


BMJ Open Stakeholders' perspectives on the provision of vocational training for youth with disabilities in Sri Lanka: protocol for a mixed-methods study

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ABSTRACT

Introduction The quality and the range of vocational training (VT) courses offered to youth with disabilities (YwD) in low-middle-income countries are underexplored. This protocol describes a study designed to gather perceptions of a range of stakeholders related to the quality and relevance of VT programmes conducted by the Department of Social Services in Sri Lanka. The purpose of this study is to communicate with authorities the ways in which they can improve their services by paying close attention to the needs and recommendations of all stakeholders.

Methods and analysis A parallel mixed-methods study will be conducted at eight vocational training institutes (VTIs). A survey will be conducted with five participant groups; YwD presently enrolled in VTIs (n=358) and their caregivers (n=358), YwD who completed the VT (n=45) and their caregivers (n=45) and educators at VTIs (n=47). The qualitative component includes semi-structured interviews and focus group discussions. The three groups of participants include: educators, caregivers of potential YwD for future VT (6–10 per group) and key informants from state, corporate and non-governmental sectors (a total of 20). Quantitative and qualitative data will be analysed using descriptive and inferential statistics and cross-thematic analysis, respectively.

Ethics and dissemination This study received ethical clearance from the Ethics Review Committee, Faculty of Medicine, University of Kelaniya (Ref. No: P/15/02/2021). All data collection processes will abide by health and safety measures required by the national government. Written informed consent will be obtained from all participants. Results from this research will be disseminated, to local stakeholders and participants, via local and international conferences and publications in peer-reviewed journals.

INTRODUCTION

Children with disabilities have limited access to education. Education is only one among many basic needs that are inadequately met in relation to youth with disabilities (YwD)

Strengths and limitations of this study

- The aim of this parallel mixed-methods study is to explore the depth and the breadth of the ways in which vocational services are provided and the ways in which they influence the future prospects of youth with disabilities (YwD) in Sri Lanka.
- The study will include a variety of stakeholders including YwD, their parents, potential and present employers, parents of potential youth who will seek vocational training and authorities from government, non-governmental and corporate sector.
- The interview methods will include specific accommodations for participants who cannot verbally communicate as well as those who are unable to fill forms on their own (eg, data collection tools will include visual aids and sign language).
- A single questionnaire is designed to obtain information from all YwD, irrespective of the types of disabilities they are presented with, thus limiting the study by making disability-specific information unavailable.
- There may be some technological barriers to some participants during data collection, as online methods will be used due to COVID-19 restrictions.

in Sri Lanka. This results in higher rates of unemployment among YwD, creating perpetual financial dependency of this marginalised group. The International Labor Organization (2014)¹ estimates 15% of the world's population lives with a disability, of which 80% are of working age. The majority of people with disabilities live in low-income and middle-income countries (LMICs) and belong to the poorest populations. Across the globe, disability, economic inactivity and unemployment comprise a triple burden, making disability the cause and the effect of poverty.² Therefore, WHO (2011)³ emphasises the importance of initiatives to promote

unlocking the vast potential of YwD by removing the barriers that deter participation. It is predicted that resolving these challenges can improve health, rehabilitation, education and employment globally.

Similar to other South Asian LMICs, the majority (96%) of People with Disabilities (PwD) in Sri Lanka do not engage in education nor in employment.⁴ They are marginalised from mainstream education and training provisions.⁵ Furthermore, in Sri Lanka, cultural and religious beliefs in relation to PwD often frame them as 'dependents' on 'abled' family members. This leads families to be sympathetic towards YwD, rather than working towards making them viable participants in society. For instance, families that see PwD as dependent keep them at home without providing any formal education or vocational training (VT).⁶

The International Classification of Functioning, Disability and Health (ICF) defines employment as an indicator for measuring participation in society.⁷ Therefore, the role of families and political commitment in terms of employing YwD becomes pivotal in achieving this goal.^{8,9}

VT along with supported employment, sheltered employment and inclusive redesign of work processes are identified to enhance employability of YwD around the world.^{10,11} United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) supported VT as a pathway to employment for YwD¹² which is currently operational under the purview of the government of Sri Lanka. VT is defined by the UNESCO as 'those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupation in various sectors of economic life'.¹³ VT increases the likelihood of employability of YwD, focusing on specific skills while receiving directed training. This invariably enriches their standards of living through exposure to many other aspects such as socialisation, financial management and entrepreneurship. Further, formal VT will augment an individual's ability to participate in lifelong learning, to initiate economic growth within their communities. In a systematic review, Tripney *et al*¹⁴ reported a positive association between involvement of VT and employment outcomes in LMICs.

