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Dear Ms. Drew,

This is my report, The Feasibility Analysis of Emailing Exercise Programs. Working at Lynn Physiotherapy has prepared me well when engaging with different clients in the rehabilitative setting. My interactions with our clients have made me realize that our clients tend to forget their exercises and neglect to do them regularly. My motivation comes from helping our clients reach their full potential in their active rehabilitation and I believe initiating this strategy will be a large step towards that.

A few of the physiotherapists have allowed me to contact their clients via email to test the implementation of this endeavor. Although I'm grateful for their support, having more of our physiotherapists on board would be much more helpful in gathering information for this study. Unfortunately, my sample size was much lower than what I expected, so I hope to have access to more clientele, so that I can gather more feedback in the future.

The exercises are extremely important in the rehabilitation of our clients and having a gym within our clinic puts us ahead of our competitors. If we implement the emailed exercise program for all the physiotherapists in our clinic, we can put ourselves further ahead of other clinics with this new resource. Many people rely on electronic information these days, so emailing exercises to our clients would be the most logical way to engage them in their exercises.

This experience has been rewarding and I have learned much about the needs of our clientele. Thank you for your support and guidance throughout this process. If you have any questions please feel free to contact me at hnn@live.ca.

Respectfully Yours,



Huy Nguyen

Feasibility Analysis of Emailing Exercise Programs

For

Saranne Drew

Owner/Physiotherapist

Lynn Valley Physiotherapy

North Vancouver, British Columbia

by

Huy Nguyen

Kinesiologist

April 8th 2016

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Abstract

The purpose of this research is to evaluate the feasibility of implementing Physiotec, an emailed exercise program, for Lynn Valley Physiotherapy. Incorporating this strategy can help increase the clients' exercise compliance and improve the overall quality of their treatment in the clinic. Feedback was gathered from clients during a trial run where surveys were emailed out with their exercises. The survey asked questions about how often clients did their exercises and their satisfaction with having them emailed. Result indicated that clients were completing their exercises 2-3 times per week and were very satisfied with having their exercises emailed to them. Developing an initial understanding of the Physiotec program and the clients' response to the email will allow us to fully implement this program into our clinic.

Introduction

Lynn Valley Physiotherapy is dedicated to identifying and maximizing our clients' ability to move and function in their activities. Part of the rehabilitation process involves restoring strength, flexibility, endurance and power through various exercises and drills. Active rehabilitation with exercises and drills are an important component in treatment following an injury, but some clients tend to neglect this part of their treatment.

Many clients do not complete exercises given to them by their health practitioner. These clients are considered to be non-compliant, or formally defined as: the patient's failure to adhere to the practitioner's advice. Evidence suggested that about 65% of individuals do not adhere to their home exercise programs and 10% do not complete their course through physiotherapy (Bassett). Incorporating exercises into the physiotherapy treatment is important in developing and maintaining the cardiorespiratory and musculoskeletal fitness among adults (Pollock et al.). Therefore, implementing strategies to enhance adherence will be vital in maintaining exercise compliance. Research literature on the strategies and interventions to enhance exercise adherence are beginning to surface, but there are still some inconsistencies and gaps in the evidence (McGrane et al.).

There are many different reasons why exercise adherence is an issue, which tends to vary from patient to patient. Understanding some of these factors is the first step towards increasing compliance. One research summarizes the main reasons why clients do not complete their exercise: lack of time to complete exercise; unable to understand reasoning for exercise; lack of feedback provided on a regular basis; and inability to recall exercise and thus using incorrect techniques (Sluijs, Kok, and van der Zee).

We will be investigating whether two of the elements, lack of regular feedback and inability to recall exercises, may be corrected by using an email software program. Utilizing a software program such as Physiotec can be a vital tool when addressing the issues of exercise adherence by emailing our clients videos containing instructions that can be used for home exercise programs. This method of transmission may also help clients perform their exercises correctly and consistently, which may improve the success of their treatments at our clinic.

In order to measure the value of this resource, we must evaluate some basic questions in implementing this system, including:

- How often patients do their exercise and what are their limitations
- The pros and cons for implementing this software program in the clinic
- How well the physiotherapist and clients conform to the email program
- The ease of access to exercises for the clients at home
- Improvement of client compliance in exercise performance

This report will evaluate how satisfied our recent clients are with their emailed exercises based on surveys. Along with the feedback from our clients, we can observe our clients and gauge their progress as they perform the exercises in the gym. Using the data and observations, this

report will assess the feasibility of having these exercise programs regularly emailed to our clients by the Physiotec Program.

