

AWARENESS OF WEB-BASED REHABILITATION PLATFORMS IN CAREGIVERS OF STROKE SURVIVORS.

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Abstract: As Covid -19 pandemic limited rehabilitation sources for stroke survivors and their caregivers. Many telerehabilitation options were available for them. This study was conducted to find out awareness for these telerehabilitation platforms. During the survey factors affecting use of these platforms were studied. These factors being both technical and personal. Also, customization of telerehabilitation platforms were surveyed.

Key words: Stroke caregivers, Telerehabilitation, Awareness, Personal factors, Technical factors, Customization.

● INTRODUCTION

Amidst of covid-19 pandemic world has gone through many changes [1]. Accordingly various ways and means to improve health care have been introduced [1]. Stroke which is said to be second leading cause of disability amongst population seemed to be difficult to treat during times of pandemic [1].

Also, being most common complication of covid-19 infection at such times of difficulty to help caregivers who are often relatives of patients or are spouses' different platforms were available on phones, tablets or laptops. [1,2]. These caregivers often serve as unpaid caregivers to patient as they are family members [1]. Caregivers of stroke patients are people closest to them. Therefore, these are also the people on whom stroke survivors can rely on for care and love while they are going through hard time [1,4].But caregivers can also come across many difficulties while they take care of their stroke patients [1].

Therefore many online web based rehabilitation platforms and e-health platforms and apps like Care4stroke, YouTube, cozi ,medisafe, stop breathe and think, 7min workout challenge, language therapy 4in1,constant therapy, stamurai, strocit :post stroke exercises, rehab coach :CVA stroke rehabilitation, recover, hope after stroke, stroke mark etc are available to serve their unfulfilled needs [1,4,5]. But yet many factors affect use of these web-based rehabilitation platforms

[1,3,4,5,6].

But yet many factors can affect use of these web-based rehabilitation platforms. In Indian population some factors that could be affecting web-based rehabilitation can be lack of awareness about web-based platforms. Also, some other factors like education, lack of knowledge, lack of electricity could be affected.

There are various other factors as well that contribute in reducing awareness of web-based rehabilitation platforms in caregivers of stroke survivors.

This study will evaluate all those factors affecting awareness of web-based rehabilitation platforms in caregivers of stroke survivors.

● NEED FOR STUDY

- 1.To evaluate factors affecting awareness of web-based rehabilitation platforms in caregivers of stroke survivors.
2. Personal factors affecting awareness of web-based rehabilitation platforms in caregivers of stroke survivors.
3. Technical factors affecting awareness of web-based rehabilitation platforms in caregivers of stroke survivors.

● AIM

To study awareness of web-based rehabilitation platforms in caregivers of stroke survivors.

● OBJECTIVE

1. To find out use awareness of web-based rehabilitation platforms in caregivers of stroke survivors.
2. To find out personal factors affecting awareness of web based rehabilitation platforms in caregivers of stroke survivors.
3. To find out technical factors affecting awareness of web based rehabilitation platforms in caregivers of stroke survivors.

- **HYPOTHESIS**

HYPOTHESIS: There is awareness of web-based rehabilitation platforms in caregivers of stroke survivors.

NULL HYPOTHESIS : There is no awareness of web-based rehabilitation platforms in caregivers stroke survivors.

- **METHODOLOGY**

STUDY DESIGN: Cross sectional survey

SAMPLING METHOD: Convenience Sampling

SAMPLE SIZE: Caregivers of 30 stroke patients.

STUDY SETUP: In state of Maharashtra.

STUDY DURATION: 6 Months

- INCLUSION CRITERIA:

1. Aged 18-60 years.
2. Ability to understand Marathi, Hindi, English (at a sufficient level to understand instructions).
3. Spouses and relatives of stroke patients.
4. Should have smartphone or computer at home.

- EXCLUSION CRITERIA: Hired caregivers with paid salary.

- MATERIALS: Mobile Phone, Pen, Self-made expert reviewed questionnaire , Consent form, Information sheet.

