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by Kirsty van Stormbroek

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Introduction

Compliance has been defined as "active engagement in the rehabilitation process"[1(p.18)] and is critical to successful intervention. Although hand rehabilitation constitutes the focus of this article, compliance bares relevance to all areas of occupational therapy practice.

In South Africa, both non-attendance and non-compliance with rehabilitation programs have been reported as being problematic[2–4]. A local study that compared the outcomes of an early active motion and early passive motion protocol for flexor tendon injury, found no significant difference in outcomes. Compliance was suggested as being one of the factors that contributed to this outcome[3,5]. Another South African flexor tendon injury study reported a 49.5% rate of follow-up non-attendance. Patients who received a controlled active motion protocol achieved better results than patients who received passive motion protocols but outcomes for both protocols were markedly worse than those achieved internationally[4]. A number of factors were statistically related to this including language barrier. The authors suggested that where a language barrier did not exist, patients would be able to more readily be comply[4], thus linking compliance to the achievement of outcomes.

If non-attendance and compliance substantially impact on hand-injured patient outcomes, then compliance warrants investigation. However, investigating hand-injured patient compliance is only justified if hand injuries constitute a sizable burden in South Africa. Hand injuries are common worldwide[6] and evidence suggests the same in South Africa given the high levels of interpersonal violence[7], road accidents[8] and work-related conditions[9,10]. Hand injuries often result in permanent disability which is notable given South Africa's large manual labourer population[11]. Hand injuries impact patients' functioning in daily life[11], their livelihood[12] and by implication the South African economy that already supports more than 1 million South Africans with disability grants [13]. This highlights the importance of effective hand rehabilitation[11]. Patient compliance is critical to the success of this[1] and thus, by implication, the return of individuals to participation in daily life.

Much of the researcher's clinical experience occurred at a large public hand surgery unit. "Patient was not compliant" frequently explained unsuccessful intervention or justified patient ineligibility for intensive intervention. To the researcher it felt that a

figurative box labelled “non-compliant” became the depository for all the stories of obstinate patients or patients that the team didn’t understand or relate to due to differing beliefs, language barriers, and the pressures associated with one of the busiest outpatient clinics in the hospital. Within a context of scarce resources, health professionals are obligated to make ethical judgements on which patients should be awarded limited resources. Without adequate insight into context-specific “non-compliance”, decisions are at risk of being ill informed at best, and unethical at worst. This calls for developing an understanding of compliance from both the perspective of patient and service provider.

‘Compliance’ has intentionally been used within this study despite scholars alerting us to the concerning implications of the term[14,15] and suggesting alternatives[16]. However, ‘compliance’ is commonly used in the South African health care system which has a complex socio-political history[17]. Against this backdrop, this study set out to explore how occupational therapists routinely treating hand-injured patients understand patient compliance, what they perceive to be barriers to compliance, as well as aspects that support or strengthen patient compliance.

Literature Review

Literature on medical compliance is abundant. After a dearth of literature on compliance in hand therapy was reported in 2002[18], a number of texts have been published[16,19–21]. In an Australian study the views on compliance of hand-injured patients and therapists was compared[18]. A significant difference in perception was noted between both groups. However, both groups tended to identify similar reasons for non-compliance with the difference largely lying in therapists’ belief that these reasons occurred more frequently. Both groups believed that compliance with home programs was largely influenced by a lack of time, patients’ resentment of the program and pain experienced through doing the program. Compliance with appointments was thought to be due to organizational factors including transport, daily routines and responsibilities.

Various internal and external factors have been reported to impact on patient compliance[1,16]. Groth and Wulf reviewed factors in the literature that had been correlated to compliance and categorized them as internal or external[1]. These included time between referral and appointment, waiting time at the appointment, the relationship between doctor and therapist, the duration of rehabilitation, the presence

of a local and cohesive family, financial resources, work situation, clinic accessibility, transportation and patient literacy. In South Africa external factors are believed to impact on hand rehabilitation[22,23] and rehabilitation in general[24]. These factors include inaccessible health care facilities, costly transport, language discordance, and attitudes of health care professionals.

