

Knowledge and Perception of Physiotherapist towards Video Based Rehabilitation for Balance - As an Adjunct to Conventional Methods of Intervention: A Questionnaire Based Study

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ABSTRACT

Introduction: Balance impairment is common in various older adults to pediatrics conditions. Using video based method, is an acceptable, useful and effective teaching, screening tool and provides feedback about performance, which could be useful and effective in improving clinical skills berg balance scale (BBS) and paediatric balance scale (PBS). This gold standard measures can be used for both diagnostic and therapeutic purposes in clinical practices. Physiotherapist adoption of video based practices also may be limited by many factors that commonly arise when considering changes to health service delivery.

Material and Methods: A Questionnaire based Observational study was performed on 369 Physiotherapy Interns (185), post- graduates (102) and Physiotherapy Professionals (82) dealing with patients having balance impairment. A self-structured questionnaire including 14 questions was validated from MET cell of the same college, distributed and data was collected.

Data analysis and Results: Data was analysed in statistical software STATA, version 10.1;2011. Descriptive statistics was calculated (e.g. No. of year of experience and age). Qualitative variables (e.g. knowledge) was summarised by frequency and percentage. The positive perception of interns, post-graduates and Physiotherapy professionals was expressed in percentage along with 95% confidence interval. Most physiotherapist are aware about BBS and PBS, and feel useful, convenient, not

complicated, easy to do follow up and track recovery via video based rehabilitation for balance whereas few felt its time consuming and difficult to keep documentation of video.

Conclusion: Nearly, 93.8% Physiotherapists strongly feels that the video based BBS and PBS are useful, acceptable and effective as an adjunct to conventional Physiotherapy.

Key words: Balance, Video Based Rehabilitation, Perception, Knowledge, Physiotherapist

INTRODUCTION

Physical therapy rehabilitation plays an important role in management of variety of medical conditions.^(1,2) In recent, pandemic condition of SARS-Covid-19, where there is the need to maintain physical distance and minimize the personal contact, the new models of physical therapy service delivery are immersed and needed that it should reach to the wider population like tele-rehabilitation(TR) and video based rehabilitation(VBR).⁽³⁾ Tele-rehabilitation and video based rehabilitation is the remote provision of rehabilitation services using telecommunication technology. These modes of service delivery in the field of physiotherapy is supported by the Australian Physiotherapy Association and American Physical Therapy Association as an alternative model of service delivery.⁽³⁾ TR and VBR services may improve access

to specialist advice for exercise management by allowing patients to consult with a Physiotherapist from their own home or workplace, in turn potentially reducing the costs associated with attending clinics in-person (e.g., travel, car parking, loss of earning during travel time to/from appointment, etc).⁽³⁾

Many studies^(3,4,5,6,7) found that using video based method, in general, is an acceptable, useful, inspiring, powerful and effective teaching as well as screening tool⁽⁵⁾ and provides feedback about performance⁽⁴⁾, which could be useful and effective in improving clinical skills.⁽⁵⁾ A recent study showed that the use of video based exercises may be beneficial in improving upper limb function and activities of daily living, when used as an adjunct to usual care⁽⁴⁾ but it is also important to understand whether these models of service delivery would be acceptable, to the Physiotherapists who would deliver care.⁽³⁾ Physiotherapist adoption of video based practices also may be limited by factors that commonly arise when considering changes to health service delivery such as physical touch and presence, scope of practice, access, safety, privacy, and time.⁽⁷⁾ Strong visuals can connect with an audience faster, and with more emotion, than words alone.⁽⁸⁾

Balance impairment is common consequence of many acute and chronic illnesses.⁽⁴⁾ People with balance impairment can benefit from rehabilitation programs particularly if proper therapy is provided.⁽⁴⁾ There are different valid and reliable functional balance measures/ assessment tools for assessing balance but the gold standard measure used widely all over the world are Berg Balance Scale(BBS, for adults) and Paediatric Balance Scale (PBS, for children).^(7,10,11,12,13) PBS was developed in 2003 and started using in 2007 by physical therapist as an assessment tool.^(12,13) These gold standard measures may be used for both diagnostic and therapeutic purposes in clinical practices.⁽¹⁰⁾ Conventional physiotherapy for balance,

through the training of muscle strength, is described as a satisfactory method to improve functional limitations of individuals with balance impairment.⁽⁶⁾ Video rehabilitation as an adjunct to conventional rehabilitation may improve access to specialist advice for screening, documentation and rehabilitation in clinical practice to improve balance and reduce falls in high risk population.^(3,9,12,14)

Knowledge is the fact, information, and/or skill acquired through experience or education i.e. theoretical or practical understanding of the subject.⁽¹⁾ Perception is the dynamic psychological process responsible for attending to, organizing and interpreting sensory data.⁽²⁾ There are limited studies investigating the knowledge and perceptions of Physiotherapists^(3,9) using video based rehabilitation for balance. Physical therapists typically use physical touch as a way of communicating and connecting with their patients, and therapists may be uncertain about the usefulness of remote models of service delivery.⁽⁴⁾ In 2020, pandemic situation(SARS-Covid-19), video based rehabilitation providing platform to the Physiotherapists to communicate with their patient and many of them have chosen TR and VBR as mode to assess, to document, to treat as well as to keep proper follow up hence the aim of the study is to know the knowledge and perception of Physiotherapists towards video based rehabilitation for balance as an adjunct to conventional Physiotherapy.

METHODS

A questionnaire based observational study was conducted in total 369 Physiotherapist, interns (n=185), post graduates (n=102) and Physiotherapy professionals (n=82) were included in the study (Figure 1). The overall mean age of 369 participants was 31.5 ± 8.5 years. All the participants were between 21 years to 45 years of age of both genders (i.e. 55 female and 314 male). The validated questionnaire (Appendix- VBR Questionnaire) including 15 questions evaluating various components

like awareness, knowledge about video based rehabilitation of Berg balance Scale and Pediatric balance scale as an adjunct to conventional physiotherapy methods among participants.

