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Contents lists available at ScienceDirect

Disability and Health Journal

journal homepage: www.disabilityandhealthjnl.com

Original Article

Livelihood outcomes in a cohort of youth with disabilities following participation in an economic empowerment programme in rural Uganda



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ARTICLE INFO

Article history:

Received 13 July 2020

Received in revised form

29 January 2021

Accepted 31 January 2021

Keywords:

Africa

Livelihoods

Youth with disabilities

Economic empowerment

Uganda

ABSTRACT

Background: Little evidence exists on the livelihoods of young people with disabilities in low- and middle-income settings.

Objective: This study examined employability and livelihood outcomes among a cohort of youth with disabilities who participated in an economic empowerment programme in rural Uganda.

Methods: Prospective cohort of youth with disabilities participating in an economic empowerment programme in rural Uganda. Livelihood outcomes of participants were assessed through structured interviews at baseline (n = 297) and again at 12 months (n = 252) and analysed using chi-squared tests and generalized estimating equations.

Results: Of 297 participants at baseline, 144 (48%) were women and the mean age was 21.7 years. At 12 months follow-up, participants were significantly more likely to have a job (OR 3.04, 95% CI 2.10–4.39); to have accessed finance (OR 5.52, 95% CI 3.18–9.56); and experienced community support (OR 2.23, 95% CI 1.51–3.29) compared with baseline. There were no statistically significant changes in having enough money for food or in having experienced community discrimination.

Conclusions: The findings suggest that targeted vocational skills training, apprenticeships scheme and a start-up financial package may improve the livelihoods of young people living with disabilities in rural African settings.

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Introduction

In 2006, the United Nations published its landmark Convention on the Rights of Persons with Disabilities (UNCRPD) intended to guarantee among other things, the rights of people with disabilities to live independently and to be included in the community.^{1,2} This Convention stresses the critical need to ensure that people with disabilities have access to economic empowerment opportunities through gainful work in an environment that is inclusive, equitable and accessible. Recent efforts to fast-track this goal have emphasized a need to improve people with disabilities' access to employment, social protection and livelihoods.^{3–6} However, in

many low- and middle-income countries (LMICs) progress towards achieving this goal has been slow, if not completely stalled.^{3,7}

In addition, there is limited evidence on not only the overall effectiveness of the current approaches to facilitating the participation of people with disabilities in the labour markets in LMICs but also on who benefits from such interventions, who does not, and why. A recent systematic review by Tripney et al. concluded that there continues to be a lack of evidence to inform decision making in the area of livelihoods and employment for people with disabilities.⁸ Of 14 original studies reviewed, only three were conducted in Africa, and only one of these explored income and employment, suggesting at a minimum, the need for descriptive analyses of livelihoods and employment outcomes from disability inclusive programmes in the region.

In Uganda, a large proportion of youth with disabilities live in remote rural locations with limited job opportunities. Those who are engaged in income-generating activities tend to work in the

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informal sector or small scale local trades, often having to cope with high business running costs and difficulties in gaining access to credit and the limited number of customers.⁹ In recent years, the government of Uganda has made available substantial amounts of money to poor and unemployed youth groups under different social protection programmes such as Uganda Women Entrepreneurship Programme, Operation Wealth Creation and Youth Livelihood Programme.¹⁰ However, the design and implementation of these livelihood support interventions has been criticised for not giving adequate consideration to the numerous barriers to the inclusion and participation of youth with disabilities.^{11–13} Although a number of development programmes implemented in Uganda have focused on the employment and livelihood of youth with disabilities,^{14,15} little evidence exists about who participates and what outcomes are experienced, either due to data not having been collected, or collected but not publicly available. In addition, competing priorities in accountability to donors and beneficiaries often limit opportunities for detailed reporting of project data and subsequently objective and rigorous analyses of project successes and failures.^{16,17}