Internal factors as defined by Groth and Wulf are 'related to the patient's belief system' (p. 19). Drawing from the Health Belief Model[25], internal components described by the authors included injury severity and the perceived risk of losing hand function, perceived rehabilitation efficacy and its cost benefit ratio, self-efficacy, and the relationship between patient and health professional[1].

Classifying factors as Groth and Wulf did is helpful in conceptualizing these influences, however the distinction between internal and external factors may not always be as clear as these author appear to suggest. An alternative conceptualisation is the World Health Organisation's Multidimensional Adherence Model (MAM)[16,26].

The WHO's MAM describes five dimensions impacting on compliance to long term therapies[26] but acknowledges that these dimensions interact. The model, that is considered appropriate for application to hand rehabilitation compliance[16] categorises the dimensions impacting on compliance as *Health care team and system factors, social* and *economic factors, therapy related factors, patient-related factors* and *condition-related factors* are considered.

The MAM assists in understanding the factors that impact on compliance, but also provides a framework for thinking about strategies to support or enable compliance. In 2012 O'Brien reviewed the literature on improving compliance to hand rehabilitation and described the evidence according to the five MAM dimensions. Evidence for social and economic interventions included strengthening patient skill in self-management and developing capacity of health workers in the patients' communities. O'Brien assumes that for some patients family support, treatment costs and access to services affect compliance, although current evidence cannot confirm this. Evidence related to the health care team and health system interventions included the value of trust between patient and service provider and effective education. Continuity of care (including consistent communication from the multi-disciplinary team), supporting patient self-efficacy, and incorporating patients' needs

and viewpoints from the start of the therapy process was also cited as strategies to optimise compliance. Therapy-related factors included the use of meaningful activity in intervention, splints that are comfortable and look acceptable, and strategies for the management of pain. Condition related factors included therapists identifying and managing psychosocial co-morbidities as well as facilitating appropriate expectations of prognosis and rate of recovery, as well as the rationale for each intervention. Finally, patient-related interventions largely related to supporting patients' sense of agency and hope in the recovery process, and therapist skill development in behavioural interventions. Interventions that "go beyond the provision of advice and prescriptions" (p. 249) was considered essential[16].

The literature demonstrates that evidence on compliance is abundant and that evidence within the hand rehabilitation literature is growing. Various categorisations have been suggested to assist in understanding the factors that impact on compliance and strategies to strengthen compliance. No studies on hand rehabilitation compliance in low-to-middle income countries (LMICs) could be found.

Methods

Design:

A descriptive exploratory sequential mixed methods research design was employed. The qualitative phase is reported in this article *(Phase 1*).

Participant selection:

Nine occupational therapists routinely treating patients with hand injuries were purposively sampled. Given the diversity that characterises South Africa[27], attempts were made to diversify the sample **(see Table 1)** and select information-rich sources from two rural and two urban provinces. The South African Society of Hand Therapists' website was used to obtain therapist contact details. An invitation to participate was also sent to rural therapists via Rural Rehabilitation South Africa. A therapist known to the researcher, who had previously specialized in hand rehabilitation while working rurally, was invited to participate. Two rural participants spontaneously referred the researcher to other potential participants who they felt were information-rich and thus aspects of snowball sampling were included.

Data collection, management and analysis

Data were gathered through in-depth interviews, which were audio-recorded, transcribed and checked for transcription accuracy. Inductive thematic analysis[28] was conducted using MAXQDA 12.3.6 software[29] with the research objectives guiding inductive analysis. As patterns emerged that spoke to the objectives, codes were named[28] and related codes clustered into sub-categories. Conceptually related sub-categories[28] were organised into categories and these distilled into themes. The interrelation of themes was considered and the meaning of themes interpreted[30]. Data that related to how therapists understood the term 'compliance' lacked qualitative depth thus quantitative content analysis was employed with text being sorted into categories and the frequencies of these categories being recorded[28].

Trustworthiness

A number of strategies were used to pursue rigor. To enhance credibility[31], the researcher intentionally limited her reading on the subject prior to data collection to limit the extent to which this influenced her data collection and view of the data. Prior to data collection the researcher reflected on her assumptions and perspectives around compliance in a journal. This made her aware of a potential tendency to probe views that resonated with her own. She resolved to adopt a neutral tone in interviews, attempting to intentionally explore all perspectives. Despite these strategies, it is acknowledged that her views unavoidably affect data interpretation[28].

