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# Potential Role of Tele-rehabilitation to Address Barriers to Implementation of Physical Therapy among West African Stroke Survivors: A cross-sectional survey

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## Abstract

**Background—**The greatest burden from stroke-related disability is borne by Low-and-Middle Income countries (LMICs) where access to rehabilitation after stroke is severely challenged. Tele-rehabilitation could be a viable avenue to address unmet rehabilitation needs in LMICs.

**Objectives—**To assess the burden of post-stroke physical deficits, rates of utilization of physiotherapy services, and perceptions of tele-rehabilitation among recent Ghanaian stroke survivors.

**Methods—**Using a consecutive sampling strategy, 100 stroke survivors attending an outpatient Neurology clinic in a Ghanaian tertiary medical center were enrolled into this cross-sectional study. After collecting basic demographic data, clinical history on stroke type, severity and level of disability, we administered the validated 20-item Functional Independence Measure questionnaire to evaluate functional status of study participants and an 8-item questionnaire to assess participants' attitudes towards telemedicine administered rehabilitation intervention.

**Results—**Mean ± SD age of study participants was 57.2 ± 13.3 years of which 51.0% were males with a mean duration of stroke of 1.3 ± 2.2 years. 53% had Modified Rankin scores of ≥3, 57% were fully independent and only 27% reported utilizing any physiotherapy services. Barriers to access to physiotherapy included financial constraints due to cost of physiotherapy services and transportation as well as premature discharge from physiotherapy to avoid overburdening of available physiotherapy services. These factors led to the limited provision of rehabilitative therapy. Participants held positive views of the potential for tele-rehabilitation interventions (80–93%). However, while 85% owned mobile phones, only 35% had smart phones.

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**Conflicts of Interest:** All authors have none to declare.

**Conclusion—**Despite, a high burden of residual disability, only about 1 out of 4 stroke patients in this Ghanaian cohort was exposed to post-stroke physiotherapy services, largely due to relatively high costs and limited health system resources. These Ghanaian stroke patients viewed the potential role of Tele-rehabilitation as positive, but this promising intervention needs to be formally tested for feasibility, efficacy and cost-effectiveness.

### Keywords

Physical therapy; barriers and facilitators; tele-rehabilitation; functional independence; stroke survivors

## INTRODUCTION

Low-and-Middle Income countries (LMICs) now bear the greatest burden of stroke on the globe.[1,2] The high morbidity and mortality from stroke particularly in sub-Saharan Africa (SSA) has been attributed mainly to a high burden of uncontrolled vascular risk factors, an uncoordinated and fragmentary acute stroke care and limited rehabilitation services in these settings.[3–8] With an age-adjusted prevalence of stroke survivors of 14.6/1000 in SSA[9], the burden of stroke survivors requiring rehabilitation is enormous. Stroke affects a predominantly young and productive segment of the population in LMICs[3–6] and threatens to destabilize the recent modest economic gains in these regions of the world. Compared with a High-Income Country such as Canada where there are 51 physical therapists per 100,000 people[10], LIMCs in SSA such as Ghana and Ethiopia have 0.1 per 100,000 people and South Africa has 6.7 per 100,000 people.[11] Hence the dearth of rehabilitation services for post stroke care-a challenging reality in SSA- requires innovative, culturally tailored and cost-effective approaches to surmount.

Home based rehabilitation by close social and family networks has been proposed as a task shifting strategy for post stroke rehabilitation with evidence from randomized controlled trials conducted in HICs suggesting the intervention is feasible, acceptable to patients and as effective as rehabilitation received under routine inpatient rehabilitation services.[12–20] However a recently published large study in India failed to show superiority of a family-led stroke rehabilitation intervention compared with usual care.[21] Another potential strategy is the use of tele-rehabilitation where remotely supervised rehabilitation can be administered to stroke survivors in domiciled settings. Again tele-rehabilitation has been evaluated for feasibility and efficacy in HICs and some LMICs outside SSA with moderate level of evidence of its efficacy compared to conventional face-to-face rehabilitation.[22–32]