Since 2012, Sightsavers, an international non-governmental organisation (iNGO), has been working with a number of local partners to increase opportunities for employment and improve livelihoods for youth with disabilities in rural areas of Uganda.¹⁸ The programme aims to equip young women and men with disabilities with the skills and resources to enhance their employment prospects, make their businesses more sustainable, improve their livelihoods and decrease economic dependency. This model has been previously tried in programmes targeting out of school youth and other vulnerable groups in Uganda.^{19,20} The programme activities include a basic vocational skills training, provision of business start-up kits, conduct of job fairs in the community and linkages of the trainees to local entrepreneurs and services for apprenticeships and financing facilities. In this paper, we analyse programmatic data collected over two time points from a cohort of youth with disabilities engaged in programme activities between December 2016 and April 2018 to provide evidence of the value of the intervention to society given rampant youth unemployment which is worse for youths with a disability. First, we explore demographic and socio-economic characteristics of the youth enrolled into our programme. Second, we examine changes in participants' self-reported outcomes, specifically, having a job or other income generating activity; access to financing, availability of money for food; experiences of social support (e.g., family, community, and peer support) and experiences of discrimination.

Methods

Study setting

This prospective cohort study was nested within a multi-year economic empowerment programme designed to increase opportunities for employment and access to financial services for youth with disabilities in poor rural and peri-urban areas of Uganda. The programme has been implemented jointly by the National Union of Disabled Persons of Uganda (NUDIPU), the Uganda National Union of the Blind (UNAB) and Sightsavers.¹⁸ The programme targeted four districts in Western Uganda: Masindi, Kiryandongo, Buliisa and Hoima and one district, Nwoya, in Northern Uganda. The total population of the five districts is estimated at 1,376,963, nearly 80% of whom are people under the age of 35 years. About forty-four percent of the population in these areas live below the national poverty line.^{21,22} Subsistence agriculture is the main livelihood activity in the areas, although cattle keeping, mining, trade and fishing are also prevalent in some sections of the population. The

majority of the population has not received education beyond primary school level and women are more likely to have never been to school than men.²³ Ninety percent of youth in these areas are in informal employment. Almost half of income earned by the local population is spent on food and less than five percent of income is spent on health care.²² The prevalence of disability in the project districts is above the national average ranging from 12.8% in Hoima to 21.9% in Nwoya.²¹

Participants

Between December 2016 and April 2018, a convenience sample of 334 young people with disabilities were identified and invited to participate in the economic empowerment programme. The programme was advertised through community radios, posters, and door-to-door mobilization by Organizations of Persons with Disabilities (OPDs) and programme staff. To be eligible, participants had to be between the ages of 15 and 35 years, self-report a disability (of any kind) which was subsequently verified during a functional assessment by a medical practitioner, be a resident in one of the five programme districts, and be willing and fit to attend a vocational school. In Uganda, the constitution defines youth as a person between 18 and 30 years. However, specific needs of this economic empowerment programme necessitated extending this range to people as young as 15 years and up to 35 years. Formal schooling was not an inclusion criterion for the programme. All eligible young people identified through this community mobilization were invited to the programme. However not all decided to participate, completed the programme or were available for follow up. Eleven percent of young people identified by the programme ($n = 37$) declined the invitation to enrol either because they or their parents did not want them to participate or because they had other commitments or business opportunities to pursue, while another three participants (1%) started but did not complete the training. In addition, 13% of programme participants ($n = 38$) could not be interviewed at follow up either because they refused an interview or because they had reallocated and could not be found. Consequently, given an attrition rate of 25%, data at baseline and at 12 months follow-up was available for 252 programme participants.

Intervention programme

Programme activities were similar for all participants. All participants received some form of vocational training and business skills training (bookkeeping, savings, access to credit etc), received a start-up kit (for knitting, tailoring, plumbing, catering etc, on average worth an equivalent of 800 USD). In addition, participants were introduced to local businesses and entrepreneurs who provided them internships or job placements.

The recruitment of programme participants followed a number of steps. First, all eligible participants and their parents or guardians participated in an interactive education session to explain the programme and clarify expectations. All participants underwent a functional assessment by a medical practitioner, who provided recommendations on support and assistive devices required. Customized assistive devices were provided to those who needed them. Participants identified with any symptoms of illness during the medical assessment were referred to the nearby health facilities for further evaluation and treatment.