- OUTCOME MEASURES: A cross sectional survey study will be carried out using self-made expert reviewed questionnaire .

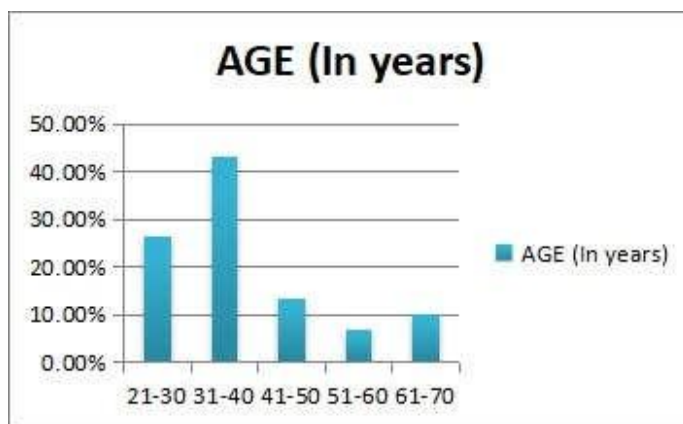
● PROCEDURE

1. Permission was taken from institutional ethical committee of physiotherapy college
2. Explanation of the study survey was explained to the participants via information sheet.
3. Participants willing to give consent to participate in the study were included.
4. Participants were selected as per the inclusion criteria.
5. Self made expert reviewed Questionnaire was circulated via google forms and paper forms to the participants.
6. Questions were explained to the participants.
7. Data was collected and statistical analysis was done using graph pad software.

● RESULTS

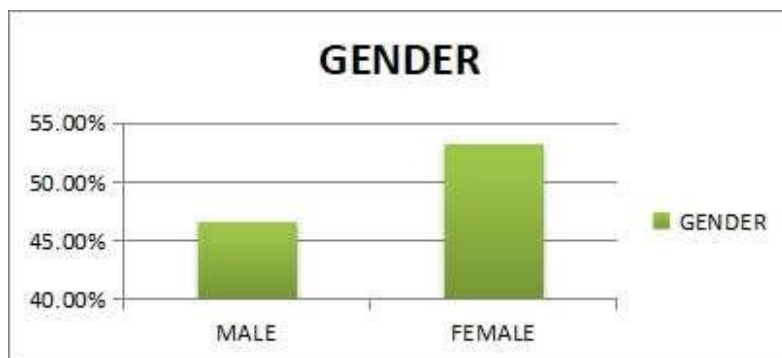
SECTION A:DEMOGRAPHIC DETAILS

1.AGE



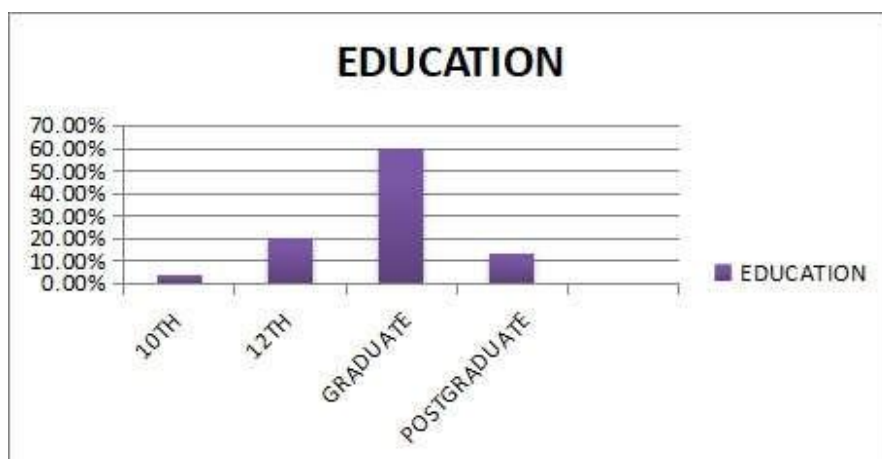
INFERENCE: In this survey 26.7% of population was of 21-30 years, 43.3% of population was of 31-40 years, 13.3% was of 41-50 years, 6.7% was of 51-60 years and 10% was of 61-70 years accordingly. Where highest percentage was of population belonging to 31-40 years and lowest belonged to 51-60 years.

