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RESEARCH PAPER



# A qualitative exploration of the uses of the International Classification of Functioning, Disability and Health at an inpatient neurorehabilitation facility in the Western Cape, South Africa

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## ABSTRACT

**Purpose of the study:** The aim of the study was to describe how healthcare professionals at a neurorehabilitation facility currently use the International Classification of Functioning, Disability and Health (ICF) and to identify further possibilities for its future use.

**Methods:** The study followed an interpretive description approach. Data were collected through four focus group discussions with 21 participants, all health care practitioners, at the study facility. Thematic analysis was conducted by coding the transcripts and generating themes.

**Findings:** Three themes were generated: (1) Current use and gaps in use of the ICF, (2) a non-conductive environment and (3) using the ICF to facilitate holistic, patient-centred management. Current use of the ICF was limited. Gaps in use of the ICF was especially evident in goal setting practices. Goals were generic in nature and did not address participation and the environment. A lack of knowledge, debilitating interpersonal relationships and an unsupportive organisational culture created an environment non-conductive to the implementation of the ICF. Participants felt that the ICF can assist them to work more patient-centred.

**Conclusion:** Participants perceived that the ICF has the potential to improve service delivery at the facility. The implementation process must be well structured, focus on practical use and be supported through an enabling environment created by management.

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## KEYWORDS

International classification of functioning; neurorehabilitation; interdisciplinary team; implementation; disability

## ► IMPLICATIONS FOR REHABILITATION

- The ICF is not being optimally used in clinical rehabilitation practice, however healthcare practitioners perceive the ICF to have the potential to improve rehabilitation service delivery.
- Concerted action is required at institutional, interpersonal and individual level to create a conducive environment that facilitates the use of the ICF during rehabilitation service delivery.
- The ICF can be used to construct a team assessment document that promotes patient-centred goal setting and improves interdisciplinary communication.

## Introduction

### *The International Classification of Functioning, Disability and Health*

By integrating biomedical, social and psychological approaches to disability, the International Classification of Functioning, Disability and Health (ICF) offers a conceptual framework to measure and manage health, wellbeing, functioning and disability from multiple perspectives, within an ethical and rights-based context [1–3]. The ICF organises health-related information into two parts: “Functioning and Disability” and “Contextual Factors.” Each part has two components.

Functioning and Disability include body functions and body structures as well as activities and participation. Body functions refers to physiological functions of the body, while structures are anatomical parts like organs, arteries and nerves. Any problem in body functions and or structures is an impairment [4]. Activities refers to the execution of tasks or actions, while participation refers to functioning in the environment in which a person lives

(life situations). Problems with executing an activity or participating in life situations are termed activity limitations and participation restrictions respectively [4].

Contextual Factors include environmental and personal factors. Environmental factors refer to the “physical, social and attitudinal environment in which people live and conduct their lives” [4, p. 171]. Personal factors are characteristics of the person [4].

The ICF fosters a holistic understanding of functioning and disability by guiding healthcare practitioners to look beyond the impact of the health condition and impairments to participation in major life areas and to consider the influence that personal and environmental factors may have as presented in [Figure 1](#) [2,5–8]. This in turn can foster appropriate, comprehensive and patient-centred intervention strategies over a person’s lifespan [9–11].

In addition to being a framework for functioning and disability the ICF also provides the terminology that can be used to develop assessment tools. Assessment can be done with various ICF based tools such as the complete ICF, the ICF checklist (a

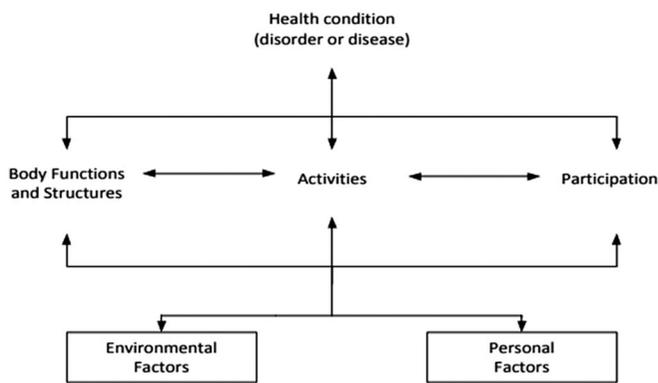


Figure 1. The International Classification of Functioning, Disability and Health conceptual model [4].

shortened version of the ICF), core sets (ICF based assessment tools developed for specific health conditions) and code sets (ICF based assessment tools developed in a specific setting). When used as an assessment tool each category is scored with qualifiers (0–4) varying from no problem to a complete problem. An online browser is available to assist with identifying the most suitable ICF category or code for each aspect that needs scoring [4,12,13].