Globally, YwD get limited opportunities for VT of their own choice.¹⁵ Multiple factors act as barriers for them to voluntarily access options based on their own choices. Social stigma is a primary contributor in limiting choices, including rigidly planned courses, negative attitudes and misconceptions among caregivers and the lack of awareness among the employers of the full potential of YwD.¹⁶ Such factors discourage and demotivate YwD diminishing their self-confidence and inhibiting their desire to access VT options. Furthermore, the lack of connections between village level structures and vocational training institutes (VTIs) is also a major barrier in making referrals to VTIs.¹⁷

From the perspective of social justice, inclusion and accessibility, the ways in which VT is currently provided threatens the mental and physical well-being of YwD. In LMICs, YwD are typically deprived of primary education. This in turn results in being excluded from mainstream VTIs in Sri Lanka. This is partly due to lack of resource personnel who can cater to the needs of YwD in mainstream VTIs.¹⁸ As a result, PwD have limited opportunities for market-oriented VT and skills development. This relegated PwD to contribute mainly to the informal economy, exasperating exploitation such as denying them an equitable income and jobs making them even more vulnerable in society.

Sri Lanka is a signatory of the UNCRPD (2006) which recommends the societal inclusion of PwD.¹⁹ It clearly identifies their right for employment. Sri Lanka has a national standard, indicating that the state sector must employ 3% PwD into the workforce.²⁰ However, there is no standard defined for the private sector. Similar standards are reported from other LMICs in the world.²¹⁻²³ Despite these strides in improving employment opportunities for YwD, there are many attitudinal and logistical barriers that continue to make employers weary of providing equitable opportunities for YwD.²⁴⁻²⁶

While there is growing interest among the private sector employers to recruit YwD in mainstream employment,²⁷ most of these trends seem to be seen in high-income settings. In Sri Lanka, the Department of Social Services (DSS) manages the VTIs. DSS provides residential VT courses, the largest recognised institute to offer such courses for YwD.²⁸ Nonetheless, the quality of services provided along with how relevant these courses are to YwD requires further exploration. One of the ways in which to begin to address the question of quality and relevance, is to obtain the perspectives of stakeholders such as YwD, caregivers, policymakers and employers. The knowledge obtained by being in conversation with stakeholders can help identify needs, demands and challenges in the delivery of VT programmes for YwD. Further, it is essential to explore job market opportunities and the views of current and potential employers when designing and modifying VT programmes for YwD.

VT opportunities for YwD in Sri Lanka must be framed within the imperative of providing inclusive and fair training opportunities. Ways in which to mainstream youth within the employment sector requires enhancing competencies in content, skills and attitudes, appropriate and specific to their own social and economic contexts.^{23,24}

This paper describes the protocol for a mixed-methods study designed to explore the perspectives of a diverse range of stakeholders, namely the YwD, their caregivers and the potential employers on VT opportunities at the VTIs in Sri Lanka. We believe this protocol will promote researchers from similar contexts and research intentions to build their research design and methodologies in enhancing VT opportunities for YwD.

AIM AND OBJECTIVES

The overarching aim of this study is to explore whether the VT programmes offered through the VTIs affiliated to the DSS, Sri Lanka, meet the expectations of the YwD, their caregivers and the job market.

The specific objectives of this study are:

1. To describe the socio-demographic characteristics and the disability profile of the YwD trained at the VTIs.
2. To explore the perspectives of YwD, their caregivers, and educators on existing VT.
3. To explore the perceptions of policymakers, disability right advocates, non-governmental organisations (NGOs) and employers on VT and employment opportunities for YwD in Sri Lanka.