2. GENDER



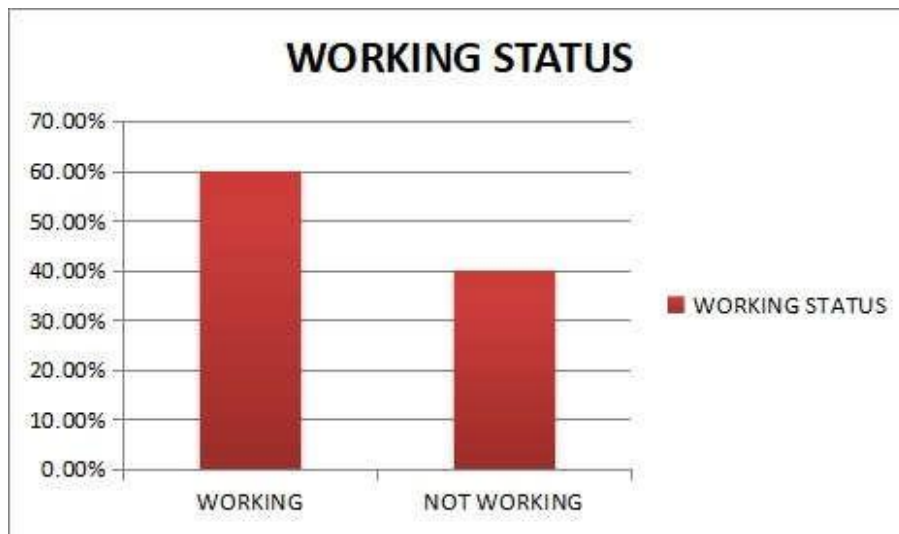
INFERENCE: In this survey 46.7% of population was male and 53.3% of population was female. Where highest percentage was of females and lowest was of males.

3. EDUCATION



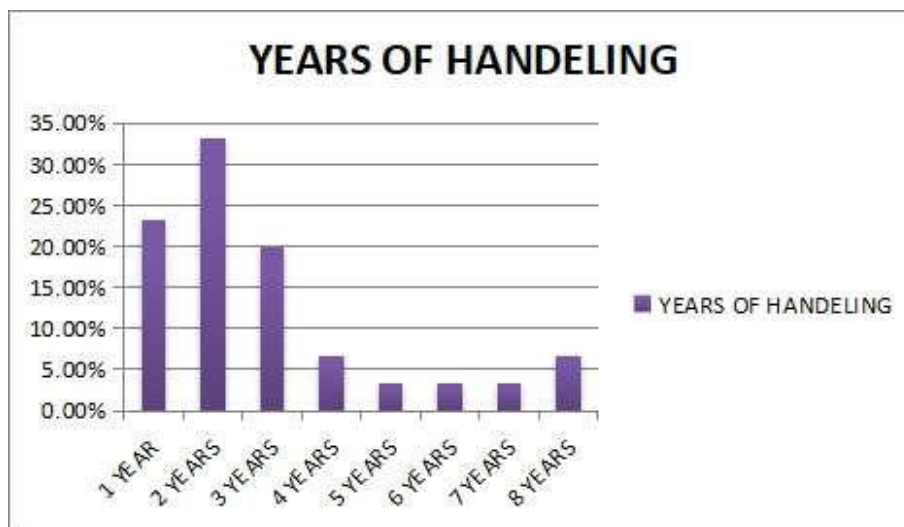
INFERENCE: In this survey 3.3% of population was 10th passed, 20% of population was 12th passed, 60% were graduates, 13.3% were post graduates. Where highest percentage was of graduates and lowest was of 10th passed outs.