Procedure

Permission and approval from the institutional head, ethical committee and scientific committee was obtained prior to the commencement of the study. A web based questionnaire was prepared and validated from MET cell of institution in order to evaluate perception and knowledge among Physiotherapist for balance as an adjunct to conventional methods. Target population of Physiotherapy Interns, post graduates and Physiotherapy Professionals dealing with patients having balance impairment were included in study from various Physiotherapy colleges and private clinic professional Physiotherapy practitioners. The web based questionnaire was sent to 420 Physiotherapist via mail, total 369 participants responded and filled the questionnaire and their responses were recorded via Google form for further analysis.

DATA ANALYSIS

Data was coded in Microsoft Excel spreadsheet 2016 using EPI info software. Data was coded and analysed in statistical software STATA, version 10.1;2011. Descriptive statistics like mean and standard deviation was calculated to summarise quantitative variables (e.g. Number of year of experience and age). Qualitative variables (e.g. perception and knowledge) was summarised in frequency and percentage. Inferential statistics i.e positive perception of Interns, post-graduates and Physiotherapy professionals dealing with patients having balance impairment by category was expressed in percentage along with 95% confidence interval.

RESULT

Out of total 369 Physiotherapist, interns (n=185, 50.13%), post graduates (n=102, 27.64%) and Physiotherapy

professionals (n=82, 22.22%) were included in the study (Figure 1). The overall mean age of 369 participants was 32 years. All the participants were between 21 years to 45 years of age. There were 14.9% male responses and 85.1% female participants were received.

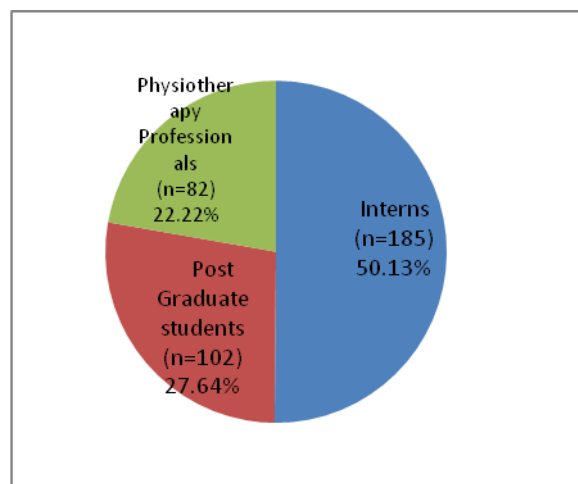


Figure 1: Educational Qualification of Total Participants in Percentage

Component/item analysis of questionnaire was performed as below:

1. The Question 1 was about “experience of participants about balance impairment issues on regular basis” in patients.

Interpretation: Total 56 % participants respond “no” and 44% respond “yes” for this question. It was found that, 369 participants (100%) responded to this question but many misinterpreted the question in different way i.e. few interpreted as they are having balance impairment issues with them instead they deals with balance impairment issues with patients. Due to this reason this response was not considered for interpretation for the study results.

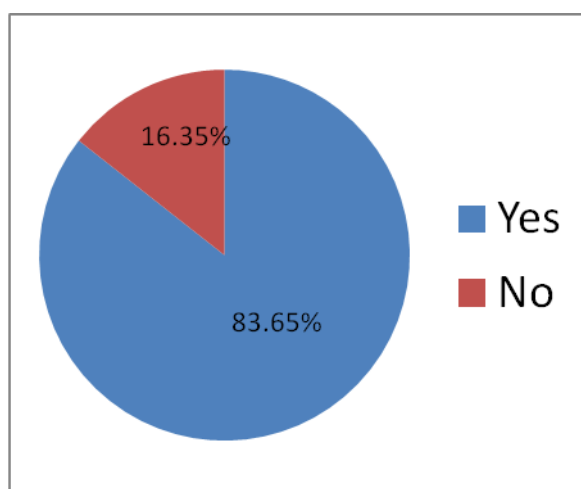
2. The Question 2 was about “awareness of Berg Balance Scale (BBS) among participants”.

Interpretation: Total 369 Physiotherapists (100%) responded to this question and all found aware about the Berg Balance Scale. Out of total 185 Interns, 102 Postgraduate students and 82 Physiotherapy Professionals all knows about the Berg Balance Scale as

its part of curriculum taught in every institute as included in both undergraduate and post graduate syllabus.

3. The Question 3 was about awareness of Pediatric Balance Scale (PBS) among participants.

Interpretation: Total 369 Physiotherapists respond to this question out of which 83.64% Physiotherapists are aware about Pediatric Balance Scale. But remaining 16.35 % are not aware about it. Out of total 185 Interns, 144 (77.83%) Interns are aware about PBS but 41(22.16%) are not aware about PBS. Out of total 102 Post-graduate students, 87(85.29%) Post-graduate students are aware about PBS but 15 (14.70%) are not aware about PBS. Out of total 82 Physiotherapy Professionals, 72 (87.80%) Physiotherapy Professionals are aware about the PBS but 10 (12.19%) Physiotherapy Professionals are not aware about the PBS. Therefore, it can interpreted that most of Physiotherapists are aware about PBS.