The universal language of the ICF lays the foundation for improved communication, not only between healthcare practitioners but also with the public, persons with disability, their families and across sectors [14]. Speaking the same language promotes a shared understanding and allows various stakeholders to work together in an integrated team [8,11,12,15].

After its introduction in 2001, the ICF was almost immediately adopted in the field of clinical rehabilitation [16]. This is unsurprising, since the ICF provides a scholarly framework from which to approach complex societal problems specific to rehabilitation science [17]. The Western Cape Department of Health then also endorsed use of the ICF in planning patient-centred rehabilitation services at various levels of care in the province [18].

The ICF has proven especially useful in rehabilitation facilities that deal with complex chronic disabling conditions and injuries, such as stroke, spinal cord injury and traumatic brain injury [15]. Two separate studies, one at a Swiss neurorehabilitation facility [15] and the other at an English stroke rehabilitation facility [19] reported that the ICF improved the quality of rehabilitation services since it provided a framework for assessment, interventions, team meetings, documentation and reporting.

However, surveys conducted in different countries have found low rates of ICF use. In a survey of over 1 200 occupational therapists from 60 different countries, more than 70% of participants indicated that they do not use the ICF in practice [20]; almost mirroring the results of a similar Canadian survey [21]. In India, the ICF is not used often in clinical practice by physiotherapists [22] and only partial implementation was reported in Israel [23]. Reported use of the ICF among members of a multidisciplinary team in Austria was below 50% [24]. Preliminary results from a South African study reported minimal use of the ICF by physiotherapists in the Gert Sibande district, Mpumalanga province [25].

A lack of knowledge, time and resources and the perception that the ICF is complex have hindered its implementation [20–23,25–27]. Once knowledge on the ICF increases, attitudes toward implementation of the ICF change [28]. ICF education is thus of paramount importance when implementing the ICF into a service. Martinuzzi et al. [14] and Rentsch et al. [15] showed that the reported, increased time spent on administration returned to normal once healthcare practitioners gained knowledge and

confidence in using the ICF. Supportive leadership, systems and routines in daily work facilitate the implementation of the ICF [15,28].

### Rehabilitation in South Africa and at the study setting

South Africa provides health according to the Primary Health Care Philosophy. Accordingly, rehabilitation must be provided at all levels of care and supported a referral system. Rehabilitation services in South Africa experience many challenges, especially in the public sector, which provides health care to 80% of the population. Poor policy implementation, a lack of and sub-optimal deployment and use of human resources, funding and transport challenges, a medical model silo approach, short lengths of stay in acute hospitals, poor follow up in communities, communication challenges between service providers on the same and across levels of care, and a breakdown in referral pathways are but some of the challenges that limits rehabilitation service provision in South Africa [29–32].

The current study setting, a 156-bed specialised inpatient neurorehabilitation facility in the Western Cape province of South Africa, is one of only two specialised rehabilitation facilities in the country. At this facility comprehensive rehabilitation services are offered to patients with a variety of neurological conditions, including stroke and spinal cord injuries. The facility comprises of three units, each with its own multidisciplinary team. Team members include doctors, occupational therapists, physiotherapists, professional nurses, speech therapists, social workers, a dietician, and a psychologist. The average length of stay varies between 28 days (usually patients with stroke or traumatic brain injury) and 90 days or longer (typically for patients with a high-level spinal cord injury) [33].

On admission, each patient is assigned a team of healthcare practitioners who conduct their assessments separately and initiates treatment. A patient-centred, goal setting meeting takes place within two weeks of admission. The progress of goal attainment is monitored and discussed by the team at bi-weekly meetings. Each patient is assigned a case coordinator that is responsible for managing his/her rehabilitation programme.

The philosophy at the study setting is to provide quality outcome-based rehabilitation services according to the biopsychosocial model [34]. Healthcare practitioners are encouraged to use the ICF as a conceptual framework for assessments and goal setting [34]. ICF training has been presented at the facility on an *ad hoc* basis and staff members are encouraged to attend ICF conferences (Personal communication, Sammons, H. 10 May 2018).