METHODS AND ANALYSIS

Study design

A mixed-methods study will be conducted²⁹ consisting of a cross-sectional quantitative study and an exploratory cross-thematic qualitative study. This study will be conducted from January to December 2021. It will be carried out using a parallel mixed-methods design. This approach allows researchers to conduct quantitative and qualitative components concurrently. The data collection and analysis of the two components will be done independently and both quantitative and qualitative results will be interpreted together at the end.³⁰ This methodology will enable us to explore the scope and depth of the present status of VT opportunities for YwD in Sri Lanka.

Study locations

The study will be conducted in eight VTIs located in five districts (figure 1). The VTIs are located in Amunukubura, Kalawana, Katawala, Madampe, Ragama, Seeduwa, Telabuyaya and in Waththegama. In addition to the VTIs, Ayati, National Centre for Children with Disabilities, Faculty of Medicine, Ragama, Sri Lanka will be used as a study setting.

Study participants

The cross-sectional quantitative study will be conducted among five groups of participants while the exploratory qualitative study will be conducted with three groups of participants (figure 2).

Quantitative phase

The cross-sectional study will include following participants: (1) YwD currently enrolled in the VTIs and (2) one of their caregivers; (3) YwD who completed the VT within the last 2 years and (4) one of their caregivers; and (5) all educators attached to VTIs. The inclusive criteria is determined by the recruiting criterion set by the DSS. The criteria maintains that prospective trainees should be unmarried men and women with any type of disability and aged between 16 and 35 years. A complete list and contact details of presently enrolled YwD and their caregivers, and YwD who have completed training and their caregivers will be obtained from the DSS following

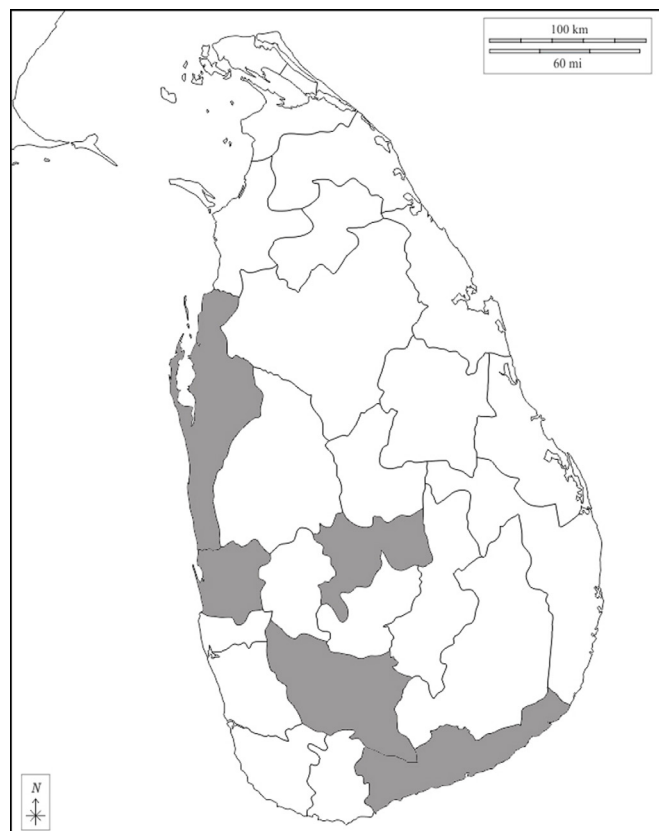


Figure 1 Distribution of vocational training institutes for YwD governed by the Department of Social Services in Sri Lanka. YwD, youth with disabilities.

ethical and institutional clearance. Trainees' attendance will be checked to ensure that programme dropouts are excluded from the study. Every eligible YwD and one of their caregivers (who is living with him/her) will be invited and included in the survey with informed written consent. All educators of the eight VTIs will be invited to participate following institutional and ethical clearance. Only consenting participants will be recruited.