During the second stage, all participants who agreed to take part in the programme (297, 88.8%) were transported to the assigned vocational training school located in their local area or a neighbouring district (Table 1). The vocational training landscape in Uganda is an overlapping three-tier system comprising craftsman level training offered by technical schools and institutes; technician

Table 1
Vocational Training Centres attended by Study Participants.

Vocational Centre	Location	Distance to the Nearest Town	Type	Ownership
Kiryandongo Technical Institute	Kiryandongo District	<0.5 Km	Inclusive/Mainstream	Government
St. Daniel Comboni Vocational Institute	[‡] Gulu District	5.5 Km	Inclusive/Mainstream	Private/Church
Nile Vocational Institute	Hoima District	3.1 Km	Inclusive/Mainstream	Private/Church
Masindi Centre for the Handicapped	Masindi District	10.4 Km	Special/Disability	Government
Christian Comprehensive Vocational Institute	[‡] Gulu District	7.6 Km	Inclusive/Mainstream	Private/Church
St. Kizito Vocational Training Institute	Masindi District	<0.5 Km	Inclusive/Mainstream	Private/Church

[‡]These two vocational centres located in Gulu district supported the training of participants from the neighbouring project focus district of Nwoya.

level training offered by technical colleges; and more advanced technical instruction usually offered by degree granting institutions. Residential vocational training at the craftsman level lasted for a period of three months followed by a three-month internship or job placement. Following completion of the training and internships, programme participants were visited twice on a quarterly basis to check how they were doing and to provide advice on access to savings groups, government livelihood programmes or other local opportunities.

Measurements

At enrolment and 12-months thereafter, data were collected through face-to-face interviews. The main outcomes were binary variables which were assigned “one” if programme participants had (a) had a job or another income generating activity in the past year, or (b) accessed financial resources in the past year, or (c) experienced family, community and peer support, or (d) had enough money for food, or (e) experienced community discrimination, and zero otherwise. We defined community support as any form of non-financial support received from community members by the youth as they went about their day-to-day life: trying to find a job, set up their businesses, and engage with potential customers for their products. The questionnaire also included sections on socio-demographic characteristics of participants such as type of disability, highest education level, wage and self-employment, and business running history, income and access to financing. Due to the small number of married participants, we combined married and cohabiting participants into one category, and single, separated and divorced participants into another category. For income, the ‘dependent’ category refers to those who reported receiving money from others as their main source of income.

At follow-up, data collectors attempted to locate or visit programme participants at least three times before they were regarded as lost to follow up.

All data were collected by locally recruited young people with disabilities (peer researchers), who had attained at least primary school education and who were trained by a team of professional social scientists prior to data collection. In total, twenty peer-researchers were involved in data collection at baseline and sixteen were involved at follow up. All peer researchers underwent extensive training in interviewing techniques. Peer researchers were proficient in at least one of the five main languages spoken in the study areas (Runyoro, Lugungu, Swahili, Alur, and Acholi) or Ugandan sign language for deaf participants. In many cases, study participants and peer researchers were matched by disability type, particularly those with sensory impairments. Individuals with known severe intellectual impairments were ineligible to be a peer researcher due to their perceived difficulties with providing information on the study and obtaining informed consent.²⁴ The data collection process was supervised by professional researchers and regular feedback on the data collection was provided throughout the fieldwork.

Data were collected in private locations near participants’ homes or places of work. The questionnaire was translated into five main local languages spoken in the area and back-translated into English for validation purposes. The questionnaire was piloted with youth leaders of the district level OPDs before the main data collection. On average, each face-to-face interview lasted 40 min.

Data were recorded electronically using keyless, touch-screen, mobile devices running Kobo software (KoBoToolbox, Harvard Humanitarian Initiative, Cambridge – MA, USA); data was uploaded to a central server and checked daily by the study team to ensure consistency and quality.