### Rationale

Studies have shown, however, that patients discharged from the study setting achieved relatively low community integration outcomes [33,35,36]. All three studies emphasised the impact of contextual factors on successful community reintegration and suggested that healthcare practitioners might still be paying more attention to impairments during rehabilitation than to participation and environmental barriers. Working according to ICF principles should have prevented this. It is possible that healthcare practitioners have not yet found ways to use the ICF effectively at the study setting. Therefore, this study aims to describe how healthcare practitioners at the facility currently use the ICF and to identify possibilities for future use. Findings might be transferable to facilities in countries with demographics like that of South Africa.

## Methods

### Design

This study followed an interpretive description approach [37] in order to capture the various perspectives and perceived realities [38] of healthcare practitioners on the use of the ICF at the facility.

### Population & sampling

The study population consisted of all 66 healthcare practitioners and middle managers that worked at the facility at the time of data collection. This included doctors (4), professional and registered nurses (18), physiotherapists (11), occupational therapists (11), social workers (7), a psychologist (1), a dietician (1), speech therapists (2) and middle managers (11). At the facility, middle managers, who are trained healthcare practitioners themselves, act as link between top management and healthcare practitioners. They are responsible for monitoring staff performance and compliance with the facility's policies and strategies and creating an effective working environment. Students, volunteers and locum staff were excluded as they do not participate in goal setting meetings and do not act as case coordinators.

Fifteen healthcare practitioners and middle managers with knowledge and experience of using the ICF were purposively sampled. Volunteer sampling was used concurrently with purposive sampling, to allow healthcare practitioners and middle managers who were not purposively sampled but were interested, to participate in the study. Invitations were sent to all members of the study population *via* e-mail. The 15 people who were purposively sampled all agreed to participate in the study. A further six participants were recruited through volunteer sampling. Thus, a total of 21 people participated in the study.

### Data collection

Data were collected through four focus group discussions of two hours each in October 2018. Focus group discussions allowed for various interpretations as well as similar and opposing ideas to come to the fore and be explored [39]. The groups were facilitated by the primary author and a co-facilitator. The primary author was employed as a physiotherapist at the facility at the time of data collection. The co-facilitator had previously been employed at the facility as an occupational therapist. Both had more than 5 years' experience of working at the facility and had worked in different therapeutic units during that time.

Middle managers were in a separate group from other healthcare practitioners to encourage participants to speak openly without feeling inhibited by the presence of their managers or vice versa.

The first focus group was initially designated to be a pilot study. However, since the sampling frame and methodology remained unchanged, the focus group was included in the main study to increase its efficiency [40]. A focus group discussion guide (Figure 2) was used to provide direction during the discussions.

### Data analysis

All focus groups were audio recorded. Recordings were transcribed verbatim. Thematic analysis was done by the primary author (in collaboration with the second author) according to the step-by-step guide from Braun and Clark [41] whereby themes or

Discussion guide	How are we currently using the ICF?
	How is it working for us?
	How and where can we improve on current use of the ICF?
	Are there additional ways in which we can use the ICF?
	Please discuss the barriers we experience in using the ICF.
	Please discuss facilitators that might help us use the ICF better.

Figure 2. Focus group discussion guide.

repeated patterns of meaning were identified from the data and reported, using both a deductive lens, based on the study objectives, and an inductive one. Inductive thematic analysis was appropriate because little was known about the use of the ICF at the facility and it analysed both the manifest and latent content of data. After transcription, data were printed and read multiple times. During the reading, codes were identified and highlighted. In further analysis, similar codes were grouped together and themes started to emerge. Themes were then defined. Analysis was an iterative process with constant movement between the data, codes and themes [41,42].

### Rigour

To improve credibility, the findings were shared with the co-facilitator of the focus groups for appraisal. Consensus on themes was reached by the two authors. Credibility was further enhanced through using recognised research methods and debriefing with the co-facilitator. A detailed description of the research setting and methods, inclusion of participants from all professional groups at the facility and acknowledgement of study limitations should help others with transferring of the findings to similar settings and to determine the dependability of the findings. All documentation, including the researcher's journal and interview notes were maintained [43]. The first author remained cognizant of his dual role as researcher and colleague throughout the process and strived for neutrality.

### Ethical considerations

Ethical approval was granted by the Health Research Ethics Committee of Stellenbosch University (reference number: S18/05/115) and the Western Cape Department of Health (reference number: WC\_201807\_028). Permission to carry out the study was received from the facility.