Qualitative phase

Educators from each VTI will be invited to the qualitative component of this study. Caregivers of potential YwD for future VT will be recruited from the Ayati, National Center for Children with Disabilities, a community-based health facility providing services for children and youth. The study investigators will actively connect with their existing professional networks (such as governmental and NGOs, institutes and associations). These key informants (KIs) will be selected to represent employed or graduated YwD, potential and current employers of YwD, disability rights advocates, policymakers and NGOs working with YwD. Qualitative data collection will proceed once informed written consent is obtained.

INCLUSION AND EXCLUSION CRITERIA

Table 1 summarises the inclusion and exclusion criteria of this study.

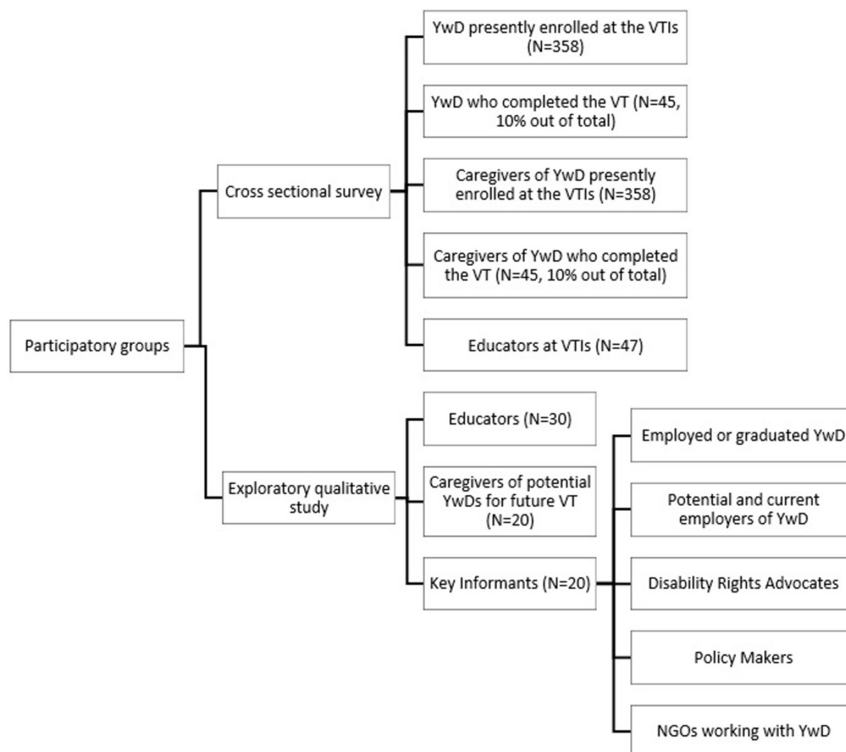


Figure 2 Main participatory groups of the study. N, number; NGOs, non-governmental organisations; VT, vocational training; VTIs, vocational training institutes; YwD, youth with disability.

SAMPLE SIZE CALCULATION AND SAMPLING PROCEDURE

Quantitative phase

We aim to invite the entire population of YwD presently enrolled in VTIs ($n=358$), their caregivers ($n=358$) and educators at VTIs ($n=47$) and recruit consenting members to participate. The total number of YwD who completed

the course during the last 2 years was approximately 456. Hence a 10% of youth who completed the VT ($n=45$), and their caregivers ($n=45$) will be recruited using proportionate stratified random sampling, and consented participants will only be included. The sampling frame was obtained from the DSS. It included the names and

Table 1 Inclusion and exclusion criteria of the study

Inclusion criteria	
Participatory groups in quantitative component	<ul style="list-style-type: none"> ▶ All YwD presently enrolled in VTIs training for a minimum of 1 month irrespective of their gender, disability or the training course. ▶ YwD who completed the training in the past 2 years (2018–2020), who are contactable through telephone, email or word of mouth irrespective of their present employment status, disability, gender and the type of employment. ▶ Caregivers of the eligible YwD. ▶ All educators presently employed as instructors or heads at the VTIs.
Participatory groups in qualitative phase	<ul style="list-style-type: none"> ▶ Educators presently employed as instructors or heads at the VTIs. ▶ Caregivers of YwD presently attend services at the Ayati National Center for Children with Disabilities for a minimum duration of 3 months. ▶ Private and public sector employers presently employing YwD or have the potential or plans to employ them. ▶ Policymakers directly or indirectly involved in providing services or employment of YwD. ▶ YwD with any type of severity of disability will be included with no discrimination. ▶ Disability rights advocates/legislators in Sri Lanka. ▶ NGOs presently providing services for employment and VT for YwD.
Exclusion criteria	
Participatory groups in quantitative phase	<ul style="list-style-type: none"> ▶ YwD presently registered at the VTIs but not attending courses on a regular basis or are enrolled for less than 1 month.
Participatory groups in qualitative phase	<ul style="list-style-type: none"> ▶ Presently employed YwD attending the National Center for Children with Disabilities. ▶ Not experienced working with YwD.

