

# Establishing a Need for Adding Physical Activity and Exercise Therapy Course to the Student Curriculum of the BSc Physical Therapy Program at King Abdulaziz University (KAU)

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Reviewable v1

Received: 12 May 2019 | Published: 11 Jun 2019

Citation: Astek A (2019) Establishing a Need for Adding Physical Activity and Exercise Therapy Course to the Student Curriculum of the BSc Physical Therapy Program at King Abdulaziz University (KAU). Research Ideas and Outcomes 5: e36119. <https://doi.org/10.3897/rio.5.e36119>

## Abstract

Implementation of exercises and physical activity as a preventative management strategy in public health, which is in turn connected to undergraduate teaching in order to place physiotherapists as exercise experts in clinical practice, has become one of the essential areas for building comprehensive knowledge in a physiotherapy education program. As physiotherapists are experts in biomechanics, with a knowledge of pathology and its effects on body systems, they are the ideal professionals to meet the challenge of ensuring exercise expertise. An exercise therapy course could develop the content of the entry-level curriculum (BSc degree) in physiotherapy professional education programs to meet the current national and international needs of healthcare professionals who promote, guide and manage effective exercise strategies. In addition, the implementation of this course would improve the services provided by physiotherapy graduates in healthcare, thus emphasising the significant role of exercise as a physiotherapy intervention in prevention and management. Key to this process is analysing and reviewing existing physical activity and exercise therapy course and reporting the topics that will need to be implemented in the undergraduate physiotherapy program in KAU. Implementation of this course in the undergraduate curriculum requires the engagement of academic staff, clinical tutors in the

physical therapy department, Faculty of Applied Medical Science (FAMS), KAU and community health centre staff, in order to establish and deliver the course content to students via lectures, lab sessions and clinical visits.

## Keywords

Undergraduates, BSc Curriculum, Physical Exercises

## Background

The utilisation of exercise as an intervention for prevention and management of injuries and chronic diseases in individuals across their lifespan has grown recently in clinical practice within the field of physiotherapy Sallis 2009. Ideally, the profession of physical therapy should enhance the knowledge, skills and delivery of care across multiple domains, including health development, physical activity among different age groups and exercise expertise (American Physical Therapy Association Education Strategic Plan 2006; World Confederation of Physical Therapy 2009). As a result, it is recommended to address the demands put in place by these requirements on the educational plans of undergraduate physiotherapists in order to cope with the global shift in healthcare from treating injuries and disease to health promotion and illness prevention (Health Services Executive 2007). Furthermore, undergraduate teaching should consider exercise guidelines and strategies for public health in the curriculum in addition to its focus on disability, injury and impairment. Substantial work has been done on analysing physiotherapy undergraduate curriculums worldwide, after which the implementation of exercise prescription content has been recommended due to the increasing demand for exercise expertise in clinical practice (Dean 2009; O'Donoghue et al. 2011; O'Donoghue et al. 2012). This work includes a study conducted by a member (AlHendy 2012) at the physical therapy department in KAU. This study took the form of a student survey and recommended the development of clinical education in the physical therapy department by providing courses in prescribing exercises from start to finish relating to public health. Therefore, this proposal will present a plan for the implementation of Physical Activity and Exercise Therapy courses in the BSc physical therapy programme in KAU.

## Objectives, concept and approach

### Project Needs and Objectives

- The purpose of the project is to establish the knowledge and skills of undergraduate physiotherapy students as exercise experts. This means that physical activity and exercise prescription and promotion will become a domain of the curriculum design and delivery in the physical therapy department, in line with

KAU's principle of aiming to create graduates who are highly trained to meet the needs of society.

- The project aims to enhance students' ability to design exercise programs for individuals according to their conditions, theoretically and practically, through lectures and clinical sessions respectively. This could potentially align with KAU's strategy of placing graduates as experts in clinical practice.
- The project would cover a new domain in physical therapy intervention as part of the academic program, giving KAU the capability to fulfil the national and international standards benchmark in the field of physical therapy.
- The project will give more opportunity to students in future employment to be engaged in health community centres and private clinics instead of focusing on hospital settings. This would enhance the quality of the physical therapy department at KAU, as it contributes to creating graduating professionals who meet current national and international demands.
- Developing the content of the BSc programme in order to meet current national and international demands would enhance the academic reputation of the physical therapy department at KAU. According to the National Qualification Frameworks (NQF) for higher education 2015, adding credits to the bachelor degree programme is required in order to cover professional study requirements in the professional field and reflects the comprehensive knowledge of the programme.