4. WORKING STATUS



INFERENCE: In this survey 60% of population was working and 40% of population was not working. Where highest percentage was of working population and lowest was of population that was not working.

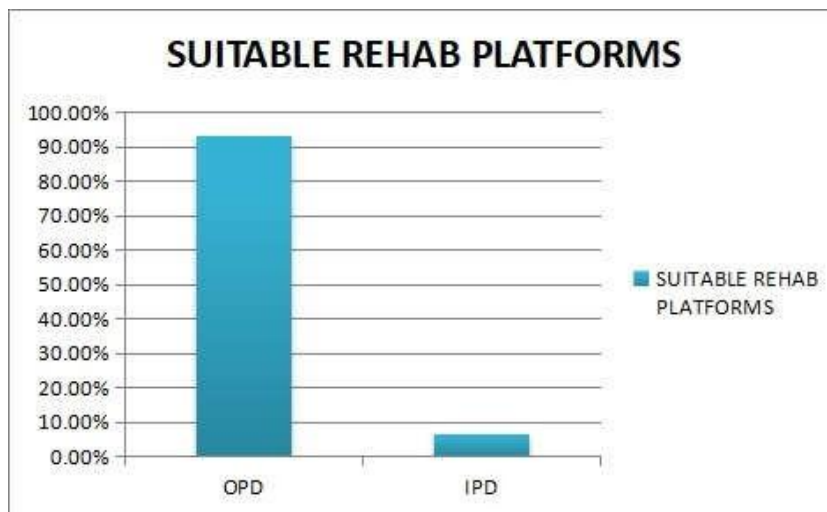
5. YEARS OF HANDELING



INFERENCE: In this survey 23.3% of population was handling stroke patients for 1 year, 33.3% of population were handling stroke patients for 2 years, 20% was handling stroke patients for 3 years, 6.7% was handling stroke patients for 4 years, 3.3% was handling stroke patients for 5 years, 3.3% were handling stroke patients for 6 years, 3.3% were handling stroke patients for 7

years and 6.7% were handling stroke patients for 8 years. Where highest percentage of population was handling stroke patients for 2 years and lowest percentage was handling stroke patients for 5,6 and 7years.

6.SUITABLE PLATFORM



INFERENCE: In this survey 93.3% of population preferred outpatient rehabilitation and 6.7% of population preferred inpatient rehabilitation. Where highest percentage was of population preferring outpatient rehabilitation and lowest was of population preferring inpatient rehabilitation.

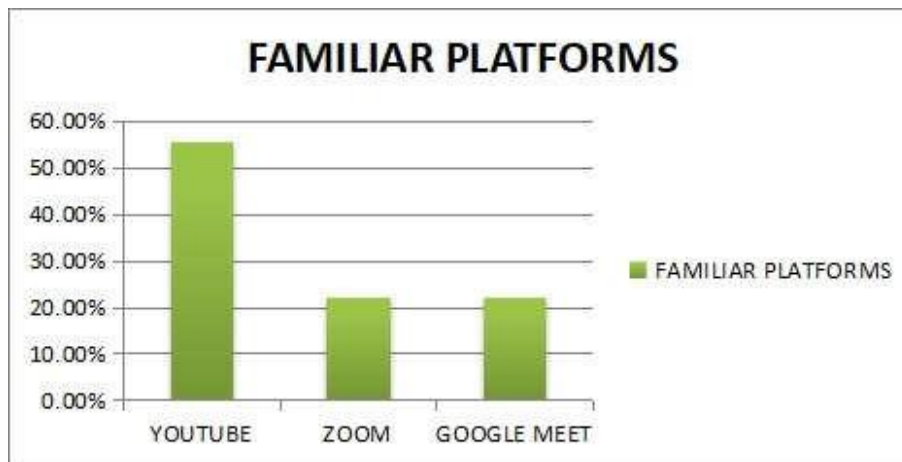
SECTION B: AWARENESS OF WEB BASED PLATFORMS