Data analysis

Data were managed and analysed using Stata 16 software (Stata-Corp Inc, College Station, TX, USA). Baseline characteristics were analysed for 297 participants who were invited and agreed to participate (enrolled) in the programme. Programme outcomes were compared for 252 participants, who had completed the programme and could be found and interviewed at the 12 months follow up.

Pearson’s chi-squared tests and t-tests were used to explore differences in baseline socio-demographic characteristics between categorical and continuous variables, respectively. Assumptions underpinning these tests were confirmed.

Generalized estimating equations (GEE)²⁵ were used to analyse changes in the key livelihood outcomes (having a job, accessing financing, and experiences of social (family, community and peer) support) between baseline and at twelve months follow-up. After a review of the empirical literature,²⁶ models were adjusted for potential confounders including age (19–25 years or over 25 years vs. under 18 years of age), sex (female vs. male), highest level of education (primary school or post-primary school vs. no school), location of residence (peri-urban vs. rural), marital status (single vs. married), type of disability (physical, intellectual or other vs. sensory) and whether day-to-day activities were disrupted through impairment/poor health (yes vs. no).

Ethical considerations

The study protocol was reviewed and approved by the Uganda National Council of Science and Technology (UNCST) (SS 4133) and the Mulago Research and Ethics Committee (MREC) (MREC973). All participants received information about the study both verbally and on information sheets in their local language and provided a written consent. For participants aged 15–17 years, informed consent and assent were obtained from both the participant and their parent or guardian. All participants were paid an equivalent of US\$1.33 for each interview as a token of appreciation of their time.

Results

In total, 334 young people with disabilities were invited to participate in the programme in the period December 2016 to April

2018. Of these, 297 individuals enrolled. Out of them, 144 (48%) were female; and the mean age was 21.7 years ranging from 15 to 35 years. Two hundred sixteen participants (73%) were single and 81 (27%) were married. One hundred and seventy-six (59%) participants resided in rural areas, while 121 (41%) reported their residence to be peri-urban.

One hundred and forty-one (48%) participants had a physical disability; 102 (34%) had sensory (hearing, speech, or visual impairments) and 34 (11.5%) self-reported intellectual disabilities. Approximately half of the participants said that their impairment affected their day-to-day life.

One hundred and sixteen (40%) participants reported no formal schooling; 92 (32%) had completed primary education only and 81 (28%) had education above primary level. There were more female participants with no formal schooling than male (46% vs. 35%), although the differences were not statistically significant. Subsistence farming was the main economic activity reported by 155 (52%) of enrolled youth. Forty-six (16%) participants reported informal trade and 52 (18%) reported being economically dependent on others. Twenty-three participants (8%) had salaried jobs. Fifty-seven (19%) reported no personal income. Among those with a source of income, 173 (59%) earned a monthly income of less than 100,000 Uganda shillings (USD 25) a month, while one in five (22%) had an income above this level (Table 2).

Only one in four enrolled participants reported a job or another income generating activity in the twelve-months after enrolment;

Table 2
Socio-demographic characteristics of programme participants (n = 297).