NGOs, non-governmental organisations; VT, vocational training; VTIs, vocational training institutes; YwD, youth with disability.

Table 2 Proposed study instruments to collect quantitative data from each participatory group

Participatory group	Mode of administration	Description of the instrument
YwD currently enrolled in the VTIs	One-to-one or telephone administered questionnaire* (online supplemental file 01).	Consists of close-ended and Likert scale questions to gather information on socio-demographic characteristics, the nature of VT programmes currently enrolled in and their views of said programmes, employment history and their future prospects.
Caregivers of YwD presently enrolled in the VTIs	One-to-one or telephone administered questionnaire (online supplemental file 02).	Consists of close-ended and Likert scale questions to gather information on socio-demographic characteristics of the caregiver, views of their child's VT and their expectations.
YwD who have completed the VT	Telephone administered questionnaire (online supplemental file 03).	Consists of close-ended and Likert scale questions to gather information on socio-demographic characteristics, the nature of VT programme currently enrolled in and the experiences with it, employment history and their current satisfaction.
Caregivers of YwD, who have completed VT	Telephone administered questionnaire (online supplemental file 04).	Consists of close-ended and Likert scale questions to gather information on socio-demographic characteristics of the caregiver, about their child's VT and employability and level of satisfaction.
Educators	Online administered questionnaire (online supplemental file 05).	Includes questions about their demographic characteristics, education, VT qualifications and their experiences.

All these five questionnaires include several open-ended questions to explore their perceptions about the current training, their expectations and the experiences.

*Adapted from the vocational profile developed by the European Union of Supported Employment.³³

VT, vocational training; VTIs, vocational training institutes; YwD, youth with disability.

contact details of the participants who completed the training in 2019 and 2020 in all VTIs, Sri Lanka.

Qualitative phase

The exploratory cross-thematic qualitative study comprises both semi-structured interviews and focus group discussions (FGDs). Participants are chosen based on purposive sampling mechanisms to ensure all stakeholder groups are included in the study. Participants for the FGDs will be categorised to maintain homogeneity according to; working experience, type of courses and the interests shared by educators; socioeconomic background, skill levels and interests shared by caregivers of potential YwD for VT. Accordingly, 30 educators and 30 caregivers of potential YwD for future VT will be recruited to conduct several FGDs. Snowballing technique will be used to invite approximately 30 relevant and appropriate KIs to participate representing all categories mentioned in figure 2.

STUDY INSTRUMENTS

Tables 2 and 3 present the type of study instruments proposed, mode of administration and a brief description about each instrument are presented. In summary, five surveys (online supplemental files 1–5) and participant specific interview guides (online Supplemental files 6–8) will be used to conduct FGDs and the semi-structured interviews.

Data collection

Ten research assistants (RAs) were recruited from a background of disability-related fields and allied health specialties including psychology, speech and language therapy, audiology and physiotherapy with an undergraduate degree and training on research methodology. They underwent several training sessions with quantitative (DDS) and qualitative (TH) methodologists on data collection and interviewing techniques. Specific instructions on communication techniques with YwD were given

Table 3 Proposed study instruments to be used to collect qualitative data from each participatory group

Participatory group	Qualitative data collection instrument and mode	Description of the instrument
Educators	Online FGDs (online supplemental file 06).	Interview protocols will be used to conduct the FGDs and KI interviews.
Caregivers of potential YwD for future VT	Online FGDs (online supplemental file 07).	
KIs	Online semi-structured interviews (online supplemental file 08).	