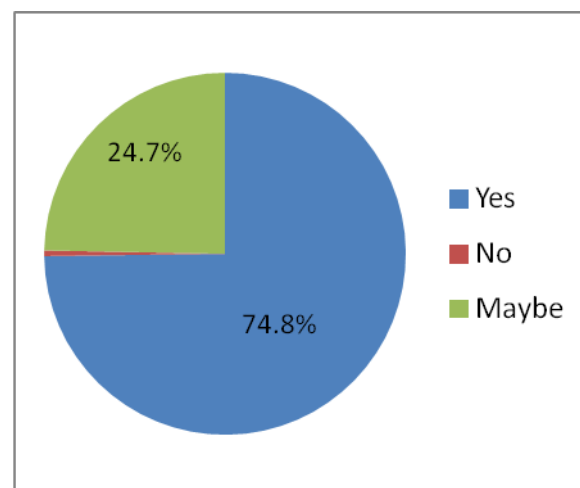


4. The Question 4 evaluates participants feeling towards use of Berg Balance Scale (BBS) and Pediatric Balance Scale (PBS) as screening and treatment tool for balance.

Interpretation: Total 369 Physiotherapists (100%) responded to this question out of which 79.67% Physiotherapist totally feels that the Berg Balance Scale and Pediatric Balance Scale can be used as screening and treatment tool, but 24.7% feels maybe it can be used as screening and treatment tool and

remaining 3.25% feels that it can't be used as screening and treatment tool. Out of 185 Interns-152 Interns totally feels that BBS and PBS be used as screening and treatment tool but 28 Interns feel maybe it can be used as screening and treatment tool and only 5 Interns feels that it can't be used as screening and treatment tool. Out of 102 Post graduate students- 85 Post-graduate students totally feels that BBS and PBS be used as screening but only 17 felt maybe it can be used as screening and treatment tool and 2 feels that it can't be used as screening and treatment tool.

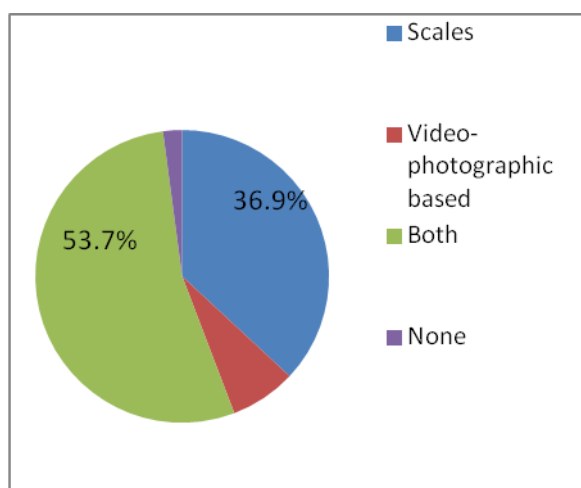
Out of 82 Physiotherapy professionals-57 Physiotherapy professionals totally agrees that BBS and PBS can be used as screening and treatment tool for balance but 20 feel maybe it can be used as screening and treatment tool and 5 that it can't be used as screening and treatment tool. So, it can be stated that maximum number of Physiotherapists feels that the BBS and PBS can be used as screening and treatment tool for balance.



5. Question 5: Ask about "What kind of rehabilitation method do you use in your clinical practice for balance impairment?"

Interpretation: Total 369 Physiotherapists responded to this question out of which 36.9% Physiotherapists use scales (like BBS and PBS) as the rehabilitation method, 7.3% use Video-photographic based rehabilitation method, 53.7% use both scales and video-photographic based rehabilitation for

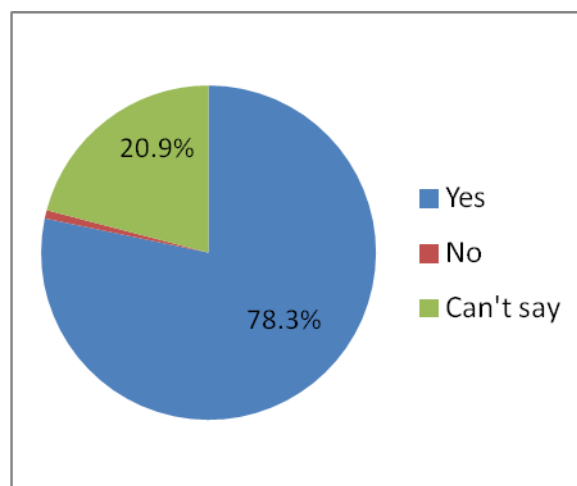
balance and 2.1% don't use any of this. Out of total 185 Interns-58 Interns use scales (like BBS and PBS) as the rehabilitation method, 22 use Video-Photographic based rehabilitation method, 102 use both and only 3 don't use any of this. 102 Post-graduate students-34 Post-graduate students use scales (like BBS and PBS) as the rehabilitation method, 10 use Video-Photographic based rehabilitation method and 56 use both and 2 don't use any of this. Out of 82 Physiotherapy Professionals, 20 Physiotherapy Professionals use scales, 17 use Video-Photographic based rehabilitation method, 40 use both and 5 don't use any of this.



6. Question 6- Evaluate about “Do you feel video based Berg Balance Scale(BBS) and Pediatric Balance Scale(PBS) can be helpful as screening, documentation and treatment tool for balance impairment?”