Variables	Male n (%)	Female n (%)	Total n (%)	p-value [†]
Highest education level				
No school	52 (34.7)	64 (46.0)	116 (40.1)	0.135
Primary school	51 (34.0)	41 (29.5)	92 (31.8)	
Post primary school	47 (31.3)	34 (24.5)	81 (28.0)	
Type of disability				
Sensory	59 (38.6)	43 (29.9)	102 (34.3)	0.142
Physical	71 (46.4)	70 (48.6)	141 (47.5)	
Intellectual	17 (11.1)	17 (11.8)	34 (11.5)	
Other	6 (3.9)	14 (9.7)	20 (6.7)	
Marital Status				
Married	45 (29.4)	36 (25.0)	81 (27.3)	0.394
Single	108 (70.6)	108 (75.0)	216 (72.7)	
Income				
None	19 (12.4)	38 (26.6)	57 (19.3)	0.004
<100,000	93 (60.8)	80 (55.9)	173 (58.5)	
≥100,000	41 (26.8)	25 (17.5)	66 (22.3)	
Main source of income				
Farming	88 (57.5)	67 (46.9)	155 (52.4)	0.125
Salary	14 (9.2)	9 (6.3)	23 (7.8)	
Dependent	22 (14.4)	30 (21.0)	52 (17.6)	
Trade	18 (11.8)	28 (19.6)	46 (15.5)	
Other	11 (7.2)	9 (6.3)	20 (6.8)	
Day-to-day activities disrupted through illness				
No	76 (49.7)	72 (50.4)	148 (50.0)	0.907
Yes	77 (50.3)	71 (49.7)	148 (50.0)	
Residence				
Rural	89 (58.2)	87 (60.4)	176 (59.3)	0.694
Peri-urban	64 (41.8)	57 (39.6)	121 (40.7)	
Livelihood				
Have a job	46 (30.1)	30 (21.0)	76 (25.7)	0.074
Family support	119 (77.8)	112 (78.3)	231 (78.0)	0.910
Community support	94 (61.4)	88 (61.5)	182 (61.5)	0.986
Peer support	103 (67.3)	99 (69.2)	202 (68.2)	0.724
Access to financial services	8 (5.2)	11 (7.7)	19 (6.4)	0.387
Community discrimination	43 (28.1)	44 (30.8)	87 (29.4)	0.615
Not enough money for food	86 (56.2)	88 (61.5)	174 (58.8)	0.352
Age, mean (SD)	21.7 (3.9)	21.8 (4.4)	21.7 (4.1)	0.870

[†]χ² test for categorical variables; t-test for continuous variables.

and only 6% had access to financial resources. Nearly 59% of participants reported not having enough money for food. More than 61% reported community support; 68% reported support from their peers and 78% had family support. Community discrimination was reported by 29% of participants.

Women were more likely to report no personal income (26.6% vs. 12.4%) and less likely to report an income over 100,000 Uganda shillings (25 USD) a month (17.5% vs. 26.8%, p = 0.004). They were also less likely to report a job or another income generating activity in the past year, although this difference was only borderline statistically significant (21% vs. 30%, p = 0.074).

As part of the analysis, we compared baseline characteristics of young people included in this study (enrolled on the programme and traceable 12 months later) with those who either did not want to participate in the programme or could not be found at follow up. Young people included in this study were more likely to be male, older and residents in rural locations.

Changes in livelihood outcomes

Among 252 programme participants with complete data, statistically significant changes between baseline and follow up were observed for five outcomes: having a job/income generating activity, accessing financial resources, and experiencing family, community and peer support (Table 3). The proportion of participants who reported having a job or another income generated activity increased from 34% at baseline to 66% at 12-month follow up (OR 3.07, 95% CI 2.16–4.37, p < 0.001). The proportion of participants who reported access to financing increased from 20% to 80% (OR 5.40, 95% CI 3.23–9.02, p < 0.001). The proportion of those reporting support from family, community and peers increased from 48% to 52% (OR 1.63, 95% CI 1.06–2.52, p = 0.028), from 44% to 56% (OR 2.09, 95% CI 1.45–3.03, p < 0.001) and from 47% to 53% (OR 1.67, 95% CI 1.11–2.51, p = 0.002), respectively. No statistically significant changes were observed in the proportion of participants who reported not having enough money for food (p = 0.110) or community discrimination (p = 0.174) (see Table 3).

Results presented in Table 4 show the relationship between three livelihood outcomes, for which the greatest changes were observed between baseline and follow up and participation in the programme, after adjustment for a number of individual and household characteristics. After participation in the programme, the odds of young people with disabilities reporting a job or another income generating activity were 3 times higher (OR 3.04, 95% CI 2.10–4.39), the odds of reporting access to financial resources were more than 5 times higher (OR 5.52, 95% CI 3.18–9.56) and the odds of experiencing community support were twice as high (OR 2.23, 95% CI 1.51–3.29).