Evidence is therefore needed in SSA to inform policy on which rehabilitation task shifting strategy would be feasible and effective. However, there is a paucity of studies in SSA that has characterized the burden of rehabilitation needs of stroke survivors and provided their perspectives on tele-rehabilitation as a potential approach to addressing rehabilitation needs in LMICs. Such information is required for the design, testing and development of tele-rehabilitation interventions, and aid in proper planning and resource allocation for rehabilitation in resource-limited settings. Thus, our objectives in this study were to evaluate the rehabilitation needs of Ghanaian stroke survivors and assess their perceptions of tele-

rehabilitation delivered via mobile phone for stroke populations in deprived regions of the world.

## METHODS

### Study design and settings

This cross-sectional study was approved by the Committee of Human Research Publications and Ethics of the Kwame Nkrumah University of Science and Technology. The study was conducted at an ambulatory out-patient Neurology Clinic of the Komfo Anokye Teaching Hospital, a tertiary medical center in Kumasi, Ghana. Ghana is a lower-middle income country with a population of 25 million people with a Gross National Income (GDP) based on per capita purchasing power parity (PPP) OF US$3,532.[33,34] Kumasi is the second largest city in Ghana, with an estimated population of 4 million inhabitants. The Neurology Clinic was established in 2011 and runs once a week receiving referrals for adults >16 years with neurologic disorders from 6 out of the 10 administrative regions of Ghana and serves an estimated population of 10 million as previously described.[35] Stroke survivors are typically discharged home after acute stroke care for out-patient care at the Neurology clinic mainly for secondary risk prevention and at the physiotherapy department for rehabilitation. Rehabilitation services include physical therapy and occupational therapy but there is currently no speech therapy service available.

### Study Participants

Consecutive stroke survivors attending the Neurology service at KATH were approached for enrollment into the study after obtaining informed consent. Stroke survivors on sedatives, and those with profound aphasia without a proxy were excluded. Recruitment of study participants was performed from January 2017 through to June 2017.

### Data Collection

Demographic information including age, gender, educational status, vascular risk factor profile, stroke type, severity, duration of stroke and functional status (Modified Rankin scale) were collected by two trained research assistants through review of medical charts and interview of stroke survivors and/or their proxy. Current smoking status and alcohol intake status were ascertained from either the patient or a reliable relative. A high alcohol intake was defined as ≥ 14 units per week for women, ≥ 21 units per week for men.

### Functional independence and rehabilitation needs assessment

We used the validated 20-item version of the Functional Independence Measure questionnaire[36] FIM™ instrument to assess self-care (7 items), sphincter control (2 items), transfers (4 items), and locomotion (2 items) domain of motor independence as well as communication domain (2 items) and social cognition domain (3 items). Each item is rated on a 7-point ordinal scale (minimum score of 1 and maximum of 7) with higher scores indicating more independence.

In addition, a physiotherapist and neurology residents involved in the study assessed for the presence of other post-stroke rehabilitation challenges such as psychological maladjustment,

sexuality, vocational, driving, spasticity, hemiplegic shoulder pain and central post stroke pain and documented on a questionnaire whether these were present or not. Further, we inquired whether study participants were attending physiotherapy sessions, the number of sessions per week, and reasons/challenges encountered in accessing physiotherapy.

### Tele-rehabilitation survey

We assessed the perspectives of participants on the use of a mobile phone delivered rehabilitation App for domiciled stroke survivors with remote supervision by a physiotherapist. The App has a bundled intervention program for physiotherapy, occupational therapy and speech therapy. An 8-item survey evaluated participants' attitudes towards mhealth and telemedicine based remote monitoring. The items were scored on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree". The items were adapted from a questionnaire used to assess patients' attitudes toward mobile phone based remote monitoring for chronic illness. Cronbach's alpha for internal consistency in the current sample for the 8 items was 0.87.