1.AWARENESS



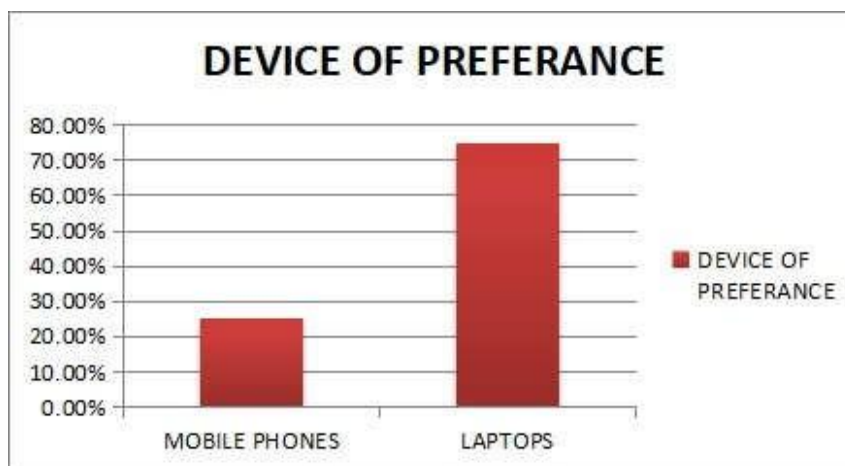
INFERENCE: In this survey 40% of population was aware of rehabilitation platforms and 60% of population was not aware of rehabilitation platforms. Where highest percentage was of population was not aware rehabilitation platforms and lowest percentage was aware of rehabilitation platforms.

2. FAMILIAR PLATFORMS



INFERENCE: In this survey 55.6% of population was familiar with YouTube and 22.2% of population was familiar with zoom and 22.2% of population was familiar with google meet. Where highest percentage was of YouTube and percentage of other two platforms were similar.

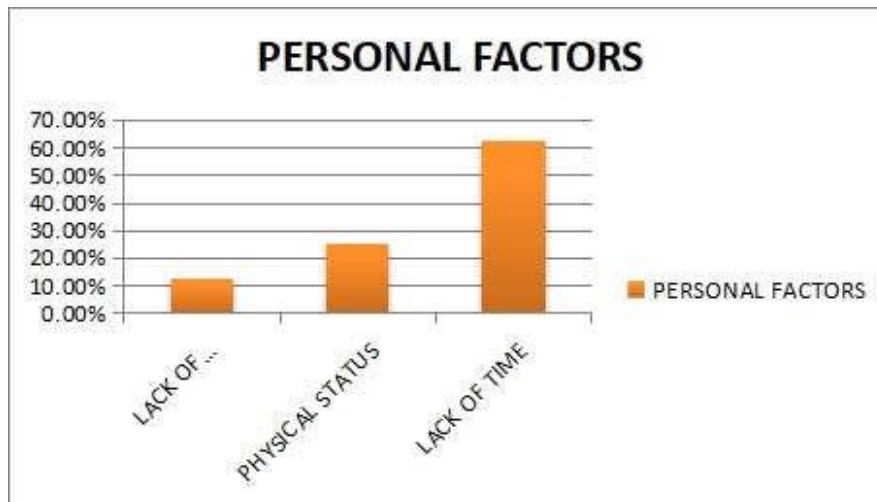
3. DEVICE PREFERENCE



INFERENCE: In this survey 25% of population preferred mobile phones and 75% of population preferred laptops. Where highest percentage was of population preferring laptops and lowest was of population preferring mobile phones.