Credibility was further strengthened through member checking[31]. All participants were sent a podcast of the preliminary findings. Three participants responded stating their satisfaction. A fourth participant had difficulty accessing the podcast but attended a separate presentation of the preliminary findings and communicated her acceptance of the findings as the researcher had presented them.

Analysis was exposed to peer examination[31]. An academic colleague coded one interview. The coding schedule that she developed was compared to the one generated by the researcher. Extensive similarity was noted. Furthermore codes, sub-categories, categories and themes were presented to the colleague confirming that the analysis had generated credible data. Minor recommendations were made.

Ethical considerations

Ethical approval for the study (phase 1) was obtained from the **X** Human Research Ethics Committee (HREC number: **Y**). Informed consent was obtained from each participant.

Results

Demographic information

The average age of participants was 30 years. Therapists had an average of 5 years and 10 months of hand rehabilitation experience (Range 22-178 months). Four participants had a postgraduate qualification in hand rehabilitation.

What is understood by the term 'compliance'?

A majority of participants (89%; n=8) stated that compliance was about 'adhering to appointments and treatment'. Beyond this, participants' descriptions of compliance clustered on a continuum **(see Figure 1).** On the far right a stance was described where the health professional is the expert and "*I (therapist) give and you (patient) do*". Moving centrally, therapists spoke about compliance being about *"patients taking ownership and responsibility"*. Most positioned their own views further left describing compliance as a *"shared responsibility"* where the therapist facilitates the therapeutic process or offers therapeutic direction which the *"patient owns"*. One therapist, illustrated on the far left, described her *"paradigm shift from the medical model"*. Compliance for her was about *"mutual agreement"* (n=1), a co-authoring process between patient and therapist, which she ultimately perceived as a "*collaboration"* (n=1).

Compliance barriers and supports

Coded data that spoke to the barriers and supports of patient compliance were distilled into categories, subcategories and ultimately four themes **(see Figure 2).**

Powerful Collaboration

This theme captured the view that compliance is enabled when hand rehabilitation is a collaborative process between client and therapist. S*hared power and collaboration*

spoke to an understanding of patients as disempowered service users, having unequal power to health professionals:

> *"This community is … so disempowered, they almost don't think that they can ask for better or... more or … allowed to say, 'Listen, what you've given me is not right'…"* Participant 5

The theme linked compliance to patients having limited power within their communities, for various reasons. Speaking of the same rural community referred to above, Participant 5 shared:

> *"I think a lot of the ladies in this community …they are not allowed to speak up … to stand up for themselves and it is often, "You are nothing, we are everything", men are everything, the ladies are not…they often get hushed and shushed and… it… just…plays over into all areas in life where they just feel like they are worth nothing and they are not receiving what we may be used to in other areas…I am struggling to get the message across… but it is maybe like an underlying aspect of them not verbalising or speaking up, they are … from a young age being (told), 'Don't speak. You are not allowed to speak.'"* Participant 5.

Limited patient power, as well as the dominance of the medical model may lead to patients having restricted choice and submitting to, or deferring responsibility to, the health professional:

> *"'Yes, but it's not working, this thing is broken.' And I'm like, 'This thing is your hand!' And then whatever surgery or treatment is then prescribed is then, 'Yes and amen. Yes, doctor' or, 'yes' whatever I (therapist) say."* Participant 3

Health professionals who assume authoritarian positions over their patients may augment restricted patient ownership, emphasizing the need for therapists to share power with their patients. Participants described the importance of contracting and obtaining informed consent, effectively communicating the diagnosis, therapist role, goals of therapy, and expected recovery and rehabilitation process. It was thought that therapists' reasoning should be transparent and facilitate client choice and

decision-making. This should also allow the clients' goals to direct therapy, and enable collaborative problem solving.