Context and Background

Contents and Services of Physiotec

Physiotec is an exercise software program which used is by health practitioners in exercise prescription. The web-based home exercise programs can send exercises via email and organizes client profiles and their exercises within the database.

The exercises presented are highly detailed, providing high quality visuals, videos and instructions. The database contains a large amount of exercises typically prescribed to clients, some which are specialized exercises and customizable to the specific needs of clients. Once the programs are created, the exercises can simply be sent to them via email.

Physiotec offers some of the best customer service and technical assistance when using the program. The research and development team are continuously improving their system with the goal of making the program more efficient and improving patients' treatment.

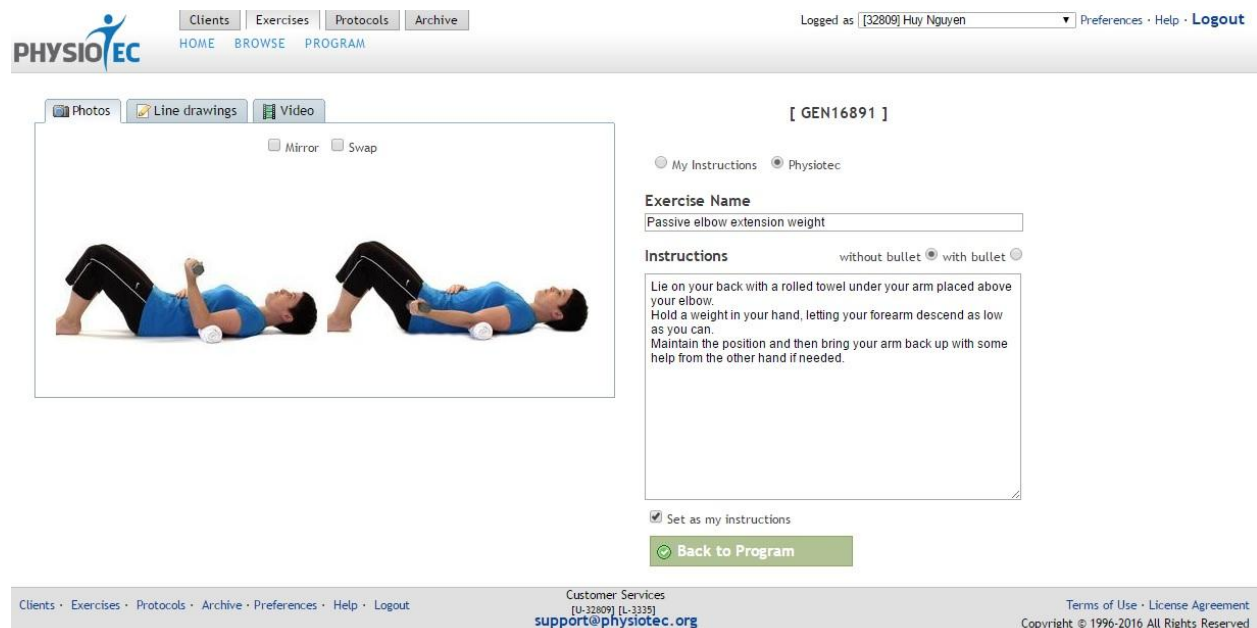


Figure 1 – Visual Template of Physiotec Program

Pros and Cons of Physiotec

Prior to sending out the survey and the exercises, a thorough exploration of the Physiotec program was conducted to see whether it could be integrated into our system and how well our staff would adapt to it.. The following examines the pros and cons of having Physiotec implemented within our clinic.

Advantages to using Physiotec

Organization

Utilizing this program will be beneficial to our staff, especially for the kinesiologist working alongside our clients with their exercises. The program's database will allow our kinesiologist to quickly create and store programs while keeping track of our clients' progress. The organizational component of this program will allow our kinesiologists to be more efficient as they work with our clients on their exercises.

Customizable exercise programs

Sending emails to clients will be the most important component to this program. The emails sent during the trial test have produced some promising results and many of the respondents appear to be satisfied with the results. Creating a program unique for each client is essential to the customer service part of our occupation, and emailing these programs can ensure that our clients have access to their program.

Tracking Progress

With this system, we can easily modify, remove, and update any changes we make to their program. The ability to record the number of repetitions done for an exercise or the weight used to perform movements can help us record and monitor the progression of our clients' exercises.