Participation in the study was voluntary. Prior to the focus groups, participants signed a consent form, which included consent to audio-record the discussions. Confidentiality will be maintained. Participants negotiated a group contract at the start of each focus group. The verbal contract stipulated confidentiality and additional agreements (use of cellphones, turns to speak etc.) as decided by the group. The study holds potential benefit for participants in that findings and recommendations will essentially give a "voice" to healthcare practitioners and might assist the facility in aligning its policies and philosophies with what practically works for and benefits its employees and patients.

**Table 1.** Composition of focus groups.

Participant nr	Profession	Gender	Age range in years	Years of experience
<b>Focus group 1</b>				
1	Occupational therapist	Female	<35	5–10
2	Physiotherapist	Female	<35	5–10
3	Physiotherapist	Male	35–50	>10
4	Speech therapist	Female	35–50	>10
<b>Focus group 2</b>				
1	Occupational therapist	Female	<35	5–10
2	Dietician	Female	35–50	>10
3	Occupational therapist	Female	<35	5–10
4	Physiotherapist	Female	<35	5–10
5	Physiotherapist	Male	35–50	>10
<b>Focus group 3</b>				
1	Occupational therapist	Female	<35	5–10
2	Physiotherapist	Female	35–50	>10
3	Professional nurse	Male	>50	>10
4	Medical doctor	Female	35–50	5–10
5	Physiotherapist	Female	<35	5–10
6	Social worker	Female	>50	>10
7	Occupational therapist	Female	>50	>10
<b>Focus group 4</b>				
1	Chief occupational therapist	Female	>50	>10
2	Chief physiotherapist	Female	35–50	>10
3	Chief physiotherapist	Female	>50	>10
4	Operational manager: Nursing	Female	>50	>10
5	Medical doctor	Male	>50	>10

## Findings

The composition of the focus groups is shown in Table 1. To maintain participants' right to confidentiality, their ages are presented in bands.

Three themes, each with sub-themes, as presented in Table 2, were generated from the data.

### Theme 1: Current use and gaps in use of the ICF

It became clear during data analysis that the use of the ICF was not standardised at the facility and that the decision to use or not use the ICF framework was up to the individual healthcare practitioner. While facility policy stated that the ICF framework should be used to guide rehabilitation service delivery at the facility, no managerial support or clear mandate to facilitate actual use was identified.

Participants expressed the notion that the ICF was integrated into their general approach to patient assessment, but not a conscious element of the assessment. Doctors used a self-compiled ICF checklist to ensure comprehensive medical assessment on admission, while other participants felt that they touched on all the domains of the ICF when they conducted subjective interviews. However, no ICF based assessment tool was used. Each member of the multidisciplinary team conducted their own assessment and used an assessment document developed by that discipline.

The ICF framework was also not used to guide goal setting. Patient goals were documented and tracked on a Client Management Plan; a form that was based on the ICF. Despite this, participants across the different focus groups felt that patient goals were generic in nature and not focussed on participation. This meant that the rehabilitation program was not patient-centred:

"...actually, everyone's form [Client Management Plan] looks the same... it's selfcare and it's domestic tasks... there's nothing really about community reintegration or real meaningful participation... I always feel guilty about community reintegration because we get so stuck on... dressing and washing and suddenly it's the end of their time and you don't really know what you're discharging... the person

**Table 2.** Findings.

Themes	Sub-themes
1. Current use and gaps in use of the ICF	Use Gaps Non-use
2. A non-conducive environment	Institutional Interpersonal Individual
3. Using the ICF to facilitate holistic patient-centred management	Teamwork Patient involvement Assessment Implementation at the facility

to... in terms of how do they fill their day... how do they have meaning? How do they have purpose? And that's the kind of things that makes or breaks the person and unless you fix that, it doesn't matter whether they're washing or dressing or sitting properly..." [focus group 3; participant 7].