### Statistical Analysis

Means and medians were compared using the Student's t-test or Mann-Whitney's U-test for paired comparisons. Proportions were compared using the Chi-square test or Fisher's exact test for proportions with subgroupings <5. In all analysis, two-tailed p-values <0.05 were considered statistically significant with no adjustments for multiple comparisons. Statistical analysis was performed using GraphPad Prism version 7.

## RESULTS

### Baseline characteristics

There were 100 study participants with a mean ± SD age of 57.2 ± 13.3 years of which 51.0% were males. Stroke survivors had their residence in urban (n=66), semi-urban (25) and rural (n=9) settings. 10% had no formal education, 43% had primary education, 28% had secondary education, and 19 had tertiary/postgraduate education. 64 subjects had ischemic stroke, 35 had hemorrhagic stroke and 1 undetermined. The mean ± SD duration of stroke onset was 1.3 ± 2.2 years with 53% of subjects within the first 6 months of stroke, 25% between month 6 to 12 after stroke and the remaining 12% had had stroke for >12 months.

### Functional Status of stroke survivors

The mean ± SD Modified Rankin Scale score for study subjects was 2.7 ± 0.9 and a trend towards an inverse distribution of severity of functional status in relation to duration of stroke onset is observed as shown in Figure 1. Table 1 shows the mean scores on the Functional Independence Measure scale for 18 items with subjects reporting the most challenges with dressing under self-care items with the lowest mean scores. Fifty-seven (57) subjects were fully independent in all items of the FIM questionnaire with the remainder reporting challenges in at least one item on the questionnaire. Subjects who were fully independent were significantly younger, less likely to have attained tertiary education, had

higher body mass index and were less likely to be on physiotherapy compared with those with some indicators of functional independence. (Table 2).

In addition to scores on the FIM questionnaire, 20 subjects reported having rotator cuff injuries, 15 with spasticity of limbs, 12 had experienced subluxation of shoulder joint, 12 had central post stroke pain syndrome, 10 had contractures, 6 reported having complex regional pain syndrome, 3 subjects reported having psychological maladjustment to the stroke, 3 had difficulties with driving, but none reported challenges with sexuality or vocational activities.

### Physiotherapy and rehabilitation needs

Table 3 shows the proportions of study subjects undergoing physiotherapy and their level of disability on the Modified Rankin Scale. Overall, 27 subjects were on physiotherapy of which 20 (74%) were resident in urban, 4 (15%) in semi-urban and 3 (11%) in rural settings. Physiotherapy recipients had a median (IQR) of 2 (1–2) sessions per week and had sessions at either the teaching hospital (n=27), another hospital (n=8), or at home by a visiting physiotherapist (n=3). Subjects on physiotherapy had more than one source for sessions. Out of 58 subjects with MRS score of 3 or higher, only 22 (37.9%) were receiving physiotherapy. Commonly cited reasons for non-attendance of physiotherapy stratified according to functional status of stroke survivors are shown in Table 4.

### Perceptions on potential for tele-rehabilitation

There was an overall positive response rates to the potential benefits of tele-rehabilitation and participation in community based research on tele-rehabilitation. 85% of study participants owned a mobile phone while only 35% had smartphones. With regards to the preferred mode of delivery of health related instructions for remotely supervised physiotherapy, nearly 95% opted for phone calls (Table 5). Although only 20% of participants had heard of m-health, stroke survivors generally thought that tele-rehabilitation administered via mobile technology would be beneficial (Table 6).

## DISCUSSION

Our study demonstrates a high burden of residual disability among recent Ghanaian stroke survivors with low utilization rates of physiotherapy services. Over 50% of subjects in the present study were below 60 years and were paid workers before stroke onset. With less than 30% of subjects in the present study reporting regular access to physiotherapy services, the chances of achieving functional independence for this largely productive segment of the population affected by stroke would be compromised. As expected, stroke patients with the highest level of disability or functional dependence were more likely to utilize physiotherapy services than those with mild/moderate disability. Of note, the majority of subjects with mild to moderate deficits were not on physiotherapy upon advise from physiotherapists that further sessions were not required for these deficits. These observations could be underpinned by the huge load of patients at the physiotherapy department with limited staff strength, a common scenario in many tertiary facilities in SSA. Furthermore, cost of transportation to the hospital for twice or thrice weekly physiotherapy sessions was also

commonly cited as a reason for non-attendance of rehabilitation sessions, a view similarly reported in another Nigeria study. [37]