Discussion

Despite being small in scale, this study provides some interesting insights into the livelihoods of youth with disabilities in poor remote parts of Western and Northern Uganda. Similar to previous studies in other resource poor-settings,^{9,26–29} we found that a large proportion of youth with disabilities have low levels of education, live primarily on subsistence farming, have limited personal income and are dependent on others. The study also shows that the majority of youth with disabilities welcome opportunities provided by vocational training and livelihood programmes. Only one in ten young people invited to participate in the programme described here decided not to enrol. Out of those who enrolled only four (1.3%) dropped out before completion.

The findings of the study suggest that targeted interventions such as vocational training, job placements and start up financial

Table 3
Changes in livelihood outcomes (n = 252).

Outcome	Baseline		12 months		OR	95% CI
	N	%	N	%		
Have a job	68	33.7	134	66.3	3.07	2.16, 4.37
Family support	194	47.7	213	52.3	1.63	1.06, 2.52
Community support	155	44.4	194	55.6	2.09	1.45, 3.03
Peer support	177	46.9	201	53.2	1.67	1.11, 2.51
Access to financial resources	19	19.8	77	80.2	5.40	3.23, 9.02
Community discrimination	78	48.8	82	51.3	1.08	0.78, 1.49
Not enough money for food	157	49.4	161	50.6	1.07	0.75, 1.52

packages, do have a positive impact on young people’s livelihoods. Significantly more young people with disabilities in our programme reported having a job or another income generating activity and accessing financing. A smaller but statistically significant change was also observed in the levels of support received by programme participants from their family, community, and peers. These findings are consistent with the results of a multi-country study of functioning and livelihoods in Chile, Vietnam and India, where the proportion of participants reporting accessing a job over 12 months follow up period increased almost three-fold.³⁰

The results we present here may have been influenced by the 38 people whose data was recorded at baseline, but who could not subsequently be followed up as they moved outside of the study area. We do not know why they moved outside the study area, although other programme participants reported anecdotally that some moved out to get married, but it is also possible that some moved out to set up a business or get a job. The absence of this data means we may be missing a significant finding.

Table 4
GEE* results showing association between 12 months spent in programme and livelihood outcomes (n = 252).

	Have job		Access to finance		Community support	
	OR	95% CI	OR	95% CI	OR	95% CI
Time						
t0	—	—	—	—	—	—
t1	3.04	2.10, 4.39	5.52	3.18, 9.56	2.23	1.51, 3.29
Sex						
Male	—	—	—	—	—	—
Female	0.70	0.47, 1.06	1.14	0.68, 1.92	1.00	0.66, 1.52
Age group (years)						
<18	—	—	—	—	—	—
19–25	1.47	0.87, 2.49	3.26	1.45, 7.34	0.90	0.53, 1.54
>25	1.77	0.89, 3.53	2.76	1.05, 7.25	0.83	0.41, 1.67
Education						
No school	—	—	—	—	—	—
Primary school	0.88	0.54, 1.43	0.81	0.43, 1.51	0.59	0.36, 0.97
Post primary school	1.01	0.61, 1.65	0.91	0.49, 1.71	0.81	0.49, 1.37
Disability						
Sensory	—	—	—	—	—	—
Physical	1.05	0.66, 1.68	1.57	0.86, 2.86	1.01	0.62, 1.64
Intellectual	1.21	0.60, 2.41	1.02	0.38, 2.74	1.30	0.63, 2.69
Other	1.21	0.50, 2.89	1.53	0.48, 4.88	0.78	0.33, 1.85
Day-to-day activities disrupted through illness						
No	—	—	—	—	—	—
Yes	0.95	0.64, 1.41	1.29	0.76, 2.18	0.74	0.49, 1.12
Marital status						
Married	—	—	—	—	—	—
Single	1.32	0.81, 2.15	0.63	0.36, 1.11	0.85	0.51, 1.41
Residence						
Rural	—	—	—	—	—	—
Peri-urban	0.77	0.51, 1.17	0.77	0.45, 1.29	1.12	0.73, 1.70

*GEE - Generalized Estimating Equations.