## Third parties involved in the project

### External Dependencies

- In order to achieve the specific objectives of the project, the delivery of clinical skills, permission and signed approval, should be provided by the head of the external agencies, namely the community health centres in Jeddah including Alrehab Public Centre and King Faisal Residential City Clinic.
- KAU Accreditation Unit approval will depend on the review of two external referees, each from an American or European university.

### Internal Dependencies

- Implementation of this project in the curriculum of undergraduate students, including the signed letter from Department of Students Transportation, is dependent on approval from the Deanship of Admission and Registration for implementation in KAU.
- Approval from Deanship of Admission and Registration for implementation in KAU is dependent on approval from KAU Council.
- KAU Council approval is dependent on approval from KAU Deans Advisory Committee.
- KAU Deans Advisory Committee approval is dependent on approval from KAU Accreditation Unit and KAU Curricula Unit.

- KAU Curricula Unit approval requires the project management team to produce objectives and quality documents for the project that match NACCC standards.
- The preparation of the documents for course content in each semester should be in line with the content of other courses through the semester, in which level 5 courses are: PHTH331, PHTH332 and PHTH311, level 6 courses are: PHTH344, PHTH345, level 7 courses are: PHTH451, PHTH464, and level 8 courses are: PHTH486 and PHTH487 (Suppl. material 1).

## Scientific and technical challenges

Preferred options below are labelled 'option 1', while options labelled 'option 2' are just alternatives.

### External agency approval:

1. Option 1: approval from community health centres in Jeddah to cooperate in facilitating the clinical practice of the students. Alrehab Public Centre and King Faisal Residential City Clinic are primary healthcare centres providing public health services for chronic conditions. In this way, students will have the opportunity to deal with different cases in public health services; however, arrangement of transportation dates and times should be taken into consideration.
2. Option 2: visiting the clinics of chronic cases in KAU hospital, for which the department already has approval. The hospital is located in the student campus, meaning that there is no need to arrange transportation; however, these clinics deal with acute cases and hence not with the target population, unlike the cases in community health centres.

### Time spent by external agencies:

1. Option 1: Staff at the community health centres will take time to arrange schedules and report an overview of the cases to be seen by students during the visits. Advance meetings with staff should be held to avoid clashes with the students' curriculum.
2. Option 2: Staff at the KAU hospital clinics will take time to select appropriate cases to be seen by students during the visits. In this case, reports about the available target cases should be sent in advance to the department.

### The year at which this course is offered:

1. Option 1: implementation of the course in the 3rd and 4th year curriculum (Suppl. material 1) by dividing the content between the first and second semester of each year. This is to establish course content that is aligned with the content of other courses in both semesters.
2. Option 2: implementation of the course in the 3rd year (first and second semester) and the first semester of the 4th year. This will give students substantial time to

work on their research project, which takes place in the second semester of the 4th year. However, some sections of the exercise prescription content should be taught in line with the neurology course content, which is taught in the second semester of the 4th year (Suppl. material 1).

### **The estimated cost:**

1. Option 1: An exercise therapist will be hired as a part-time instructor. Salary will be according to the KAU's employment scale system, under the Ministry of Higher Education guidelines. This will increase the efficacy of the content as it will be delivered to the students by an expert. However, this will require the therapist's monthly salary to be factored in to the budget, in addition to arranging interviews with the head of the department and the faculty team in order to select him/her.
2. Option 2: Provide exercise therapy courses to the current physical therapy staff in order to prepare them for teaching this course. This will save on paying a salary for the parttime instructor. However, the cost of these courses for the current staff and the additional hours of teaching should be taken into consideration.

### **Impact**

- Students will be able to identify the principles of exercise in relation to physiology, biomechanics and measurement. This will be achieved through studying lectures, online references, cited books and the experiences of the exercise therapist in this field. The students will be assessed through mid- term and final exams in each semester, according to the department's exam policy.
- Students will be able to identify issues surrounding physical activity locally and globally through lectures and online references. This will be assessed through mid-term and final written exams in each semester, according to the department's exam policy.
- Students will be able to explain the role of physical activity and exercise in chronic illness and certain clinical conditions. This will be achieved through lectures and lab sessions and assessed through written exams and an Objective Structured Practical Examination (OSPE) in each semester according to the department's OSPE regulations and policies.
- Students will be able to demonstrate appropriate clinical skills in planning and prescribing exercises in the public health sector. This will be accomplished through clinical visits in order to apply the theoretical content in practice. The efficacy of these clinical skills will be measured through Objective Structured Clinical Examination (OSCE) in each semester, according to the department's OSCE regulations and policies.
- Students will be able to see, evaluate and design individual exercise plan for different cases, including chronic conditions (i.e. preventative measures as well as treatment). This will be achieved by clinical visits and measured through an assignment at the end of each semester.