Our findings likely depict a tip of the iceberg phenomenon since this study was conducted in a teaching hospital setting. It is notable that 9% of the subjects in the present study lived in rural settings while it is generally reported that nearly 60% of the population in SSA reside in rural settlements where access to rehabilitation services is challenged. The reality is that the greater majority of stroke survivors in SSA, regardless of level of functional status are discharged directly home after acute stroke management and seldom access orthodox medical services afterwards. Thus community-based studies are needed to clarify the extent of the unmet rehabilitation needs of stroke survivors in LMICs and interventions urgently crafted to address this need. Task shifting rehabilitation activities led by unpaid family caregivers have been endorsed by the WHO and the World Bank World Report on Disability[38, 39] and has been proposed as a potential solution for healthcare sustainability. However, one of the largest randomized controlled trials testing the efficacy of family-led rehabilitation among Indian stroke survivors reported a neutral effect compared with usual care.[21] The authors proposed among other recommendations the evaluation of technology-assisted rehabilitation as another viable option worth pursuing for developing countries.

Hence it is encouraging that majority of stroke survivors in our study held positive views of the potential benefits of tele-rehabilitation with a large proportion owning mobile phones opening an avenue to extend supervised rehabilitation services to stroke survivors to increase reach. Important caveats are that over 50% of respondents in the survey had only primary level education and 35% had access to a smartphone, the current platform on which tele-rehabilitation can be effectively delivered. Furthermore, stroke subjects preferred instructions on tele-rehabilitation to be delivered by phone calls. These critical caveats require careful consideration in the development and testing of culturally tailored tele-rehabilitation interventions in LMICs. The ideal tele-rehabilitation intervention for LMICs should be simple, robust, user-friendly for easily operability by a less sophisticated population in resource limited settings. For subjects with severe deficits, the involvement of family member as caregivers with guidance by physiotherapy/nurse assistants remotely would be essential to ensuring safety of implementation of the intervention. It is expected that as subjects recover and become more independent, there would be less dependence on caregivers for tele-rehabilitation to enhance chances of significant recovery. It should be emphasized that well-powered clinical trials are required to show the feasibility, efficacy, acceptability, sustainability and cost-effectiveness of tele-rehabilitation before translating and scaling it at the population level.

## Limitations and Strengths

Although the sample size of the study is modest, it has captured a representative sample of stroke survivors attending a clinic in a tertiary center to assess their rehabilitation needs. We recruited consecutive subjects presenting to the clinic with minimal exclusions to minimize sampling bias. This however is the first study to best of our knowledge to provide a detailed assessment of physical deficits among stroke survivors, their rehabilitation needs and their perceptions towards tele -rehabilitation in SSA. In our previous studies among West

Africans, we have shown associations between persisting physical deficits after stroke and risk of depression[40], sleep apnea[41], vascular cognitive impairment[42], stroke related stigma[43] and quality of life[40]. In fact, we have recently proposed tele-neurology and its sub-discipline such as tele-rehabilitation and mobile technology interventions for vascular risk factor control as promising avenues to improving the reach of neurology services in sub-Saharan Africa.[44–46] Our findings in the present study have identified reasons for non-attendance of physiotherapy required for recovery from stroke and has collected data of relevance in preparation for tele-rehabilitation clinical trials among stroke survivors in resource-limited settings.

### Conclusion

We show that in spite of enormous burden of post-stroke disability among recent Ghanaian stroke survivors, access to physiotherapy services for rehabilitation was limited. A strategy for rehabilitation with involvement of the family of stroke survivors and remote supervision via telemedicine may be a feasible and cost effective intervention to pursue in Low-and-Middle Income Countries.