Interpretation: Total 360 Physiotherapists responded to the questions out of which 78.3% Physiotherapists feels video based BBS and PBS can be helpful as screening, documentation and treatment tool for balance impairment but 20.9% feels that they can't say about it and 0.8% feels that video based BBS and PBS can't be used as screening, documentation and treatment tool for balance impairment. Out of total 185 Interns-142 Interns feels video based BBS and PBS can be helpful as screening, documentation and treatment tool for balance impairment, 41 feels that they can't say about it and 2 feels that it can't be used

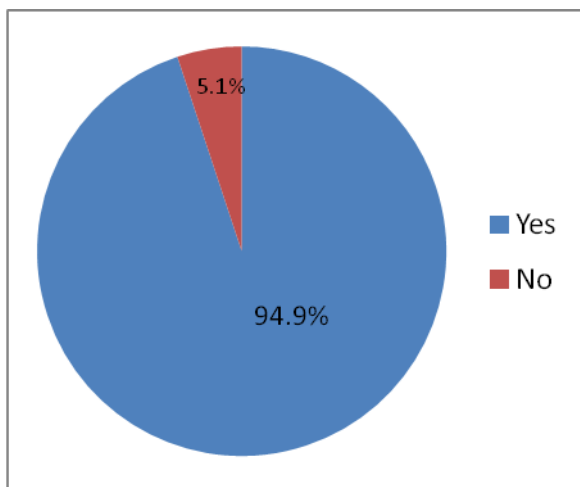
as screening, documentation and treatment tool for balance impairment. Out of total 102 Post-graduate students- 86 Post-graduate students video based BBS and PBS can be helpful as screening, documentation and treatment tool for balance impairment, 14 feels that they can't say about it and 2 feels that it can't be used as screening, documentation and treatment tool for balance impairment. Out of total 82 Physiotherapy professionals-67 Physiotherapy professionals feels BBS and PBS can be used as helpful screening, documentation and treatment tool for balance impairment s, 10 feels that they can't say about it and 5 feels that it can't be used as screening, documentation and treatment tool for balance impairment.



7. Question 7- Ask participants about “Do you feel video based evaluation will be a convenient way to keep proper follow up of patients with balance impairment from time to time?”

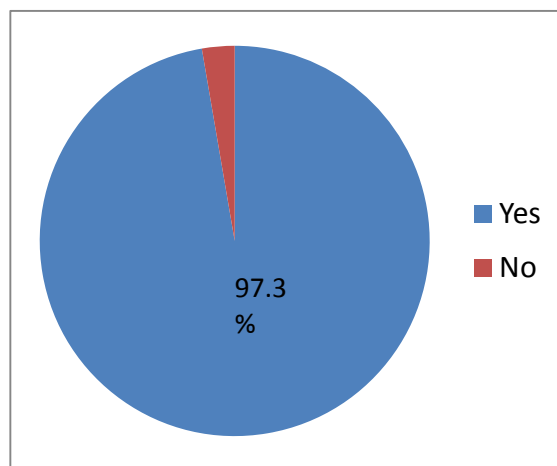
Interpretation: Total 369 Physiotherapists responded to this question out of which 94.9% Physiotherapists feels video based evaluation will be a convenient way to keep proper follow up of patients with balance impairment from time to time and 5.1% Physiotherapists feels that video based evaluation will not be a convenient way to keep proper follow up of patients. Out of total 185 Interns-155 Interns feels video based evaluation will be a convenient way to keep proper follow up of patients with balance impairment from time to time but

30 feels it will not be convenient. Out of total 102 Post-graduate students- 90 Post-graduate students feel video based evaluation will be a convenient way to keep proper follow up of patients with balance impairment from time to time but 12 feels it will not be convenient. Out of total 82 Physiotherapy Professionals-67 Physiotherapy Professionals feels video based evaluation will be a convenient way to keep proper follow up of patients with balance impairment from time to time but 15 will not be convenient.



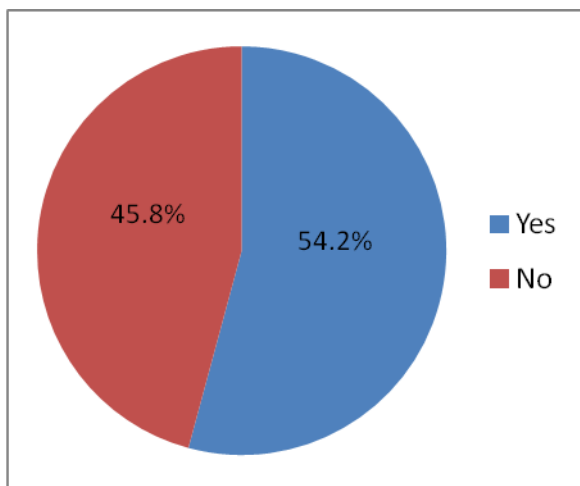
8. Question 8-Evaluate about” Do you feel video based documentation of patient with balance impairment will help to track the recovery status of the patient ?”
Interpretation: Total 369 Physiotherapists responded to this question out of which 97.3% feels that the video based documentation of patients with balance impairment will help to track the recovery status of patient. Out of total 185 Interns-160 Interns feels that the video based documentation of patients with balance impairment will help to track the recovery status of patient but 15 feels it will not help. Out of total 102 Post-graduate students, 94 Post-graduate students felt that the video based documentation of patients with balance impairment will help to track the recovery status of patient but 8 feels it will not help. Out of total 82 Physiotherapy professionals -76 Physiotherapy professionals feel video based documentation of patient with balance

impairment will help to track the recovery status of the patient but 6 feels it will not help.



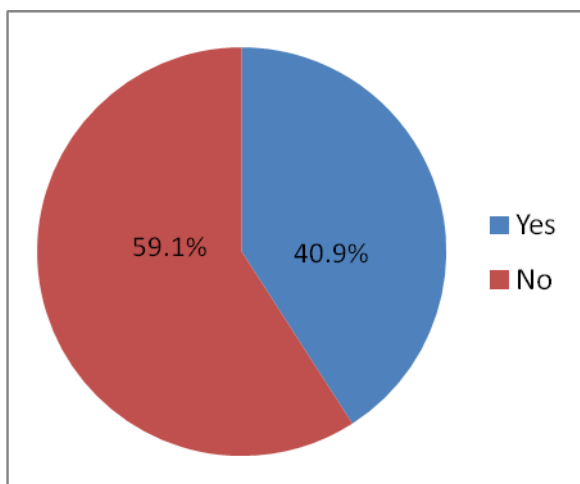
9. Question 9- Ask about” Do you feel that process of making video based Berg Balance Scale and Pediatric Balance Scale intervention as an adjunct to Conventional method of intervention will be time consuming?”