## Implementation

This is a department project, relating to enhancing the theoretical and clinical content of the undergraduate curriculum (Suppl. material 1) to be in line with current national and international needs. The physical activity and exercise therapy content will be identified based on an analysis of the current content in the literature (O'Donoghue et al. 2011; O'Donoghue et al. 2012) or other existing courses. A sample of exercise therapy course syllabus and its relation to the current undergraduate curriculum is attached (Suppl. material 2); however, this will require further investigation by the head and staff of the physical therapy department. Basic information related to implementation of the course is presented in Table 1

Table 1. Basic information related to implementation of the course	
Basic Course Information	Details
Title of the course	Physical Activity and Exercise Therapy
Title and code of the course for transcript	Exercise Therapy, PHTHXXX
Course pre-requisites	PHTH221, PHTH222, PHTH223, PHTH224, PHTH228 (Suppl. material 1) .These courses will be pre-requisites because they identify the basics of exercises, movement and measurements. The courses and their content will be required to be passed and understood by students prior to their enrolment in levels 5, 6, 7 and 8.
Course co-requisites	Level 5: PHTH311, PHTH331, PHTH332 Level 6: PHTH344, PHTH345 Level 7: PHTH451, PHTH464 Level 8: PHTH486, PHTH487 (Suppl. material 1)
First term to be offered	Fall 2021
Level/year at which this course is offered	Level 5, Level 6, Level 7 and Level 8 (i.e. the 3rd and 4th year of the programme) (Suppl. material 1)
Course meeting length	Lecture: 2 hours, once per week Lab session: 2 hours, once per week Clinical visits: once per week
Course credits	Three credits
Offering type	Permanent course
Student assessment procedure	Midterm written exam Objective Structured Practical Examination (OSPE) Objective Structured Clinical Examination (OSCE) Final written exam One assignment at the end of each semester

## Budget

The proposed exercise therapy course would be funded by KAU under the FAMS. Table 2 presents the estimated financial cost, including the annual cost for employing the exercise therapist according to his/her job description (Suppl. material 4) as a part-time instructor in addition to the funding for the facilities and resources required to achieve the project objectives.

Requirements	Estimated Cost	Details
Salary for part-time exercise therapy instructor (Annual)	66,000 SAR	<ul style="list-style-type: none"> <li>Policy for recruitment of part-time staff is similar to that for full-time staff, except that the number of hours is assigned to him/her according to the department's needs.</li> <li>Staff funding is based on their qualifications in accordance with the rules and regulations.</li> </ul>
Classrooms, including computers and projector	Already offered; No additional cost	<ul style="list-style-type: none"> <li>All courses for 3rd and 4th year students are offered in the same classrooms for the whole year.</li> <li>No need for advance booking.</li> </ul>
Biomechanics and Exercise Therapy Labs	Already offered; No additional cost	<ul style="list-style-type: none"> <li>Need for advance booking from laboratory secretary in administrative unit to avoid clashes in the curriculum between 2nd, 3rd and 4th years.</li> </ul>
Transportation for students to Community Health Centres (Annual)	2,600 SAR	<ul style="list-style-type: none"> <li>This will be once per week for 13 weeks in each semester.</li> <li>Buses carry students from the main campus to the centre according to a timetable pre-determined in an official letter to the Department of Student Transportation.</li> </ul>
Required textbooks and teaching materials	2,000 SAR	<ul style="list-style-type: none"> <li>Identified by the instructor teaching the course, who will be asked to review at least two textbooks and submit justifications for the chosen textbook.</li> <li>The Departmental Curriculum Committee will ensure that the books are current and cover most of the topics covered in the syllabuses.</li> </ul>
Equipment for labs according to course needs	10,000 SAR	<ul style="list-style-type: none"> <li>The list of equipment will be provided by the instructor to laboratory secretary after the investigation of course needs.</li> </ul>
<b>Total Cost</b>	<b>80,600 SAR</b>	

## Risks

The risks which are associated with the project are presented, along with proposed mitigation actions, in the following Table 3, which is based on Risk Matrix criteria (Project management framework 2017) (Suppl. material 3)