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## HIGHLIGHTS

- Greatest burden of stroke globally is borne by LMICs
- LMICs have a paucity of rehabilitation services for stroke survivors
- Tele-rehabilitation is a promising avenue to bridge this gap
- Stroke survivors in Ghana viewed tele-rehabilitation favorably
- Clinical trials are needed in LMICs to establish feasibility and efficacy of tele-rehabilitation

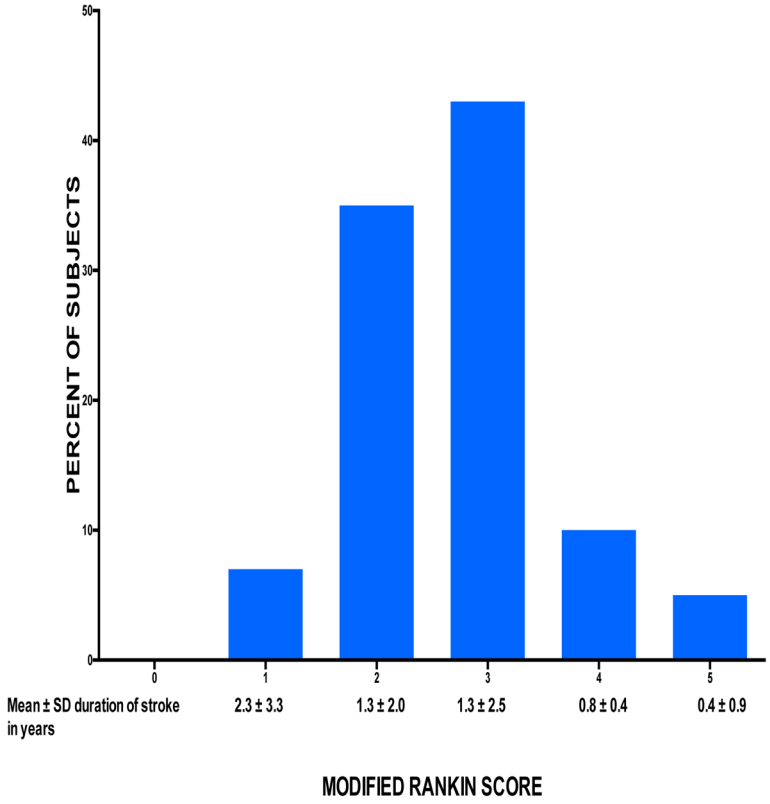


**Figure 1.**

Distribution of level of disability among Ghanaian stroke survivors according to the duration of stroke onset. Modified Rankin Score showed on the x-axis and percent of subjects with MRS on the y-axis. The mean ± SD of duration of stroke symptoms for each MRS is depicted beneath the respective MRS.

## Table 1

Functional independence measure scores for Ghanaian stroke survivors

| ITEMS | Mean ± SD score on each item | Proportion with score <7 (%) |
|---|---|---|
| ***SELF CARE ITEMS*** | | |
| 1. Feeding | 6.86 ± 0.86 | 3 |
| 2. Grooming | 6.45 ± 1.40 | 17 |
| 3. Bathing | 6.19 ± 1.66 | 25 |
| 4. Dressing upper body | 5.96 ± 1.84 | 29 |
| 5. Dressing lower body | 5.90 ± 1.90 | 30 |
| 6. Toileting | 6.48 ± 1.49 | 15 |
| 7. Swallowing | 6.81 ± 0.83 | 6 |
| ***SPHINCTER CONTROL*** | | |
| 8. Bladder management | 6.72 ±1.13 | 7 |
| 9. Bowel management | 6.75 ±1.11 | 5 |
| ***MOBILITY ITEM (Type of transfer)*** | | |
| 10. Bed, Chair, Wheelchair | 6.51 ±1.29 | 20 |
| 11. Toilet | 6.47 ±1.43 | 17 |
| 12. Shower or tub | 6.40 ±1.50 | 19 |
| 13. Car Transfer | 6.41 ±1.44 | 21 |
| ***LOCOMOTION*** | | |
| 14. Walk/wheelchair | 6.40 ± 1.39 | 24 |
| 15. Stairs | 6.20 ±1.68 | 27 |
| ***COMMUNICATION*** | | |
| 16. Comprehension (circle auditory, visual, or both) | 6.64 ±1.15 | 16 |
| 17. Expression (verbal, nonverbal, or both) | 6.64 ±1.14 | 15 |
| ***SOCIAL COGNITION*** | | |
| 18. Social interaction | 6.56 ±1.18 | 20 |
| 19. Problem solving | 6.39 ±1.37 | 25 |
| 20. Memory | 6.28 ±1.54 | 27 |