SECTION C: PERSONAL FACTORS AFFECTING USAGE OF PLATFORMS

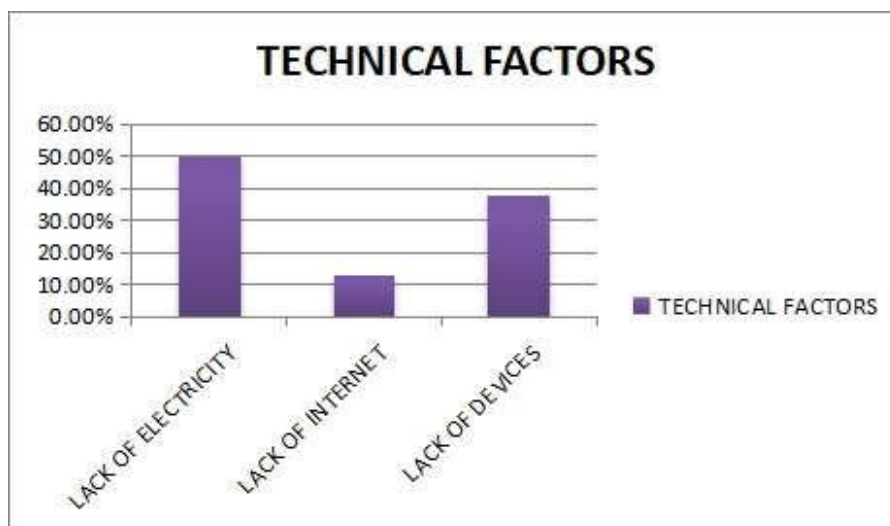
1.PERSONAL FACTORS AFFECTING



INFERENCE: In this survey personal factors affecting were lack of understanding procedure (12.5%), physical status (25%) and lack of time (62.5%). Where highest factor affecting was lack of time and lowest affecting was lack of understanding procedure.

SECTION D: TECHNICAL FACTORS AFFECTING

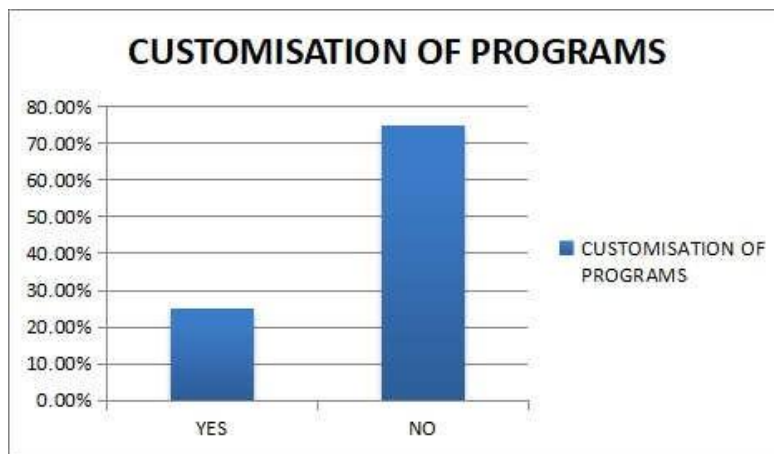
1. TECHNICAL FACTORS AFFECTING



INFERENCE: In this survey technical factors affecting were lack of electricity(50%), lack of internet (12.5%) and lack of devices (37.5%). Where highest factor affecting was lack of electricity and lowest affecting was lack of internet.

SECTION E: CUSTOMISATION OF PROGRAMS

1. CUSTOMISATION



INFERENCE: In this survey programs were customized for 25% of population and they were not customized for 75% of population. Highest was population where programs were not customized.

DISCUSSION

Aim of this survey was to study awareness of web based rehabilitation platforms in caregivers of stroke survivors. Study was conducted using sample size of 30 stroke patients, where all 30 participants were relatives and caregivers of stroke survivors fulfilling the inclusion criteria of this study. This study was conducted during pandemic times when people opted for telerehabilitation.

In current study, Telerehabilitation awareness was primarily focused. It was observed that many caregivers were less aware about telerehabilitation services and platforms. As study was conducted during pandemic few caregivers showed interest in receiving tele rehabilitation. Probable cause of this may be that many caregivers and Indian patients are more adopted to traditional ways of receiving physiotherapy treatment. Whereas it has been observed in studies done by Emmanuel Chidozie Mbada et al. in south Africa 2020 that many stroke patients are opting telerehabilitation way before covid 19 pandemic.