Table 3. The Risks Associated with The Project				
Risks	Probability	Impact	Risk Value	Mitigation Action
Unsustainable business case	1	3	3	(Treat action) <ul style="list-style-type: none"> <li>Reviewing the project objectives in light of setting changes by working with stakeholders.</li> </ul>
Staff absences	2	2	4	(Tolerate action) <ul style="list-style-type: none"> <li>Tolerable by spreading the responsibilities across the project team.</li> </ul>
Lack of stakeholder support	1	4	4	(Treat action) <ul style="list-style-type: none"> <li>Provide regular samples of project benefits and progress.</li> <li>Offer regular time for deliberation.</li> <li>Demonstrate the work to the stakeholders, including project management team.</li> </ul>
Change in financial or structural sectors (Annual)	3	2	6	(Treat action) <ul style="list-style-type: none"> <li>Integrate significant structural changes into project objectives.</li> </ul>
Change in the faculty or KAU structure (Annual)	2	3	6	(Treat action) <ul style="list-style-type: none"> <li>Readjustment of project management to be appropriate with the new structure.</li> </ul>
Change in strategic policies of the government or KAU	2	2	4	(Treat action) <ul style="list-style-type: none"> <li>Review the strategic changes and policy documents.</li> <li>Realign project objectives to be integrated with significant policy changes.</li> </ul>

## Timescale

The implementation of the project will require approximately one and a half years (see Gantt Chart, Suppl. material 5):

### Year 1

The first four months will be an initiation process, preparing this project as an academic case. This will involve setting up the key individuals for delivery and identifying the project management group from internal staff. Links will be established with other key committees, including the curriculum development committee, department council and FAMS council.

### Key aspects:

- Working on the project with department staff through appropriate committees including the Department of Physical Therapy Curriculum Committee, FAMS Curriculum Committee, Quality Assurance Committee, KAU General Curriculum Committee and KAU Board.
- Task distribution among internal staff, which will have been allocated in the project management group.
- Reviewing existing programmes to determine the current and recent content of physical activity courses and identifying content that is already incorporated in the undergraduate curriculum.
- Identifying the job description, salary and specific hours needing to be assigned to the part-time instructor.
- Contacting and obtaining signing approval from external agencies, i.e. the community health centres in Jeddah, including Alrehab Public Centre and King Faisal Residential City Clinic.
- Developing support materials, such as books and online references, and engaging library staff.
- Establishing the risks associated with the project.
- The next seven months of the first year will be the phase of preparation for approval. This will involve:
  - Creating quality documentation to support validation of the new course, which involves files for course specifications and field experience specifications.
  - Revising quality documents by departmental staff to ensure fulfilment of the National Commission for Academic Accreditation & Assessment standards 2013.
  - Developing quality and standard procedures based on the National Qualification Frameworks (NQF) for higher education 2015.
  - Submitting proposal to KAU Curricula Unite by deadline for approval.
  - Preparing modifications after response from KAU Curricula unit.
  - Sending the complete proposal by FAMS to two external references, each from an American or European university, for review.
  - Applying changes recommended by external referees.

- After changes, submitting proposal to KAU Accreditation unit by deadline for approval.
- After this is complete, submission to KAU Deans Advisory Committee, KAU council, and the Deanship of Admission and Registration for Implementation.
- Final Approval.

**Year 2 (First six months)**

The implementation phase will be the main focus of the six months after final approval is secured.

**Key aspects:**

- Running interviews for candidates for part-time instructor position.
- Meetings to implement the course in students’ schedules, including with 3rd and 4th year staff, the employed part-time instructor, curriculum director and course coordinator.
- Inspection visit for the biomechanics and exercise therapy labs to ensure that all items meet course requirements.
- Obtaining signed letter from Department of Student Transportation with fixed timetable for buses in order to transfer students from the main campus to the Community Health Centre.
- Review of course syllabi by the department board to ensure compliance with the department’s needs.
- Monitoring the course by having regular monthly meetings with the course coordinator.

**Project Quality**

The quality expected from the project would be based on the suitable and measurable course learning outcomes under five domains provided by the National Qualification Frameworks (NQF) for higher education 2015 in accordance with the National Commission for Academic Accreditation & Assessment standards 2013 templates (Table 4). According to NCAAA, the intended learning outcomes should be supported by teaching strategies that fit and align with the assessment methods. Other components to ensure the quality of the project include regulation for student assessment, verification for standards, selection and preparation of the new staff, and course planning, monitoring and review.

