experimental vs Control Groups	
		Mean ±S	±S Mean	t	Sig
Time Planning	Pre	32.81 ±2.41	33.62 ±2.40	0.62 0.35	0.620.35
	Post	36.24 ±5.33	34.20 ±3.44	3.32	0.001**
	t-Test for Equality of Pre & Post Means scores	t= 3.78, Sig=0. 000**	t=2. 115, Sig=0. 025		
Time Attitudes	Pre	13.00 ±3.40	13.10 ±2.21	1.05	0.173
	Post	17.12 ±4.09	15.23 ±1.25	2.34	0.001**
	t-Test for Equality of Pre & Post Means scores	t=4. 17, Sig=0. 000**	t=0. 623, Sig=0. 356		

Time Wasters	Pre	11.23 ±2.25	10.3 ±1. 52	4.22	0.000**
	Post	13.32 ±2.31	8.43 ±3.23	3.14	0.000**
	t-Test for Equality of Pre & Post Means scores	t=2. 10, Sig=0. 003**	t=0. 36, Sig=0. 267		
Total Dimensions	Pre	48.12 ± 3.75	47.43 ± 3.92	2.10	0.002**
	Post	57.43±7.54	51.02 ±4.80	2.52	0.001**
	t-Test for Equality of Pre & Post Means scores	t=5. 747, Sig=0. 000**	t=1. 132, Sig=0. 262		

Regarding comparing the mean scores of the experimental and control groups' nursing students' time management skills throughout the program. Table (1) demonstrates that, with regard to overall self-report time management skills, there was a highly significant difference (t=2.52, Sig=0.001**) between the experimental and control groups in the post program implementation. In this instance, the experimental group gotten the highest mean score compared to the control group (Mean=57.43±7.54 &51.02 ±4.80 respectively).

Table 2: Percentages of performance grades of nursing students in the study and control groups (n=86)

Performance grade	Experimental group (N=43)		Control Group (N=43)		X2 Test	P-value
	No	%	No	%		
Excellent + (95-100)	8	18.6%	2	4.7%	298.07	<0.001*
Excellent (90-<95%)	14	32.5%	6	13.9%		
Very good +(85-< 90)	12	27.9%	5	11.6%		
Very good (80-<85%)	6	13.9%	3	7.1%		
Good +(75-<80)	3	7.1%	4	9.3%		
Good (70-<75%)	-	-	5	11.6%		
Pass+ (65 -<70%)	-	-	12	27.9%		
Pass (60 -<65%)	-	-	6	13.9%		

Table (2) revealed a statistically significant difference in academic achievement levels between nursing students in the experimental and control groups (chi square = 298.07, Sig = 0.001*). In the experimental group, where the educational program was effective, 32.5% of nursing students received an "Excellent" rating. On the other hand, 27.9% of the control group received a Pass+.

Discussion

Effective time management is typically linked to improved academic performance and lower levels of anxiety in nursing students; yet, many students find it extremely difficult to strike a balance between their regular activities and their coursework (Adams & Blair, 2019) [2]. Therefore, the goal of the study was to assess the effectiveness of a time management educational program on nursing students' academic achievement levels.

Regarding the first hypothesis, which states that the experimental group would acquire higher time management skills than the control group they received the time management educational program. The study's conclusive findings, which showed an overall, very significant difference in time management skills between the experimental and control groups after the program's adoption, supported the hypothesis. Where the mean score for the experimental group was the highest. Demonstrating that the students' developed understanding (awareness) of their skills and ability for time management was positively impacted by the time management educational program.

The results of this study support those of previous studies by Abd EL-Fattah (2016) [1], Saleh and El Shazly (2020) [16], Wilson *et al*. (2021) which discovered a highly significant difference in time management skills between nursing students in the experimental and control groups after the program was implemented. In this instance, the experimental group had gotten the highest mean score than control group.

In contrast to the nursing students in the control group, the second hypothesis suggested that the experimental group's nursing students who received the time management training program would see an improvement in their academic achievement. The study's findings supported the hypothesis, showing that there was a statistically significant difference in nursing students' academic achievement levels between the experimental and control groups.

The experimental group's educational program was effective, as evidenced by the thirty-two point five percent of nursing students who received an excellent rating. In contrast, twenty seven point nine out of the nursing students in the control group received a Pass + grade. Maybe, it was due to the fact that the time management was a skill that became effective due to the continuous training and changing the students' behaviors and attitudes; which cannot be assessed in a single evaluation.

The current study's findings aligned with those of Alsalem *et al*. (2017) [3], Sobral *et al*. (2017) [18], Alshutwi *et al*. (2020) [4], and Çevik (2021) [10], who indicated that a time management education program had a significant effect on students' academic performance. Although this result contradicts the earlier research by Sohrabi *et al* (2016) [19], Baniaghil *et al*. (2021) [7] found no discernible effect of the time management educational program on nursing students' academic performance.

Conclusions

In comparison to the nursing students in the control group, it was determined that the experimental group's time management skills and academic achievement had significantly improved as a result of the time management training program.

Recommendations

The study's conclusions led to the recommendations that were listed below. Among them are:

1. Nursing students should participate in various time

management skills courses or training workshops at the start of the academic year. These classes may help students overcome their uncertainties and introduce them to the ideas of goal-setting, planning, and time management.

2. Nurse educators can help students apply time management skills by guiding them in this direction, meeting with them on a weekly or monthly basis, keeping an eye on their schedules, and assessing their progress.

3. It may be necessary to replicate this research in the future by using different techniques for obtaining data.

4. To achieve better outcomes, a longitudinal study of the educational program's effects is also necessary.

Acknowledgement

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