## Table 2

Comparison of baseline characteristics of subjects with functional independence and those with some extent of functional dependence.

| | Functional Independence N=57 | Functional dependence N=43 | Total | P-value |
|---|---|---|---|---|
| Gender | | | | |
| Female, n (%) | 24 | 25 | 49 | 0.11 |
| Age, mean ± SD | 54.5 ± 10.1 | 60.8 ± 16.0 | 57.2 ± 13.3 | ***0.02*** |
| Location of domicile | | | | 0.29 |
| Urban | 34 | 32 | 66 | |
| Semi-urban | 18 | 7 | 25 | |
| Rural | 5 | 4 | 9 | |
| Highest educational attainment | | | | ***0.03*** |
| None | 3 (5.3) | 7 (16.3) | 10 | 0.07 |
| Primary | 27 (47.4) | 16 (37.3) | 43 | 0.31 |
| Secondary | 20 (35.1) | 8 (18.6) | 28 | 0.07 |
| Tertiary | 7 (12.3) | 12 (27.9) | 19 | 0.05 |
| Employment status before stroke | | | | 0.46 |
| Skilled academic | 28 | 25 | 53 | |
| Manual worker | 8 | 2 | 10 | |
| Retired | 7 | 6 | 13 | |
| Unemployed | 14 | 10 | 24 | |
| Duration of stroke, mean ± SD (years) | 1.5 ± 2.5 | 1.0 ± 1.7 | 1.3 ± 2.2 | 0.27 |
| Stroke type | | | | 0.25 |
| Ischemic | 34 | 30 | 64 | |
| Hemorrhagic | 23 | 12 | 35 | |
| unknown | 0 | 1 | 1 | |
| Vascular risk factors | | | | |
| Hypertension | 53 | 39 | 92 | 0.68 |
| Diabetes mellitus | 17 | 15 | 32 | 0.59 |
| Dyslipidemia | 13 | 8 | 21 | 0.61 |
| Cigarette smoking | 1 | 1 | 2 | 0.84 |
| Alcohol use | 4 | 5 | 9 | 0.43 |
| Systolic Blood Pressure, mmHg, mean ± SD | 148.2 ± 21.9 | 148.3 ± 24.2 | 148.2 ± 22.8 | 0.98 |
| Diastolic Blood Pressure, mmHg, mean ± SD | 92.5 ± 14.1 | 89.4 ± 16.7 | 91.2 ± 15.3 | 0.31 |
| Waist-to-Hip ratio, mean ± SD | 0.93 ± 0.09 | 0.95 ± 0.05 | 0.94 ± 0.08 | 0.18 |
| Body Mass Index, mean ± SD | 28.0 ± 3.3 | 26.0 ± 3.7 | 27.1 ± 3.6 | ***0.007*** |
| Currently having physiotherapy | 8 | 19 | 27 | ***0.0008*** |

**Table 3**

Proportions of subjects currently undergoing Physiotherapy according to their Modified Rankin Score.

| Modified Rankin Score | Number of subjects with MRS score | Number (%) undergoing physiotherapy |
|---|---|---|
| 0 | 0 | 0 (0) |
| 1 | 7 | 0 (0) |
| 2 | 35 | 5 (14.3) |
| 3 | 43 | 13 (30.2) |
| 4 | 10 | 5 (50.0) |
| 5 | 5 | 4 (80.0) |
| Total | 100 | 27 (27.0) |