Table 4. Five domains provided by National Qualification Framework		
<b>NQF Learning Domains and Learning Outcomes</b>	<b>Teaching Strategies</b>	<b>Assessment Methods</b>
<b>Knowledge:</b>		

Identify the basic platform of exercises from a physiological, anatomical, biomechanical and neurological perspective.	- In-class lecturing	- Final written exam
Recognise the physiological, biomechanical and anatomical changes due to exercise prescription and the related clinical features of conditions commonly encountered in public health services.	- Practical sessions - Clinical sessions	- OSPE exam. -OSCE exam. - Grading assignments
Describe the rules for a physical therapist, as an exercise therapist, in assisting both healthy and clinical populations with the following: designing an exercise plan, performing exercises for prevention and being in home and work environment at the highest possible level of self-sufficiency.	- Class discussions - Case studies - Utilisation of internet	
List the principles of research- and evidence-based exercise therapy practice.		
Recall clinical reasoning, problem solving approaches and research awareness in the selection, justifications and review of exercise methods.		
<b>Cognitive Skills:</b>		
Justify clinical data based on basic knowledge of physiology, anatomy, pathology and biomechanics.	- In-class lecturing - Practical sessions	- OSPE exam. - OSCE exam.
Interpret the collected data to make decisions about the clinical progress of cases.	- Case studies	
Develop individualised exercise therapy approaches for different conditions.	- Field visits	
Plan assessment, exercise design, goals and discharge strategies for different conditions.		
<b>Interpersonal Skills &amp; Responsibility:</b>		
Demonstrate engagement in appropriate self-directed learning.	- Practical sessions - Case studies - Field visits	- Case study presentation - OSPE exam. - OSCE exam.
Demonstrate a high level of communication, teamwork and leadership skills.		
<b>Communication, Information Technology, Numerical Skills:</b>		
Interpret data from literature using information technology and library resources to solve clinical problems.	- Simulating situations - Class discussions - Assignments - Practical session	- OSPE exam. - OSCE exam. - Grading Assignments
Demonstrate skills in using the internet critically as a means of communication and source of information.		
<b>Psychomotor Skills:</b>		
Effectively use tools & measuring instruments according to standard guidelines & safety measures for different disorders.	- Practical sessions - Lab sessions - Simulated situations - Field visits	- OSPE exam. - OSCE exam.
Employ clinical diagnosis & investigation during application of exercise plan		

Demonstrate use of assistive devices safely & effectively.		
Demonstrate understanding of moral, ethical, legal & Islamic cultural issues in relation to practice.		

### 1- Regulation for student assessment and verification of standards

According to the Physical Department, KAU policy, a sample of 10 % of exams for each course should be marked by another member in the department to confirm the standards of marking . In addition, each student is evaluated by more than one instructor. An International team visits the faculty every three years in order to evaluate the standard of students work and grades against to international standards.

### 2- Selection and preparation of new staff

The following process for recruiting new faculty and teaching staff will be implemented to ensure that he/she is highly qualified and experienced for teaching responsibilities:

- Applicants should be graduates of a well-recognised program.
- Applicants should have acquired a directly related speciality.
- Grade of bachelor qualifications should be not less than grade B.
- Recommendation letters from people he/she worked with should be provided.
- Applicants should pass the interview process conducted by a select committee of faculty members, including oral presentation.
- Qualifications should be verified before interviews take place.

The following process will be used for orientation of part-time staff to ensure full understanding of the program and the role of the course he/she teaches as a component within it:

- Presentation of the program and faculty systems (on a CD).
- Lectures of senior faculty members should be attended by the new staff.
- Clinical sessions of senior faculty members should be attended by the new staff.
- First teaching lecture of the new staff should be assessed by senior faculty member.

### 3- Course planning, monitoring and review

This process requires the involvement of the project management team, including teaching staff, in monitoring course quality, annual review and planning for improvement.

- Regular meeting with course coordinators for discussing students' performance.
- Quality assurance committee assigned to solicit feedback from the department regarding the course and ensure that quality is maintained.
- Quality assurance committee to find solutions and make proper plans to overcome any difficulties found in the annual report.
- Advisory Committee to hold regular timescale meetings with staff in the department to discuss the issues which occurred throughout semester.

- Problems identified are discussed and suitable solutions are suggested.
- A follow-up is conducted to check the execution of the suggested solutions.