Modification of the environment is an integral aspect of rehabilitation. The ICF framework does not only acknowledge the environment, but also provides a tool to assess and plot the role of both environmental barriers and facilitators in the functioning of a person. Participants explained that environmental factors were not addressed during rehabilitation; an indication of insufficient or non-use of the ICF framework at the setting:

"I'm seeing a patient now that functionally she is fine here [at the facility]... activities and the participation is fine here, but her environment is such a problem... and I think that is a big thing that sometimes we miss here... if I was a bit more aware of my environmental factors... now... I woke up too late. I feel very bad about it. I think if the whole team had been a bit more aware about it, we all could have sorted it out a bit earlier..." [focus group 2; participant 3]

Arguments were made to show that the ICF was not used at the facility:

"... we're not using the ICF. We like the idea of using the ICF but we're not using the qualifiers, we're not setting our goals according to the ICF, we're not coding. We say it's [the ICF] part of our philosophy here

but I think it's something we say and not something we do or actually really use... it's something we talk about a lot and say a lot, but I'm not convinced we actually use it properly." [focus group 2; participant 4]

Participants felt that they use a biopsychosocial or a medical approach. A biopsychosocial approach will assist the team in providing a holistic service. However, when they are not using an assessment tool, based on the ICF, that provides information on all functions, activities, participation and the patients environment for their planning and goals, the team cannot be sure that they do indeed address the patients needs holistically.

Across the focus groups participants agreed that the use of the ICF could and should be improved on at the facility:

"... we actually don't use it well and I think we can use it better" [focus group 4; participant 2].

### **Theme 2: A non-conducive environment**

Participants experienced the environment in which they work as non-conducive to the use of the ICF. The prevailing institutional culture, interpersonal relationships and individual opinions all contributed to an unfavourable environment. Participants strongly emphasised the time challenges faced by the team, which often resulted in stressed, reactive responses with healthcare practitioners falling back into known patterns of treating impairments and trying to cope from day to day. The pressure to keep beds occupied and turn over patients was so strong and so ingrained, that even while realising they were missing out on participation, healthcare practitioners seemingly could not break out of the set mould.

"... that whole culture of chaos control or crisis control... we are not proactive; we are very reactive... our whole mindset is already... treat the problem, not prevent the problem... I also think our culture of our institution is... rushed... bed-time, you know, money... get it done, get the patient out. I think our culture is very... small... small and focused right here." [focus group 2; participant 4]

Similarly, managers could not shed light on how to shift from reactive impairment and activity focussed treatment to holistic patient-centred management strategies in their focus group. Basing assessments and management strategies on the ICF framework were considered time consuming and seen as an additional burden by most participants (managers and service providers alike) instead of a strategy to ensure more holistic patient management.

Participants were frustrated by what seemed like a lack of organisational direction regarding use of the ICF. There had been sporadic attempts in the past to inform staff about the ICF and to base daily clinical practice on the ICF framework. However, a lack of a clear mandate for facility wide ICF use, poor follow-through, and no monitoring and evaluation processes resulted in limited use of the ICF.

"... after 10 years we're still afloat... and we're floating where to? The same roundabout. My problem is monitoring and evaluation. You put things in place, there we drop it and there's no follow-up... follow through." [focus group 4; participant 4]

The ICF was also not consciously taught as an institutional operational framework at the facility and healthcare practitioners were not introduced to its role at the facility during induction. Over time these challenges had led to a situation where individual service providers developed a negative attitude towards the ICF.

"... I really think unfortunately the ICF has a bad rap at [the facility] ... I think there's been lots of people in top management that's saying people don't use it and they question people over it for a long time

and people are sort of tired of hearing it has to be ICF... the idea of ICF wasn't sold to people the right way for a long time... there's lots of people here, you talk to them about ICF, they immediately get their backs up..." [focus group 4; participant 2]

Another aspect which can hamper ICF implementation, according to participants, was the detrimental effect of debilitating interpersonal relationships. Participants recognised that implementation of the ICF requires open communication and mutual respect between team members to engage in robust discussion around patients' rehabilitation. At the same time, they felt respect and communication were lacking in some instances.

"I think a very important thing is communication but also then team interaction and relationships in teams. I've seen where just because two people have a bad relationship in a team that they actually just derail everything... that's one of the starting points... for people to be at a maturity level that they can interact in a mature way..." [focus group 4; participant 2]

Healthcare professionals might not have the necessary proficiency in the universal language of the ICF and did therefore not share the same understanding of concepts pertaining to the ICF. Participants attributed this to different levels of exposure to the ICF and a lack of training of new staff on the ICF:

"I think the difficulty is exposure... that the exposure to this [ICF] has been on so many different levels that people have not caught on to it... I think the knowledge thing is probably your biggest challenge... we use it and understand it in different ways... I think that's the difficulty, especially if you work in a team." [focus group 4; participant 5]

Many participants felt that buy-in from all team members in using the ICF was imperative for successful implementation. This remained a challenge, as some healthcare practitioners viewed the use of ICF as optional.