Furthermore, when interpreting results of this study, the following important caveat needs to be taken into account. A number of programme activities – internship or work placements and financial start up packages – were directly related to the reported outcomes. At the time of writing, we are unable to say whether the changes observed in the livelihoods of young people with disabilities will be sustained in the long term beyond the job opportunities and financial services created by this programme. Longer-term monitoring of this cohort of programme participants would be necessary to answer this question. In addition, increased attention needs to be given to the inclusion of young people with disabilities in mainstream, government-led social protection initiatives, such as the Youth Livelihoods and Uganda Women Entrepreneurship Programmes. The findings in this paper suggest that NGO-led livelihood programmes would need to go beyond the traditional focus on vocational skills training, to address questions of partnerships and linkages with existing social protection programmes, and so include strategies that actively seek to dismantle barriers and influence access to financial support for younger women and men with disabilities in the long term.

Our findings at baseline show that young women with disabilities may have worse employment and livelihoods outcomes than men, as they have lower levels of education, fewer job opportunities and lower access to personal income. In this regard, our findings are consistent with similar studies in many other settings.^{9,31,32} Our results however, showed no differences in livelihood outcomes by sex. One explanation may be that this programme, like many development programmes, had a specific gender focus and made efforts to ensure that women were included in the programme on an equal basis with men. More longitudinal data will be needed to better understand the interplay of gender and livelihood opportunities for people with disabilities in the longer term.

This study has a number of limitations, First, one of the key weaknesses of our study is the lack of a comparison area to control for counterfactual and we cannot conclude that the changes we observed were caused by our programme. Experimental study designs which are able to explore the impact of vocational training or business start-up support on livelihood opportunities for people with disabilities in LMICs are extremely rare. In this context, this analysis of programmatic data is very useful to explore which outcomes are more sensitive to change which in turn can generate hypotheses for subsequent studies using more rigorous and more resource-intensive designs. Notwithstanding the importance of experimental studies such as randomised controlled trials, we would like to encourage development agencies and iNGOs to publish their before and after intervention data and address the dearth of evidence on the effectiveness of disability interventions in LMICs.

It is also important to note that young people with disabilities were purposefully selected for this programme through community mobilisation using existing OPD networks. We therefore cannot generalise our findings on socio-economic characteristics or programme outcomes to youth with disabilities in these areas more broadly.

Finally, an important methodological factor that needs to be considered is the use of peer researchers, which can be very beneficial for disability studies, but there might be an increased risk of socially desirable responses. In our study, peer researchers were trained to minimize response bias by using non-judgmental approaches, and the same peer researchers collected data at baseline and follow-up. We therefore believe that the effect of social desirability remained constant across both data collection points. However, we cannot quantify this effect and future studies should try to minimize peer influences through intense training and supervision.

Conclusions

This small-scale study provides some evidence that a targeted package of vocational skills training, apprenticeships scheme and a start-up kit may be beneficial for young people with disabilities in rural African settings. However, in line with findings from recent systematic reviews on the topic,^{8,33} we conclude that more research is needed to assess the effect of such programmes in the longer term. Moreover, in order to assess opportunities for scale up of similar programmes, studies which integrate cost-effectiveness or cost-benefit analyses would be extremely valuable.

Funding

This work was supported by the European Commission (grant #: CSO LA 376 565) and the National Lottery Community Fund (grant #: ID 10 306 441). The findings and conclusions in this paper are those of the authors and do not necessarily represent the views of the European Commission or the National Lottery Community Fund.

Contributors

SB, ES, EJ, AG and JN conceptualized and designed the study. SB, KS and JN oversaw data collection. BG led the analysis with assistance from SB and EJ. SB wrote the original draft of the manuscript. All authors contributed to interpretation of findings and preparation of the manuscript. All authors have seen and approved the final manuscript and share final responsibility for data integrity and for the manuscript.

Declaration of competing interest

None of the authors have any real or apparent conflicts of interest with the conduct of the study or the interpretation of results described in this manuscript to disclose.

Acknowledgments

The authors wish to recognize all the youth with disabilities who participated in the study. We also want to thank the peer researchers for their commitment and generous contribution of time and talent to the study.

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