## Table 4

Common reasons for non-attendance of physiotherapy according to functional status among Ghanaian stroke survivors.

| Modified Rankin Score | Number of subjects with MRS score not attending physiotherapy | Reasons for non-attendance of physiotherapy | |
|---|---|---|---|
| 1 | 7 | **1** | Informed by physiotherapist that no further physiotherapy sessions were required, (n=7) |
| 2 | 30 | **1** | Informed by physiotherapist that no further physiotherapy sessions were required, (n=24) |
| | | **2** | Subject could not afford cost of transportation to hospital for physiotherapy, (n=4) |
| | | **3** | No further improvement expected from physiotherapy, (n=1) |
| | | **4** | No response, (n=1) |
| 3 | 30 | **1** | Informed by physiotherapist that no further physiotherapy sessions were required, (n=15) |
| | | **2** | Subject could not afford cost of transportation to hospital for physiotherapy, (n=6) |
| | | **3** | No further improvement expected from physiotherapy, (n=4) |
| | | **4** | Utilizing herbal remedies (n=1) |
| | | **5** | No response, (n=4) |
| 4 | 5 | **1** | Informed by physiotherapist that no further physiotherapy sessions were required, (n=1) |
| | | **2** | Subject could not afford cost of transportation to hospital for physiotherapy, (n=1) |
| | | **3** | No further improvement expected from physiotherapy, (n=2) |
| | | **4** | No response, (n=1) |
| 5 | 1 | **1** | No further improvement expected from physiotherapy, (n=1) |
| Total | 73 | | |

**Table 5**

Ghanaian Stroke subjects attitudes towards Tele-rehabilitation.

| QUESTION | PERCENT (%) |
|---|---|
| Usefulness of community tele-rehabilitation studies (yes) | 91 |
| Can physiotherapy aid motor recovery (yes) | 95 |
| Willingness to participate in tele-rehabilitation research (yes) | 95 |
| Can tele-rehabilitation help physiotherapy access? (yes) | 93 |
| Will people in community be willing to participate in tele-rehabilitation research? (yes) | 95 |
| Do you have working cellular phone? (Yes) | 85 |
| Do you have working smart phone? (Yes) | 35 |
| Does anyone in your household have working cellular phone? (yes) | 87 |
| Does anyone in your household have working smart phone? (yes) | 81 |
| Is there someone in your household who can help you use your cellular phone if you need help? (yes) | 93 |
| Have you ever used your cellular phone to do the following | |
| Send or receive text messages | 46 |
| Send or receive email | 10 |
| Use the internet | 20 |
| Download ringtone or apps | 13 |
| What brand of cell phone do you currently have | Mode – Samsung |
| How would you prefer to receive instructions from health care providers | |
| Text messages | 25 |
| Voice mail | 2 |
| Phone call | 95 |
| Video conference | 8 |
| Have heard of mHealth before today? Yes | 20 |

**Table 6**

Ghanaian Stroke Survivors perceptions on use of m-health for tele-rehabilitation

| | Strongly disagree % | Disagree % | Neutral % | Agree % | Strongly agree % |
|---|---|---|---|---|---|
| I would use a free mHealth device as directed | 2 | 1 | 8 | 46 | 43 |
| If someone is available to answer my questions about the device I would use as directed | 0 | 2 | 5 | 44 | 49 |
| I feel comfortable with a doctor/ nurse monitoring my health information using mHealth | 0 | 5 | 15 | 1 | 79 |
| I feel comfortable with using a cellular phone | 1 | 2 | 8 | 47 | 42 |
| I believe mobile technology will help remind me to follow physical therapist directions | 1 | 2 | 12 | 46 | 39 |
| I am confident my privacy would be protected if my health information was being monitored using mHealth | 1 | 2 | 12 | 43 | 39 |
| It is important to follow my physiotherapist directions | 1 | 2 | 8 | 46 | 42 |
| I feel confident that this technology can effectively communicate with my health care providers about my medical conditions | 2 | 3 | 10 | 44 | 41 |