Authentic client-centred services were perceived to support the powerful collaboration that supports compliance. Participants felt that building trust, rapport and respect with clients, as well as demonstrating authentic interest and care were essential:

> *"Trust falls into buy-in to therapy… if they trust that you know what you are doing, that you are there for them…sometimes they feel that you are distant…just here for a pay-cheque…not actually here to listen to them or to understand what they're going through."* Participant 2

Being present and listening actively, demonstrating humility, cultural sensitivity and using an approach that affirms clients' dignity, value and worth, were considered important.

Conflicting belief systems between the health professional and patient were considered a barrier, thus navigating this in a client-centred manner would support compliance.

> *"We live in…a very diverse country…some people…believe…take it to religion …they might say, 'I will pray about this and then I should be fine after that'… Maybe they'll go to church, to their pastor...They might go to see a traditional healer, because it also depends on what they think caused the problem. Even if to you (therapist), 'You had an injury because something heavy fell on your arm'… then they will tell you, 'No there is somebody behind the scene, there is witchcraft going on … I have been doing this (job) for so many years, it didn't happen so I believe so and so did this', so … they will seek the help in response to what they believe the cause is".* Participant 1

Some felt that compliance could be predicted whilst others found it unpredictable and needed to be tested. Allowing clients to prove compliance and an approach that grades intervention sensitively to clients' responses was believed to be important. Grading goals from simple to more complicated was highlighted while one participant

conversely felt that prescribing numerous exercises meant that patients would at least remember some.

Function-focused therapy was believed to be important to building a collaborative treatment partnership and promoting compliance:

> *"What I tend to do is (even) in our first session already I ask them very specific things… 'What are your responsibilities at home?', 'Do you need to wash the dishes sometimes?...mop?…fold clothes?' … 'At work do you need to lift heavy things… push and pull …or only…press buttons?' …These are the type of things that we need to get you back to?"* Participant 7

Combining, or marrying the medical model and client-centred practice was also thought to be important where protocols and approaches were tailored and sound clinical reasoning rather than 'recipes' used:

> *"The problem with the medical model is 'you do what I say and I'm telling you this is right' … the patient doesn't matter because they fit in the model…Once you've shown them that you can bring therapy into their context, 'Okay, I see you for who you are therefore I'm willing…I'm going to adapt my explanation, my treatment slightly to you… So you don't travel, can you do this? Can we do it at that time…?' … so I'm adapting, (the patient) sees I'm trying to fit it into his life …".* Participant 3

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The life and times of an injured hand

> *"… The hand belongs to someone so we try not to only focus on the hand but … treat holistically… We obviously have boundaries … but we do try … get the story behind the story… identify what are the other factors that actually play a role in this."*
>
> Participant 7

> *"Your hand is your life".* Participant 1

These quotes speak to the second theme that emerged suggesting that collaboration, and thus compliance, is supported when therapists have an appreciation of the *life – in – contex*t that the hand belongs to.

Firstly clients' have *personal factors* thought by participants to positively or negatively affect compliance including personality, drive, determination and Creative Ability. Some patient's were believed to have an extrinsic locus of control, failing to take responsibility and believing that 'the health professional will fix it'. Motivation was strongly highlighted. Some patients demonstrate extreme motivation, waking up very early and walking long distances to get to treatment. If patients have family that they need to support this may strongly motivate their participation. However, motivation for rehabilitation may be poor when injuries are severe, rehabilitation lengthy or when a more impaired hand with a disability grant is perceived to be preferable over a slightly more functional hand. Substance abuse was also thought to frequently impair compliance.

Beyond an appreciation of *personal factors,* participants believed that compliance is supported when therapists understand the life that the hand-injured patient participates in. Understanding the context in which the patient lives, allowing patients to speak and be understood, taking an accurate history and assessment, addressing the psychosocial components of their injury and understanding the impact of their injury on their function was highlighted. Understanding patient goals, concerns, expectations, beliefs, roles and appreciating their narratives and what motivates them were all aspects considered to be important. Participants felt that it was necessary to understand the '*bigger scheme of patients' lives'* and appreciate that 'life happens' and patients are compelled to fulfill roles and responsibilities, potentially to the detriment of their hand:

> *"In the big scheme of their lives how important is it for them to come to… hand therapy, to do their hand therapy when they have to feed their child who're starving? When they have to protect their home because they live in a … dangerous environment when they…have to walk how far to get water? …in the greater scheme of their lives, how important is it for them to sit every two hours and do their blocking exercises?"*
>
> Participant 9

It was believed necessary to understand the extreme hopelessness that some patients experience, where therapy may make no difference to the stricken circumstances in which patients live and and where hopeful futures are atypical.