Being able to keep track of this data for each of our clients will vastly improve on how we monitor our clients and provide greater feedback to them as needed.

Clinicmaster Integration

We can integrate the Physiotec program into our Clinicmaster system so that we do not need to separately create profiles for the two separate systems. This will automatically make it efficient so that we have records of the client's personal information tied to their exercise programs.

No Cost

The British Columbia Association of Kinesiology allow free access to the program.

Disadvantage to Using Physiotec

The ease of utilizing the exercise program comes with some drawbacks, which tend to be more of an inconvenience rather than a detriment.

Requires background knowledge of Functional Anatomy

In order to properly use the search function and find exercises in the database, general understanding of the human anatomy is required. This should not hinder us because many of the kinesiologists we hire have strong background knowledge in the functional anatomy.

Creating custom exercises can be time consuming

There will be a learning process for using Physiotec. The kinesiologist will need to learn how to access personal profiles, siphon through all the different exercises in order to know where each exercise is located and how to create the programs and email them in a timely manner. It takes about 2-3 months to get fully accustomed to the system, but it will be relatively straightforward when it is often used. Much of the time loss will come from creating custom exercises and modifying current exercises for unique situations. Gaining experience with this program will help the kinesiologist to become more efficient.

Overall, the benefit of having this system outweighs the disadvantages. Over time, we can learn to navigate the system in order to efficiently utilize the program.

Methodology

Survey of Home Exercise Program

A qualitative research method was used to develop an initial understanding and gather feedback for further decision making. The trial run was conducted using the Physiotec program to create exercise plans for some of our clients during the first week of March 2016. The participants were chosen at random and taken from the schedule list from the first Monday of March. Surveys were sent out to 60 of our clients on the scheduled day and each client was asked to fill in the survey provided in Appendix 1. Consent was obtained from the attending physiotherapist of each client contact. These are the key questions that were asked:

- How often are you doing your home exercises?
- How satisfied are you with having your exercises emailed?
- Do you find the emailed exercise programs helpful?

Feedback and survey answers were provided during the two weeks following the initial day exercises were sent out. A total of twenty-eight people anonymously responded to the survey and provided feedback to the email we sent out. The demographic from the surveys were aged 25-74 with 17 male and 11 female respondents.

The result of the survey is presented in the data section.

Data Section

The following are the results of the three key survey questions:

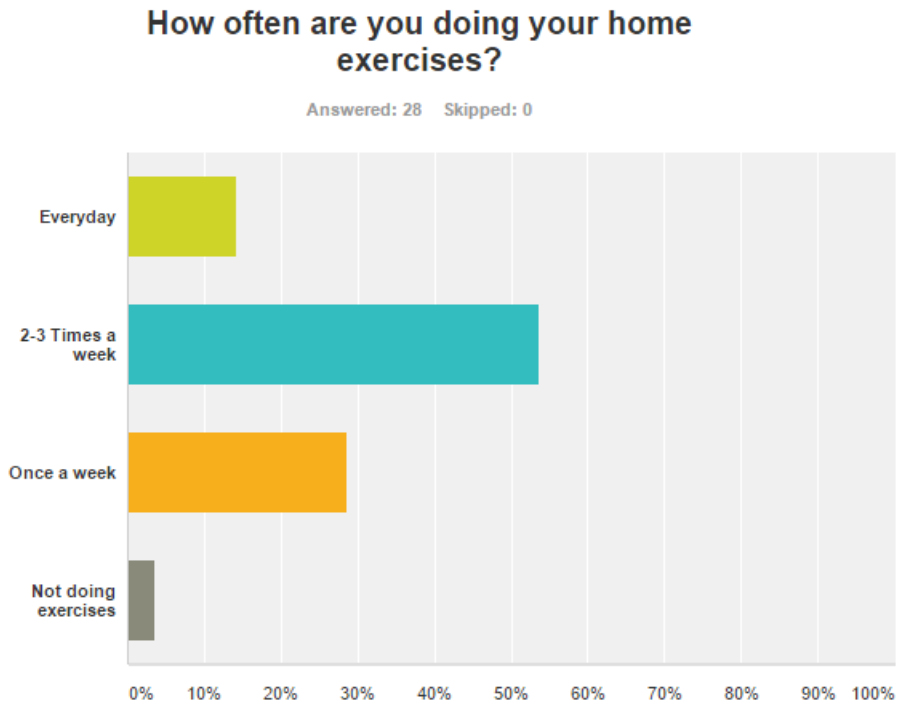


Table 1 – Distribution of how often clients are doing their home exercises.