In current study it was observed that caregivers of stroke survivors who showed awareness about telerehabilitation were only aware of very few telerehabilitation platforms like youtube, zoom, google meet. Whereas studies done using different customized platforms showed more promising results like the study done by Judith D M Vloothuis et al. 2019 that application like care4stroke had good impact on rehabilitation of stroke patients and also it showed improvements in rehabilitation practices. Similar study done by Maayken van den der gent et al. 2016 showed that caregiver mediated exercises when done by using telerehabilitation gave more effective treatment.

When studied in detail, another reason found to be the cause of less usage of telerehabilitation by Indian population was limited knowledge of providing telerehabilitation services among physiotherapist. Though the many studies conducted during covid 19 showed that many physiotherapists showed positive perception and willingness about usage of telerehabilitation for the first time. Bhavya H shah et al. 2022 on PTs in India in Ahmedabad and study done by Sarah Ibraheem Albahrhouth et al. 2021 in Kuwait showed similar conclusion.

Current study also found causes like cultural and social background of caregivers, education, financial status and other technical causes were also playing major role in case of Indian stroke patient population having less awareness and willingness about telerehabilitation. In India many stroke population are staying in rural area having poor knowledge and attitude towards this new intervention of receiving rehabilitation.

When this study was conducted on Indian stroke population and their caregivers, we have come across many personal and technical factors hindering them to receive telerehabilitation.

When studying in details we found, physical status, lack of understanding of procedures and lack of time were some of personal factors that affecting the usage of telerehabilitation. Probable cause of this may be in India caregivers are having long working hours, which limits them providing care for their patients. Study conducted by Marwaha Kanika et al. 2010 in New Delhi India supported our study where they conclude that in India factors that affect people taking physiotherapy services are time, cost, busy familial life, anxiety and depression.

In this survey, financial constrain were another important personal factor hindering caregivers to hire paid caregivers. They preferred giving caregiving service by their own. But, in case of female and geriatric caregivers' physical status were found to be major barrier to provide telerehabilitation at home.

In current study another personal reason found was low literacy rate in caregivers hindering them from using different platforms. Also, study conducted by Amreen Mahmood et al. 2019 concluded that mobile based rehabilitation was highly accepted and used by caregivers even in low resource setting. Therefore it was seen that mobile based telerehabilitation was accepted even if population had financial barriers.

Similar to personal few technical factors were also found to be responsible for awareness of telerehabilitation in current study. When studied in detail, unavailability of preferred devices, unavailability of internet, unavailability of electricity were few important causes. Few facts in India support above factors like poverty, sudden cut of electricity, limited technical awareness in rural areas are responsible.

Study conducted by Fred s sarfo et al 2017 conducted similar study in Ghana Africa which concluded that majority of population was not exposed to physiotherapy services due to high costs and limited resources.

The last domain that this study looked upon was customization of programs that was provided by rehabilitative platforms. It was observed that for majority of population in this study gave reason for not opting for telerehabilitation was customization of exercise program. Study was conducted by Alexandra MJ Denham et al. 2020 concluded that though YouTube was an useful source for additional source for caregiving due to lack of customization in videos.

Current study included all the necessary domains that studied awareness of web based rehabilitation in caregivers of stroke patients. Therefore it summarized that how it is important to not just be aware about rehabilitation platforms but its also important to take care of few factors so that usage can be easy.

FURTHER SCOPE OF STUDY

As study was limited only for unpaid caregivers it can be further conducted for paid caregivers also. Also sample size can be increased to study larger population .Both urban and rural areas can be included.

CONCLUSION

Study concluded that maximum amount of population that participated in study was not aware of web based rehabilitation platforms .Few personal and technical factors affected the usage for caregivers. Personal factors being physical status, lack of understanding of procedure and lack of time. Technical factors being unavailability of preferred devices, unavailability of electricity and unavailability of internet.

LIMITATIONS

Study was conducted only on unpaid caregivers of stroke survivors. Also responses were recorded from urban area and sample size was less. Therefore these factors limit study only to these aspects. And further study can be done considering these limitation

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