S*upport* was considered key to compliance. Clients with family support were thought to fare better with therapists being considered wise to harness this support. Supportive and involved employers enabled compliance while poor working conditions and the loss of wage or employment hampered it. Encouragement and support of fellow patients was also considered to be instrumental to compliance.

Finally, participants appeared to highlight the importance of therapists understanding the impact of *a fractured society* on patients' compliance. Violence, bad weather, long distances to facilities, transport difficulties and severely restricted patient resources all hindered compliance. Participants explained:

> *"The infrastructure isn't great … like rain … if (patients) used to walk … because of the rain and floods … the bridges are like this …they cannot cross over the river".* Participant 1

> *"At my other primary health clinics … I have a higher compliance rate than here. Purely I think it's easier to get to the clinic and the violence is less."* Participant 2

Therapists believed that health system and service limitations affect compliance, including conflicting appointments, waiting times, poor hospital resources, late or lost referral, delayed surgery and an absence of therapists at primary level facilities:

> *"We need therapists at every single clinic… we only have permanent therapists at four clinics. And those therapists have to go to other clinics …it's a huge problem…we need … a wider spread of our services so that patients don't have to travel far to get to us." Participant 9*

Patients may also have had previous negative experiences with the health care system:

"I think they see it as people go to (the hospital) to die. And it's true, a lot of people do come and then die… they don't wanna come because they feel like they're gonna go have an operation and die, cause their friend has died… from an operation…" Participant 6

Within the fractured system, health professionals manage high workloads restricting the service delivered:

"When I was working in a very busy government hospital, you lost the kind of empathy… we were passionate, but sometimes the patients didn't see it. Because you had 10 minutes and you just had to get it done and half of the time you forget to even introduce yourself." Participant 4

Furthermore the state disability grant may hinder compliance to rehabilitation as it offers hope of financial resource within a society burdened by systemic poverty, even if this is at the expense of a functional hand:

"A big number of the community live(s) off… child support and disability grants. There's very little employment in this area...Unfortunately…patients come in and say they had an injury, their hand can't work, they want a disability grant. Then as a therapist we find it very frustrating to put our bias…our frustration aside and say 'ok I understand … that you are also desperate and you won't be able to find a job because there aren't any but also your hand isn't… you need to do your job'…When that comes into play we often see them …not really motivated in therapy because 'If I am going to do what you tell you me, my hand is going to get better and then I won't qualify for disability grant'. So it's kind of (a) messed up system but we … understand why they are so desperate and they often would embrace an injury because if it means…they can actually support the family" Participant 5

Communication for collaboration

This theme captured the centrality of communication to collaboration and thus compliance. *Accessible and effective communication* was considered essential.

Barriers to this included communicating concepts that patients can't relate to due to language barriers, translation limitations and therapists making assumptions about what the client knows. Therapists require skill for communicating and explaining rehabilitation concepts in understandable ways. Use of the patients' first language is ideal and translation considered a second-best option. Testing patients understanding was deemed necessary and illustrations to assist communication were considered helpful.

> *"Patients are struggling to understand therapy…the older generation…they have never been to school, they don't understand the concept… never been exposed to the thing of, 'I give you information, you listen to that information and now you need to remember this information and apply what I tell you'…I found a benefit in actually drawing out my programmes with them, drawing little pictures because otherwise they just don't remember the exercise."* Participant 5

Secondly *education for understanding and realistic expectations* captured the view that communication is only successful when patients understand and have realistic expectations of the rehabilitation process:

> *"I will find that patients think, 'Okay I'll have this operation and it will all be fixed'. (They) don't realise that that's not the case. 'You will have the operation which will allow for healing to occur but we need to facilitate return to function. We need to facilitate that healing'. And, and that takes time. Rehab takes time and that's what I try to explain."* Participant 9

Restricted patient insight was perceived to be a barrier as well as limited understanding linked to patients' intellectual or educational limitations, or the unfamiliarity of the occupational therapy role. Participants believed that patients should understand the consequences of non-compliance, with fear sometimes being used by therapists to facilitate this. Providing *education for understanding* spoke to patients developing insight into the impact of their hand injury on their function, education on the role of the occupational therapist, using activity to assist patient understanding, education of the family, and essentially "going the extra mile" *until* patients understand.