FGDs, focus group discussions; KI, key informants; VT, vocational training; YwD, youth with disability.

by ID, a professional speech and language therapist with specific qualifications in supported employment.

Quantitative phase

The cross-sectional study will be conducted on each participatory group using different modes and instruments as mentioned in [table 2](#). These will be conducted by UTC, MHG and NA. Data collection of the consenting YwD presently enrolled at the VTIs and their caregivers will take place in a quiet room in the VTI based on an interviewer administered questionnaire on one-on-one basis. Necessary accommodations and adaptations are considered and provided to collect data from YwD, who are current trainees at the VTIs. They will be given adequate time to answer, and the smiley face responses will be shown for any satisfaction related questions. Trainees with hearing impairments will have the questionnaires read to them in sign language through an interpreter. At present, during protocol development, the VTIs function with restrictions due to the COVID-19 pandemic. Therefore, there may be a chance of missing some of the eligible participants from the above two groups during on-site face-to-face data collection. In such an event, we propose to conduct telephone administered interviews to complete the questionnaires. Additionally, data collection for trainees with hearing impairments will be conducted as an interviewer-administered questionnaire through video conferencing using visual aids and sign language by trained RAs. Quantitative data collection from educators will be performed through an online survey system (Google Survey).

Qualitative phase

FGDs and KIs interviews will be the two main data sources. Interviews with caregivers of potential YwD for future VT and educators in VTIs will take place as online video conferences due to the COVID-19 pandemic situation. These will be conducted by ID, UTC, MHG and NA. There will be two silent observers while the third researcher conducts the interviews. TH will be a silent observer at several interviews to ensure the trained researchers conduct interviews appropriately. The KIs interviews will also take place as audio or video interviews through online platforms. All interviews will be conducted in the language of preference of the participants that is, Sinhala, Tamil or English. All interviews will be conducted over secure platforms using online facilities. These will be audio-recorded and stored with password protection.

Data processing

There are a number of quality control mechanisms in place to minimise the errors occurring in the quantitative data entry phase. Manual double-key data entry will be performed by two RAs. First, a simple exploratory analysis will be performed in Statistical Package of Social Science (SPSS) V.25.0 independently to identify missing values, invalid values and out of range values. Necessary corrections will be done by revisiting the original questionnaires. Then, a validation report for data entry errors will

be obtained from EpiData (V.3.1) software³¹ and inconsistencies will be corrected. Percentage of records and fields with data entry errors will be recorded.

The RAs will start coding audio transcripts of qualitative data using NVivo V.12 software. The coding protocol will follow both inductive and deductive methods iteratively in developing codes and themes. A code book with definitions will be maintained throughout the study. Furthermore, all the RAs will maintain a research field notebook in which they will write their observations and reflections of the data collected. The first round of coding will be done individually by the RAs. The research team will meet once a week to discuss their codes and themes, compiling and adjusting the code book to reflect their findings. The successive rounds will be conducted using the code book, which will be expanded and defined collectively during research team meetings. NVivo memos will be maintained for all codes and themes. Furthermore, all analytical queries will be run using NVivo explore and analyse features.

Data analysis

Quantitative phase

Statistical analysis will be performed using the SPSS software, V.25.0. Both graphical and statistical methods will be used to present and analyse data. The distribution of characteristics of all continuous variables will be visually inspected using histograms. Descriptive statistics including frequencies, percentages, mean (SD) and median (IQR) will be used. Data with normal distribution and non-normal distribution will be presented as mean (SD) and median (IQR), respectively. The χ^2 test of Fisher's exact test (small cell numbers) will be used to test the relationships between categorical variables. All statistical tests will be two-sided with significance level set at 0.05.

Qualitative phase

The main themes built during the analysis phase will be translated and transcribed verbatim and analysed thematically using the six steps outlined by Braun and Clarke³²: (1) become familiar with the data, (2) generate initial codes, (3) search for themes, (4) review for themes, (5) define themes and (6) write-up. Open coding will be used, and initial codes will be generated iteratively by going through the entire data set systematically. Thematic analysis will be assisted by the NVivo. A sample of documents will be coded by two independent researchers to ensure reliability of codes and themes. Furthermore, a member check will be conducted with a sample group of participants, before finalising and interpreting data gathered.