Interpretation: Total 369 Physiotherapists responded to this question out of which 54.2% feel that process of making video based Berg Balance Scale and Pediatric Balance Scale intervention will be time consuming and 45.8% feel that it will not be time consuming. Out of total 185 Interns-100 Interns feel that process of making video based Berg Balance Scale and Pediatric Balance Scale intervention will be time consuming but 85 feels it will not be time consuming. Out of total 102 Post-graduate students, 58 Post-graduate students feel that process of making video based Berg Balance Scale and Pediatric Balance Scale intervention will be time consuming but 44 feels it will not be consuming. Out of total 82 Physiotherapy professionals 47 Physiotherapy Professionals feel that process of making video based Berg Balance Scale and Pediatric Balance Scale intervention will be time consuming but 35 feels it will not be consuming.



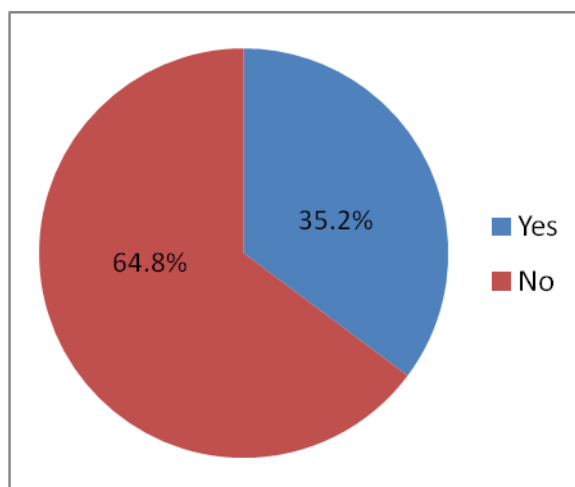
10. Question 10- Evaluates about “Do you feel it is a difficult task to make and maintain video for screening, documentation and treatment?”

Interpretation: Total 369 Physiotherapists responded to this question out of which 40.9% feels it is a difficult task to make and maintain video for screening, documentation and treatment and 59.1% feels it is not a difficult task. Out of total 185 Interns-30 Interns feels it is a difficult task to make and maintain video for screening, documentation and treatment and 155 Interns feels it is not a difficult task. Out of 102 Post-graduates - 25 feels it is a difficult task to make and maintain video for screening, documentation and treatment and 77 feels it is not a difficult task. Out of 82 Physiotherapy professionals- 40 feels it is a difficult task to make and maintain video for screening, documentation and treatment and 42 feels it is not a difficult task.



11. Question 11- Ask about “Do you feel video based rehabilitation will be more complicated than conventional method of intervention?”

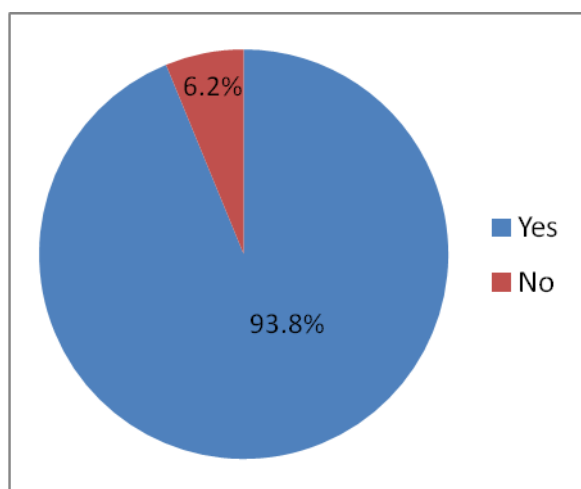
Interpretation: Total 369 Physiotherapists responded to this question out of which 35.2% feel video based rehabilitation will be more complicated than conventional method of intervention and 64.8% feels it is not complicated. Out of total 185 Interns- 80 Interns feels video based rehabilitation will be more complicated than conventional method of intervention but 105 feels it is not complicated. Out of total 102 Post-graduates 42 feels video based rehabilitation will be more complicated than conventional method of intervention but 60 feels it is not complicated. Out of 82 Physiotherapy Professionals- 52 feels video based rehabilitation will be more complicated than conventional method of intervention but 30 feels it is not a difficult task.



12. Question 12- Do you feel video based Berg Balance Scale(BBS) and Pediatric Balance Scale(PBS) as an adjunct to conventional Berg Balance Scale(BBS) and Pediatric Balance Scale(PBS) will be useful, acceptable and effective?

Interpretation: Total 369 Physiotherapists responded to this question out of which 93.8% feels video based Berg Balance Scale and Pediatric Balance Scale as an adjunct to conventional Berg Balance Scale and Pediatric Balance Scale will be useful, acceptable and effective and 6.2% feels it is

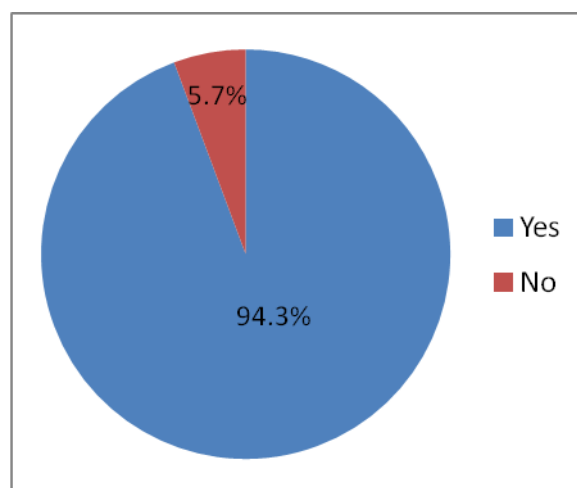
not. Out of total 185 Interns- 165 feels video based BBS and PBS as an adjunct to conventional BBS and PBS will be useful, acceptable and effective but 20 feels it is not. Out of total 102 Post graduates 90 feels video based BBS and PBS as an adjunct to conventional BBS and PBS will be useful, acceptable and effective but 10 feels it is not. Out of 82 Physiotherapy Professionals 75 feels video based BBS and PBS as an adjunct to conventional BBS and PBS will be useful, acceptable and effective but 7 feels it is not.