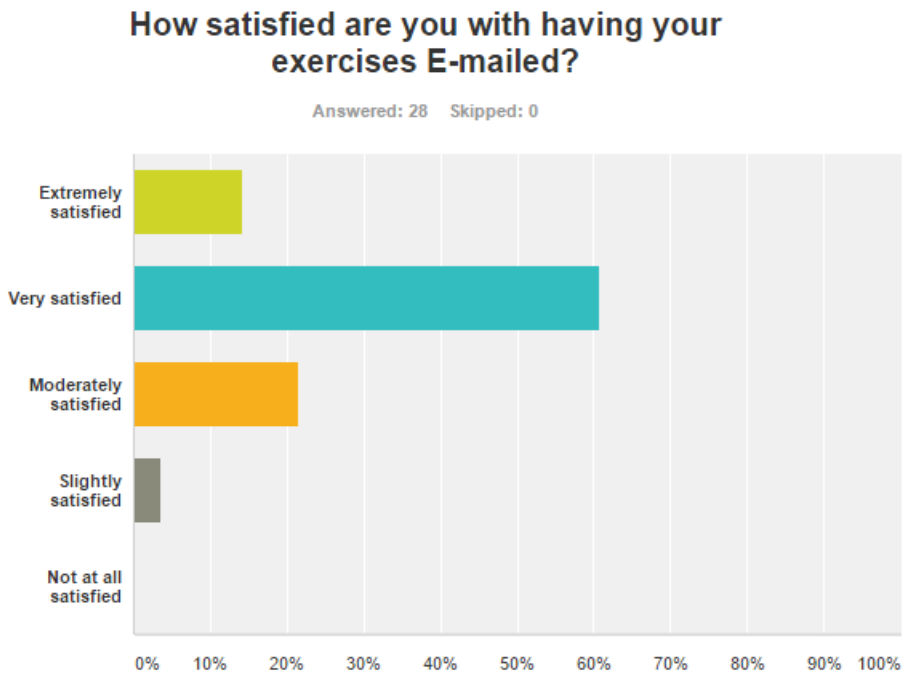


Table 2 - Distribution of clients satisfied with emailed exercises.

Do you find the E-mailed exercise program helpful?

Answered: 27 Skipped: 1

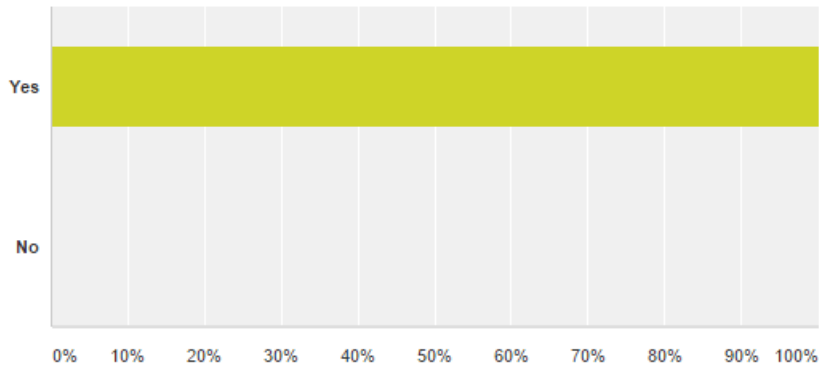


Table 3 - Helpfulness of the Email Exercise Program

Results

The findings represent how compliant our clients are with their exercises and how satisfied our clients are with the email program we sent them. The first results show that 19 clients of the 28 surveyed are doing their exercises at least 2-3 times per week. Sixty percent of our respondents were very satisfied with their emailed program and 15% were extremely satisfied. All our respondents found the exercise program to be helpful, with the exception of one person who did not provide an answer.

Interpretation and Discussion of Results

About 75% of the respondents' reply showed that they do their exercises 2-3 times a week, which is what many of our physiotherapist recommends to our clients. Ideally, we would like to have all of our clients do their exercises every day, but many of our clients have mentioned lack of time being the barrier to their exercise. The results for this survey is promising, and shows that the emailed clients are working on trying do their exercises once every few days. If we begin to fully integrate this into our clinic, we can potentially increase the level of compliance by ruling out forgetfulness as a barrier to exercise.