SPECIAL COVID-19 CONSIDERATIONS

Precautions will be taken to minimise the spread of COVID-19 pandemic during the data collection process. Due to the travel restrictions during this period, the research will be conducted using hybrid methods which was cleared through the ethical review process. Due to

the challenges of meeting the participants in-person, the research team will contact the participants via phone and emails and provide information by speaking to them individually and will obtain consent via Google sheets, through short message service (SMS) or by getting down pictures of consent sheets filled as photographs through email or social media platforms. They will be given the time and opportunity to obtain more information regarding the study and to clarify their concerns and questions. All online conference meetings will be protection encrypted and closed password only meetings. Virtual data collection methods would follow the same in-person questionnaire structures and will be consistent throughout the study.

Patient and public involvement

From the stage of conceptualisation, some groups of prospective participants including educators and some parents of YwD contributed towards designing and revising study tools. All protocols and study instruments were reviewed by several YwD prior to finalising the version used in the study. Qualitative analysis will follow an iterative process. The study instruments will undergo alterations during the qualitative study based on the opinions of the YwD, parents, employers and trainers who are prospective participants of this study. On the completion of the research, all findings will be shared with members of the public who contributed towards the study. In determining the validity of the findings, triangulation and member-check processes will be conducted throughout the study.

IMPLEMENTATION

This study is conducted as a tripartite collaboration among,

1. The Department of Disability Studies, University of Kelaniya is an academic institution, which is the only institute of its kind that has pioneered research on people with disabilities in Sri Lanka and has also taken the lead to establish many services for children and YwD including supported employment.
2. The Department of Social Services is the present key player in the government sector of Sri Lanka for providing VT for YwD. The VT in the state sector was established more than three decades ago and has undergone only ad hoc changes in the curricula and the courses offered.
3. The NGO proposed and initiated this project with the aim of creating job opportunities catering for the needs of YwD and their families and aligning those with the expectations of employers and the present job market.

ETHICS AND DISSEMINATION

Ethical clearance for this study was obtained from the Ethics Review Committee of the Faculty of Medicine,

University of Kelaniya, Sri Lanka (Ref.No:P/15/02/2021). Institutional clearance was taken from the Director, DSS and the individual VTIs. This study involves a vulnerable population, as such additional precautionary ethical clearing information was provided and approved. All eligible participants and their parents/caregivers will be provided an information sheet about the objective of the survey/FGDs/interviews. The procedure, benefits, risks, hazards, discomforts and freedom to withdraw from the study or termination of study participation have been clearly defined in the information sheet. The information sheets are available in all three verbal languages used in Sri Lanka (Sinhala, Tamil and English). In case of difficulty in reading the information sheet, the RA will read it out and explain to participants. Sign language support will be provided to any participant with hearing impairment. Contents of this sheet will be explained prior to all data collection processes.

The participants will be given access to communicate with the research team and ethical review board to clarify any queries. Written informed consent will be obtained prior to participation by all participants of quantitative and qualitative arms (online supplemental file 09) including the YwD. For online participants consent will be obtained through SMS. It is assumed in this research that the youth who are capable of undergoing VT have the capacity to consent to participate in a survey, hence an assent form is not included in this study. All data will be entered and stored anonymously. Sampling frames received from the DSS, will be kept as password protected Microsoft Excel datasheets. The computer-stored data will be kept under password protection and will be accessible only to the research team. The confidentiality of the collected data will be maintained during and after the study.

Results from this research will be disseminated, including to local stakeholders and participants, via local and international conferences and publications in peer-reviewed journals.

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Contributors All authors—(UTC, ID, DDS, TH, MHG, NA and SPS) made substantial contributions to the conception and design of this protocol. SPS and UTC—drafting of manuscript and revision. DDS and TH—critical revision of the manuscript for intellectual content. All authors—read and critically reviewed this manuscript, made revisions and have all approved this final version for submission. All authors—agree to be accountable for the future integrity of this study.

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