13. Question 13- Ask participants about “Are you willing to use video based Berg Balance Scale and Pediatric Balance Scale as an adjunct to conventional Berg Balance Scale and Pediatric Balance Scale in your clinical practice?”

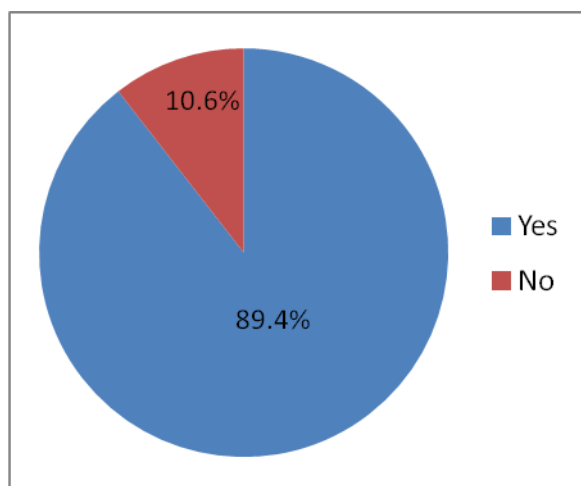
Interpretation: Total 369 Physiotherapists responded to this question out of which 94.3% Physiotherapists are willing to use based Berg Balance Scale and Pediatric Balance Scale as an adjunct to conventional Berg Balance Scale and Pediatric Balance Scale in their clinical practice and 5.7% are not. Out of total 185 Interns 163 are willing to use based Berg Balance Scale and Pediatric Balance Scale as an adjunct to conventional Berg Balance Scale and Pediatric Balance Scale in their clinical practice but 22 are not. Out of total 102 Post-graduates 92 are willing to use based Berg Balance Scale and Pediatric Balance Scale as an adjunct to conventional Berg

Balance Scale and Pediatric Balance Scale in their clinical practice but 10 are not. Out of 82 Physiotherapy Professionals 75 are willing to use based Berg Balance Scale and Pediatric Balance Scale as an adjunct to conventional Berg Balance Scale and Pediatric Balance Scale in their clinical practice but 7 are not.



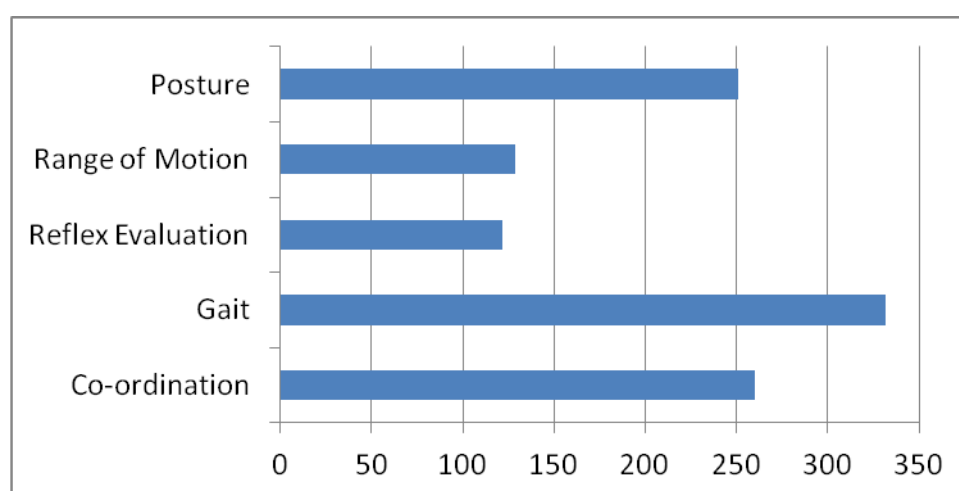
14. Question 14- Evaluate about “Do you feel video based Berg Balance Scale and Pediatric Balance Scale would be time saving in future?”

Interpretation: Total 369 Physiotherapists responded to this question out of which 89.4% Physiotherapists feel video based Berg Balance Scale and Pediatric Balance Scale would be time saving in future and 10.6% feels it's not time saving. Out of total 185 Interns 160 feels video based Berg Balance Scale and Pediatric Balance Scale would be time saving in future but 25 feel it's not time saving. Out of 102 Post graduate students 85 feels video based Berg Balance Scale and Pediatric Balance Scale would be time saving in future but 17 feel it's not. Out of 82 Physiotherapy professionals 70 feels video based BBS and PBS would be time saving in future but 12 feel it's not.



15. Question 15- Ask about “In which other part of evaluation and treatment you will prefer video based documentation and treatment? (You can choose more than one option)”

Interpretation: Total 369 Physiotherapists responded to this question out of which 260 will prefer co-ordination, 332 prefer gait, 122 prefer reflex evaluation, 129 prefer Range of motion and 251 prefer posture.