"Well, it's just a framework... it's just there to be used or not used..." [focus group 2; participant 1]

### **Theme 3: Using the ICF to facilitate holistic, patient-centred management**

Participants agreed that the use of the ICF can enhance service delivery at the facility by improving teamwork and communication, structuring comprehensive assessments and guiding appropriate patient-centred intervention strategies. By combining the unique skills and expertise from different professions and plotting patient assessments and goals according to the ICF framework, the team can create a holistic picture of their patient.

"... it's a team document so you can't sort of focus on your thing and I'll focus on my physio things... I won't know all that maybe the personal factors or the environmental factors the way the social worker would know. That's why it's a team document and to get the full potential it needs... we need to build from each other's strengths..." [focus group 3; participant 2]

The team extended to the patients and their families. At the facility, patients were expected to set their own goals in conjunction with the team. However, the lack of life experience post injury and the uncertainty of the extent of physical recovery hampered this process. Patients often developed crucial insights into their functioning and disability only after they had been discharged and missed the opportunity to focus on goals set at the important level of participation during their inpatient stay. Participants suggested that using the ICF to increase patients' understanding of disability and functioning will assist with goal setting. Patients that actively participate in setting goals that are

realistic and attainable, are more likely to achieve their goals and feel more motivated to participate in rehabilitation process:

"The client needs to come up with their goals, but they didn't really have the knowledge to make goals, they are not in that position yet and this thing has just happened to them. But if you took them through the process, they would have an idea where they were going as a long-term goal..." [focus group 3; participant 7]

"... maybe it [the ICF] will just also enable them [patients] to take a little bit more... [be] more active in their journey... it almost seems like we have this philosophy and we're doing this to them and where's their role?" [focus group 3; participant 5]

The use of ICF core sets were suggested by a few participants as a tool that would not only facilitate comprehensive, combined assessments, but also save the team time:

"...there are [ICF] core sets ... brief and comprehensive. And they have saved so much of my time... it's the same things we actually use here, it's just set up so nicely and you just don't miss something that you thought you would have missed with our assessment forms that's so generalised." [focus group 2; participant 3]

It was also argued that the time spent on assessing and planning according to the ICF framework might save time in the long run and that the use of qualifiers was essential:

"... I think if there's enough time spent on it [ICF] to start off with and you do it well enough, then it ends up saving time in the long run because then you have goals planned and make sure that you don't miss things and then have to go back and do it... I do think we need to look at qualifiers because we say this is a barrier and then we say something else is a barrier and how much of a barrier is it? And can we change that barrier and then it can be part of our goals, 'cause if it's a barrier that we can't change, we need to acknowledge it. It needs to be there..." [focus group 2; participant 4]

Participants felt that the facility should adopt and formalise the use of the ICF framework. This would provide a mandate to task teams to systematically implement the ICF into the rehabilitation processes of the facility. Together with a clear mandate from the facility, a strong monitoring and evaluation process should be developed to ensure that implementation delivered the desired patient outcomes:

"...we need to know that the patient has reintegrated better... If we follow up in 6 months... did using the ICF... have a better effect?" [focus group 2; participant 4]

Participants suggested that perhaps the implementation process should be trialled in one of the units first due to the complexity of the process. This could make the process more manageable and positive effects in one team may improve attitudes and buy-in in others:

"We can make an experiment. Let's say two or three people that are willing can take it and then we see what comes out of there for a period of time..." [focus group 3; participant 6]

Discussions around how to create a more conducive environment to implementation of the ICF emphasised the importance of education and training on the ICF. Participants felt that all staff should receive practical training on the ICF and that it should be included into staff orientation programs. Mentoring by experienced healthcare practitioners can assist staff who are new to the ICF to develop and maintain its implementation in daily clinical practice.

## Discussion

Current participants felt frustrated by the gap between acknowledging the ICF as a theoretical model and using it as a practical framework. These frustrations support the theory by Wiegand

et al. [44] that there is a lot of "talk" about the ICF but little "action" due to insufficient guidelines on practical implementation.