The survey also demonstrates that clients were very satisfied with having exercises sent to them via email. No comments were made about the emails being a nuisance, nor were clients reporting problems with the email appearing in their inbox. During some of our clients' visits to the clinic gym, a few of our clients were thankful for having the exercises sent to them via email and found it to be very convenient due to the accessibility. All of our respondents found the

emailed exercise program to be useful. Although this is a very straightforward question, our respondents did not reply “no” to the helpfulness of having the email. This information supplements the previous two survey question by indicating how well the clients liked having the emails sent to them.

There are some limitations to this qualitative research. Even though the data collection provided some insight into the reception of the email service, this data doesn't represent the population of our clientele. Unfortunately, the short timeline only generated a limited number of responses, thereby limiting our understanding. The data, however, provides a foundation from which we can develop our initial understanding in order to make sound decisions in our goal to increase exercise compliance. Hopefully, the email implementation can help bridge the gap in strategies and intervention to enhance exercise adherence.

Conclusion

As health care professions, it is important that our clients receive the best treatment when enhancing their rehabilitative process. This involves ensuring that they have easy access to their exercises, with proper instructions and utilizing visuals and videos to help them understand their program. Research has demonstrated that clients are more compliant to their rehabilitation when they are attending physiotherapy, given home exercises via email, and provided videos and instructions to aid their home exercise programs (Miller, Litva, and Gabbay). The surveys distributed showed that our clients found the exercise programs to be helpful and were satisfied with the having them emailed to them. However, due to the small sample collected, it would be beneficial to gather more feedback from our clients and produce a more specific assessment on how clients react to our program.

In the future, the Physiotec online program can help us increase our clients' compliance to exercise and rehabilitation from the following features:

- Providing easy to read visuals, videos and instructions for clients
- Creating, storing and emailing unique sets of exercises.
- Allowing us to gauge progress and provide feedback to our clients

Although it will take time to learn the Physiotec database and fully transition towards utilizing the program, the benefits of having this implemented into our clinic will be important for increasing compliance.

Using Physiotec can potentially benefit both our clients and the physiotherapist and kinesiologists treating them. The client will benefit by having online videos of their exercise programs and have clients more involved with their proposed treatments. The program's email system will provide concise & specific instructions of the exercises, thereby reducing the risk of injury from movements with improper biomechanics. Our clinic can benefit by having access to the exercises online without referring to charts, the ability to create personally prescribed exercises for the database, and utilizing this system to motivate clients in their rehab. Overall, it

is advantageous to use the Physiotec program on a larger scale and it is feasible to implement this into our clinic.

Recommendations

If you wish to implement Physiotec to increase client compliance and our clinic's efficiency, please consider the following suggestions:

- Integrate ClinicMaster (our clinic management system) with the Physiotec program to utilize its software system, in order to create client profiles and send personalized exercise programs through the email system.
- Begin to teach student kinesiologists the Physiotec program and how to utilize it to create exercise programs for our clients. We should begin to integrate Physiotec more as the physiotherapist starts to rely on the email service that the kinesiologist is responsible for. This will free up more time to compensate for our increase of clientele and give our physiotherapist more time to engage with the clients rather than drawing up exercises.
- Have our physiotherapist advertise the email system to retain clients and motivate them in their treatment process.
- Continue to provide surveys as we start to implement this system and gain continual feedback while trying to smoothly transition to this program.

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Appendix 1

Physiotec Email Survey

1. What is your age?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 75 or older

2. What is your gender?

- Female
- Male

3. Have you been given exercises by your physiotherapist?

4. How often are you doing your home exercises?

- Everyday
- 2-3 Times a week
- Once a week
- Not doing exercises

5. Have you been receiving E-mails of your exercise?

6. Are you receiving your emails in a timely manner? (Within 1-2 Days)

7. Do you find the E-mailed exercise program helpful?

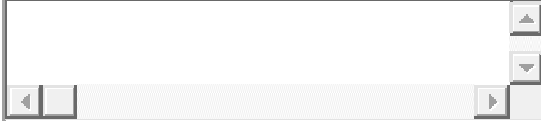
8. How satisfied are you with having your exercises E-mailed?

- Extremely satisfied
- Very satisfied
- Moderately satisfied
- Slightly satisfied

Feasibility Analysis of Emailing Exercise Program

Not at all satisfied

9. Please comment on how we can enhance our E-mail Service.



Link to Survey given to clients in their emailed exercise program

<https://www.surveymonkey.com/r/NZZJZXL>