DISCUSSION

The aim of the study was to evaluate the knowledge and perception of Physiotherapists (Interns, Post graduates students and Physiotherapy professionals) towards video based rehabilitation for balance as an adjunct to Conventional Physiotherapy. An online web- based questionnaire was sent to the 420 Physiotherapists which includes Interns, Post graduate students and Physiotherapy professionals out of whom 369 responses (i.e. 87.85%) were received. The video based Rehabilitation (VBR) Questionnaire contained total 15 questions and it consist of questions to evaluate awareness, difficulty level, time consumption and saver, effectiveness and willingness about the video based Rehabilitation (VBR) method for balance impairments.

In VBR questionnaire-based study, responses were recorded for 15 questions

which contain both positive and negative responses. In the question 1, most participants misinterpreted the question. Question 1 assessed, the experience of Physiotherapists with patients having balance impairment issues. It was misinterpreted by many of Physiotherapists as they were asked about their own balance impairment issue and hence, this question’s response was not considered in the present study.

Question 2 and 3 assessed the awareness of Physiotherapists towards BBS and PBS respectively. In response to Que.2 it was found that 100% Physiotherapists are aware about BBS, as it is already known that BBS is gold standard measure to assess balance issues in adults^(15, 16) as well as it is the part of syllabus/ curriculum of studies both in graduation and post graduation course hence, participants (All Physiotherapist) were aware about it. In

response to Que. 3 only 82.11% Physiotherapists were aware about PBS and remaining (17.89%) were not aware about it, it may be because, as PBS is not included in syllabus/curriculum of both graduate and post graduate students as well data on PBS published in year 2003⁽⁶⁾ and it came into use after 2007⁽⁷⁾, and it can also predicted that not all Physiotherapists treat the Pediatrics cases routinely and hence may not be aware about PBS.

Question 5 asked about the types of rehabilitation method the Physiotherapist use for balance impairment in their clinical practice. Total 53.7% uses both the scales and video-photographs for rehabilitation. In previous research^(4, 16) it was found that the use of video based rehabilitation for treatment was helpful for them whereas a study⁽⁶⁾ stated that scales are the best assessment tool for balance. So, it can be stated that the combination of scales and video based rehabilitation will be definitely more helpful in clinical practices for Physiotherapist.

Questions 4, 6, 7, 8, 12, 14 were based on the positive perception towards using the BBS and PBS and its usefulness via using video based rehabilitation. Question 4 evaluates whether BBS^(15, 16) and PBS⁽⁷⁾ can be used as screening and treatment tool for balance, in response to this total 79.6% Physiotherapists agree for it, which means the components of BBS and PBS can be used in both ways i.e. it give Physiotherapist the proper direction for assessment and treatment as well as tract progression of patient too.

Question 6 and 7 assessed about the effectiveness of video based BBS and PBS as documentation, screening and treatment tool and whether video based evaluation of patient will be convenient way to keep proper follow up, respectively. Documentation of findings is an equally important⁽¹⁷⁾ screening and rehabilitation tool. The video based evaluation⁽⁵⁾ help therapist to evaluate balance in detail and not miss any point as well as on other hand, will help the patient to see the performance

as well as the progression so that he/she will be motivated towards treatment. Hence, video based evaluation⁽⁵⁾ can make assessment of balance easier for the Physiotherapists and will also help the Physiotherapist as well as patient to grade progress and prove more effective in balance management in adult and pediatrics.

Question 8 evaluated about “Does the video based documentation will help to track the patient's recovery status?” in response, total 89.4% physiotherapist agrees that video based documentation will help to track the recovery status and therapists can review it as many times and also any change in performance in components of BBS/PBS from day one to the date of next balance evaluation will also help the therapist for planning treatment of same case as well will motivate the patient with their treatment.⁽⁵⁾

Question 12 evaluated about the usefulness of video based BBS and PBS as an adjunct to conventional treatment and it was found that 89.4% Physiotherapists felt VBR is helpful to Physiotherapists to make their work easier. Video based BBS and PBS keep the documentation and help to review balance training activity and can help conventional Physiotherapy treatment for further exercises.

Question 14 evaluated whether the video based BBS and PBS would be time saving in future and total 85.3% Physiotherapist felt that it will be time saving in future but 14.7% feels that it may not be time saving during assessment or treatment of patient.

Question 9, 10 and 11 were based on the negative perception about VBR and asked about whether the process of making and maintaining video based BBS and PBS evaluation will be time consuming and will be a difficult task or not. Question 9 asked whether the video making will be time consuming. In response to this 54.2% physiotherapist felt that video making is time consuming process in busy schedule of patient treatment but it was also found that once video is done it will be time saving for further follow up. Once the video is made

then the Physiotherapist can use that whenever needed and as therapist will learn the technique of making and analysis of videos then will help to evaluate, document and do treatment⁽⁴⁾ independently. At the same time it will save time and help to keep them and patient motivated towards treatment goals. Few 40.9 % Physiotherapists felt that the process of making videos for screening, documentation and treatment is a difficult task. It is because it might need equipments like cameras to make videos and maintain sequential video records. Many times, due to lack of time or availability of staff to record video or sometimes difficult because of lack of skills of recording, may restrict therapist to make a video. Therefore, in this study it was found that the Physiotherapist feels restricted to use video based scales because it will make the therapists work little slower while treating many patients at one time.

Question 11 asked whether video based rehabilitation is more complicated than the conventional method of rehabilitation, in this regard total 52.9% Physiotherapists felt that it is not complicated, whereas 47.1% Physiotherapists felt that it is complicated. This might be because most Physiotherapists believe more on the physical touch and presence⁽⁴⁾ but shooting a video might be a task to them in busy schedule or might not feel confident with using the technology effectively.