Similar to current findings, Kristensen et al. [6] found that holistic rehabilitation practices are replaced by a focus on self-care and basic household activities in the face of time pressures and big workloads. Furthermore, Kristensen et al. [6] showed that Danish therapists focused on remedial interventions, impairments and activities early in the rehabilitation process, with adaptive and compensatory strategies following later, often at community level. Leach et al. [45] and Lüthi et al. [46] agree that it is not uncommon for therapists and patients to set goals aimed towards the ICF levels of impairment and activity in the initial stages of rehabilitation. Healthcare practitioners in the current study treated patients early in their rehabilitation process i.e., directly after the incident. This might explain their focus on impairments and activities. However, other South African studies have shown [29–32,35], once discharged, patients have little if any follow-up rehabilitation in the community. Thus, participants felt the onus was on them to include strategies focused on participation and modifying the environment as well during inpatient rehabilitation.

Current participants were all exposed to the ICF at different levels and as Farrell et al. [21] proposed, therefore do not share a common view on its usefulness or importance. Training on the ICF is an aspect that will need consideration and planning at the facility if further implementation of the ICF is to be successful. Training must be carefully structured with a competency framework and milestones [17] and repeated annually for new staff [14]. Comprehensive training on the ICF should also help to break down the negative attitudes. Should negative attitudes prevail it might result in minimal to no use of the ICF framework [25].

Participants thought that using ICF core sets and qualifiers, specific to the facility, will enable them to do more comprehensive assessments from which patient-centred interventions can be planned as described by Lexell & Brogardh [9]. The use of relevant ICF core sets or a code set can also form the base of a comprehensive team assessment document. The use of qualifiers was also seen as important, as participants explained that they need to prioritise interventions, allocate roles to team members and assess the patient's progress.

It is essential to include the patient and family in shared decision-making when setting goals and planning interventions [47,48], as also suggested by current study participants and practiced at the facility. However, according to the findings of this study, patients often struggle to explore participation and contextual factors in the initial stages of rehabilitation, because they have not experienced life with a newly acquired disability. This finding is supported by Laver et al. [49] who revealed that patient "readiness" to set goals after stroke is often delayed by insufficient knowledge about their new health state and recovery potential. Patients and families that understand their health status and interventions available are empowered to participate more actively in goal setting and to set realistic and achievable goals [10,45,49]. The ICF framework can be used to educate patients on their new health profile as described by Neubert et al. [50].

The role of organisational culture and management in the implementation of the ICF cannot be overstated. Management must provide training, clear guidelines on how the ICF should be used, practical implementation strategies as well as monitoring and evaluation strategies. It seems that managers at the facility do not recognise the key role that they can play in the creation of a more conducive environment for the use of the ICF. Middle managers did not discuss their specific role and their focus group

discussion did not provide any different insights to that of the other focus group discussions.

Examples from literature provide guidelines on ICF implementation [14,15]; the process must be tailored to the facility's needs. Rentsch et al. [15] reported that a multidisciplinary ICF project team, trained on the concepts of the ICF, simplified the ICF to contain only the aspects that was applicable to their patients. Moreover, they redesigned each main component of their rehabilitation process (assessment, goal setting, planning and rehabilitation conferences) according to the ICF and in such a way that it does not require additional time compared to their previous practices. The authors emphasised the importance of knowledge and training and getting buy-in from everyone.

### Study limitations

The findings of this qualitative study represent the perceptions of the participants. Few social workers and professional nurses participated in the study due to the facility being short-staffed at the time of data collection. This may have left some perspectives unexplored due to a mismatch in representativeness of disciplines. Volunteering and purposive sampling as recruitment strategies could have resulted in the research being conducted with healthcare practitioners that are more positive towards the ICF and interested in its implementation, thus not generating a true reflection of the entire population's perceptions on the topic. Although this study may provide insight for rehabilitation practices in different parts of the world, it is possible that it reflects more the South African context.

### Conclusion

Current use of the ICF at the facility is limited and the team and patients do not reap the benefits of using this framework. Better use of the ICF can enhance service delivery especially as it should increase the focus of healthcare practitioners and patients on participation and environmental factors. Management of the facility plays a vital role in creating an environment that is conducive for the use of the ICF.

It is recommended that a small ICF task team develop an ICF implementation plan of which the outcomes must be monitored and evaluated. The plan should include a code set to be used for patient baseline and follow-up assessments that can guide goal setting and an ICF training programme. Implementation should be trialled to assess the feasibility and effectiveness of the project.

### Disclosure statement

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