## List of participants

### Project Management Group

This group is responsible for the management of the project on a daily basis and will monitor the progression of the course from inception to termination. Initially, the group meets twice a month and then once a month. This group reports to the Department of Physical Therapy Curriculum Committee, FAMS Curriculum Committee, Quality Assurance Committee, KAU General Curriculum Committee and KAU Board. Members include:

- Project Sponsor and Budget Holder – KAU University.
- Project Manager – Staff A, Head of Physical Therapy Department, FAMS, KAU.
- Project Co-ordinator – Staff B, Curriculum Co-ordinator and Assistant Professor at the Department of Physical Therapy, FAMS, KAU.

### Academic Co-ordinators

- Staff X – Teaching and Learning Co-ordinator in Educational Affairs Unit, Department of Physical Therapy, FAMS, KAU.
- Staff XX – Assistant Professor and Course Co-ordinator, Department of Physical Therapy, FAMS, KAU.
- Staff XXX – Clinical Tutor and Director of Clinical Training Unit, Department of Physical Therapy, FAMS, KAU.
- Staff XXXX – Lecturer and Director of Laboratory Unit, Department of Physical Therapy, FAMS, KAU.

### Steering Group

This group consists of individuals from other institutions, including a European university, with experience in implementing exercise therapy content in their students' curriculum. The group contributes by providing advice, including guidance in the preparation phase of the project, with no managerial function. Meetings with the project management team will be arranged three times in the preparation phase (Year 1) and followed by documented reports.

- Staff XO – Academic Director of Physiotherapy courses at the University of X\*.
- Staff XXO – Director of Applied Undergraduate Clinical Skills at the University of X\*.
- Staff XXXO – Academic Coordinator of Physiotherapy courses at the University of X\*.
- Staff XXXXO – Course Coordinator at the University of X\*.

\*The name of the university depends on the selection of a recognised European University by KAU.

## Evaluation

The success of this project will be critically based on continuing formative evaluation and a full evaluation report at the end of the preparation phase (Year 1) and at the end of the implementation phase (Year 2 – the first six months). The first three months of the project will be a period of negotiation for the full evaluation framework. The detailed evaluation plan will be conducted as follows:

- Formative evaluation at the end of the first year will primarily focus on the preparation stage of the project, including analysis of the course portfolio, objectives, content and internal quality documents. This will be evaluated by the Project Management group and shared with the members from the Steering Group to review the project progress and objectives as required.
- Evaluation at the end of the implementation stage for obtaining assessment of the overall quality of the course and achievement of its intended learning outcomes will be conducted on the following basis:
  1. Student results, including written exams, OSPE, OSCE and assignments will be reviewed by Project Manager – Staff A, Head of Physical Therapy Department, FAMS, KAU.
  2. Academic Coordinators will distribute constructed surveys for comprehensive student evaluation of all aspects of the course, including credit hours, length and content of the course, teaching methods, evaluation methods, consistency of course integration, resources and services provided, and clinical training.
  3. An external faculty member will be invited from an accredited physical therapy program at the end of the academic year to provide feedback after reviewing documents such as the course portfolio, interviewing students, visiting labs, and communicating with the clinical training staff.

## Grant title

Establishing a Need for Adding Physical Activity and Exercise Therapy Course to the Student Curriculum of the BSc Physical Therapy Program at King Abdulaziz University (KAU)

## Hosting institution

King Abdulaziz University/ Applied Medical Science College/Physical Therapy Department

## Author contributions

Anfal Astek generates the idea, designs the project and writes all project sections

## Conflicts of interest

None

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## Supplementary materials

### Suppl. material 1: Appendix 1 [doi](#)

**Authors:** Anfal Astek

**Data type:** Table

**Brief description:** Curriculum Study Plan Table

[Download file](#) (108.73 kb)

### Suppl. material 2: Appendix 2 [doi](#)

**Authors:** Anfal Astek

**Data type:** Table

**Brief description:** Exercise Therapy Topics and its relation to current curriculum (Lectures and Clinical Placement)

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### Suppl. material 3: Appendix 3 [doi](#)

**Authors:** Anfal Astek

**Data type:** Table

**Brief description:** Risk matrix

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### Suppl. material 4: Appendix 4 [doi](#)

**Authors:** Anfal Astek

**Data type:** Table

**Brief description:** Job Description of Faculty instructor in KAU

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### Suppl. material 5: Appendix 5 [doi](#)

**Authors:** Anfal Astek

**Data type:** Gantt Chart

**Brief description:** preparation phase and implementation phase

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