Question 13 asked participants about willingness to use the video based Berg Balance Scale and Pediatric Balance Scale intervention as an adjunct to conventional intervention in their clinical practice. It was found that 89.4% Physiotherapists were willing to use video based BBS and PBS as an adjunct to conventional therapy in their clinical practice. It indicates that video based balance evaluation and treatment are preferred among participants of present study. It may be because of long term benefit of documentation and treatment of balance become easy with video based rehabilitation as well as gives visual

feedback to both Physiotherapist and patients about present condition and successive progression.

Question 15 asked about the other parts (i.e. Co-ordination, Gait, Reflex, evaluation, Range of motion, Posture) of evaluation and treatment which Physiotherapists will prefer for video based documentation and treatment for further study. It was found that 89.97% Physiotherapists prefer gait, 70.46% prefer co-ordination, 68.02% prefer posture, 34.95% prefer Range of motion whereas 33.06% prefer reflex component for video based evaluation and treatment. It was observed that Physiotherapists think that gait component can easily get evaluated video-graphically in short duration. Gait is one of the difficult components to assess clinically which require longer time, but the video based rehabilitation may help to evaluate in detail and can assist in future for follow up for analysis. Coordination, posture are next preferred components by video rehabilitation by most Physiotherapist participants of the present study.

Range of motion is preferred less for video assessment and treatment in present study participant; this may be because, goniometry is most reliable tool to evaluate this component and gives more accurate measurement to record compared to video analysis. As well as reflex evaluation component is based on more visual and palpation of muscle contraction while evaluation, hence video based evaluation may not be preferred method of documentation according to most of participants of present study for these components but nearly 33%- 35% participants think that range of motion and reflex can be use for documentation and treatment.

Present study was carried out by developing web based questionnaire to evaluate the knowledge and perception of Physiotherapists toward video based rehabilitation (VBR) for balance. This validated questionnaire gives information about, how many Physiotherapists are aware

and willing to use VBR in their clinical practice for balance documentation and treatment. The findings of present study support the Physiotherapists for proper and easy evaluation and for maintaining documentation of balance in clinical settings which will help the therapists to track the progression from time to time. It was perceived that VBR will motivate patient and help therapists with the treatment as well. In future study, effect of VBR for gait, coordination and posture components can be evaluated and patient satisfaction can be assessed in patients with gait impairments, coordination disorders and or postural dysfunction. In pandemic situation like SARS-Co 19, video based rehabilitation (VBR) proved to be one of the convenient methods of rehabilitation and communication with the patient by most of health care workers, hence VBR can be next way of evaluation and documentation tool along with conventional therapy for most of the Physiotherapist in future.

CONCLUSION

Perception of nearly 93.8% Physiotherapists is in the favor of using video based rehabilitation for balance as an adjunct to conventional Physiotherapy. Physiotherapists strongly feels that the video based Berg Balance Scale and Pediatric Balance Scale evaluation both are useful, acceptable and effective method and can be used as an adjunct to conventional Physiotherapy. It was also found that many feels that VBR will be time consuming initially i.e. making the video but once it is done it will be time saving in future. Majority of Physiotherapists including interns, post graduates and Physiotherapy professionals found that it will be helpful to them in their clinical practice as well as it will help the patients too to track their progress and recording of balance.

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APPENDIX

VIDEO BASED REHABILITATION (VBR) QUESTIONNAIRE:

Aim of questionnaire: To know “Knowledge and Perception Of Physiotherapist Towards Video Based Rehabilitation For Balance - As An Adjunct To Conventional Methods Of Intervention.”

Demographic Information

Name: _____

Age: _____

Gender: Male/Female

Qualification: _____

Speciality: _____

No. of year of experience: _____

Date: _____

1) Are you dealing with balance impairment issues on regular basis?

- Yes - No

2) Are you aware about Berg Balance scale(BBS)

- Yes - No

3) Are you aware about Pediatric Balance scale (PBS)?

-Yes - No

- 4) **Do you feel Berg Balance Scale and Pediatric Balance Scale can be used as screening and treatment tool for balance?**
-Yes -No
- 5) **What kind of rehabilitation method do you use in your clinical practice for balance impairment?**
A. -Scales
B. -Video-photographic based
C. -Both
D. -None
- 6) **Do you feel video based Berg Balance scale and Pediatric Balance scale will be helpful screening, documentation and treatment tool for balance impairment?**
-Yes -No -Can't say
- 7) **Do you feel video based evaluation will be ease to keep proper follow up of patient with balance impairment from time to time?**
-Yes -No -Can't say
- 8) **Do you feel video based documentation of patient with balance impairment will help to see the recovery of patient ?**
-Yes - No
- 9) **Do you feel that process of making video based Berg Balance Scale and Pediatric Balance Scale intervention as an adjunct to conventional method of intervention will be time consuming?**
-Yes - No
- 10) **Do you feel it will be the difficult task to make videos for screening, documentation and treatment?**
-Yes -No
- 11) **Do you feel video based rehabilitation will be more complicated than conventional method of intervention?**
-Yes - No
- 12) **Do you feel video based Berg Balance Scale and Pediatric Balance Scale as an adjunct to conventional Berg Balance Scale and Pediatric Balance Scale will be useful, acceptable and effective?**
-Yes - No
- 13) **Are you willing to use the video based Berg Balance Scale and Pediatric Balance Scale intervention as an adjunct to conventional intervention in your clinical practice?**
-Yes No
- 14) **Do you feel video based Berg Balance Scale and Pediatric Balance Scale will be time saving in future?**
-Yes No
- 15) **In which other part of evaluation and treatment you will prefer video based documentation and treatment? (Note: You can choose more than one option)**
A. -Co-ordination
B. -Gait
C. -Reflex evaluation
D. -Range of motion
E. -Posture