Systems and services that work

And finally, services and systems were perceived to affect compliance. Firstly, participants believed that patient compliance was supported by *competent care*. Therapists should instill confidence and demonstrate positive outcomes to patients. Intervention perceived by patients to be inadequate or unacceptable was considered a barrier:

> "*If you seem confident in what you are doing … if one of the (junior therapists) are in the same room as I am, they ask me questions…the patient turns to me… so, if you don't seem like "I'm not sure," that also influence(s) the patient in feeling … confident."* Participant 8

Secondly, a *dynamic multidisciplinary team (MDT)* that co-ordinates responsibilities, communicates effectively and whose members tell the patient the same thing was believed to assist compliance. Health professionals' words were perceived to be powerful and MDT hierarchy, inconsistency between team members, and a lack of clarity around MDT roles being a hindrance:

> *"Patients…put a lot of power into what the doctor's saying... they have a lot of power and I (therapist) don't… I feel that they will listen… to what the doctor has to say sometimes more than what we have to say even though perhaps …we show them evidence. So, I would say to her, "Okay you say that your hand's not getting better but have a look here…where you were before and where you are now. Would you still say that your hand's…not getting better?" And she said, "No because the doctor said so."* Participant 9

This quote demonstrated the power of the doctor's word's but also, within the context of the interview, showed how the patient used the doctor's words to justify her application for a disability grant.

Although the disability grant could impede patients' compliance, the final category *systems and services* captured the view that temporary grants during rehabilitation were also part of supportive and accommodating logistics, though not unaffected by inefficiency within the system*:*

> *"With most cases they want the disability grant because they feel that they can't work while …going through the rehab process...that's fair. But many of them…after they've gone through that whole (application) process… they are at a functional level"* Participant 9

Other factors considered to enhance compliance included minimising time waiting for medical folders, seeing the doctor and therapist on the same day at similar times, text-message appointment reminder systems, hospital transport, clinic outreaches and successful referral pathways.

Discussion with implications:

Participant demographics

The average age of participants was substantially lower than the age of hand therapist reported in the USA[32]. Younger participants were included in the sample given that novice therapists are frequently required to treat hand-injured patients in South Africa[33]. Only one of the participants was male and spoke an African home-language. This is indicative of an occupational therapy workforce in South Africa that remains 95% female and is only 17% Black African[34].

Compliance - does the term matter?

Participants almost unanimously understood compliance as patients adhering to appointments and prescribed treatment. Beyond this, their understanding of the term demonstrated variation in the power relationship between patient and therapist and the level of responsibility of patients. The literature suggests that the use of different terms captures these nuances. Trostle argued that beyond a mere term, *compliance* is an ideology that reinforces the authority of health professionals over patients[14]. *Concordance* has been suggested as an alternative term that appears to flatten power relations and captures the act of agreement between patient and professional[35]. Recent hand rehabilitation literature has recommended that the term *adherence* be used as it speaks to occupational therapy's core value of client-centred practice[16] and also captures the concept of agreement[16]. It can be argued however that each of these three terms can hold similar meaning, depending on the definition used [35,36]. This is not to suggest that the choice of term does not matter as

changing a term may in itself facilitate a change in thinking[37]. However, merely switching terms won't necessarily change practice and the power sharing that occurs within it. Terms that we use are indicative of prevailing societal ideas[37]. Engaging in critical reflection and conversations around the philosophical assumptions that underpin the terms that we as use is important if we are to be truly client-centred[38] and remain life-long learners that practice in a contextually responsive manner.

Enabling compliance: addressing barriers and harnessing supports

Participants' perspective on the factors impacting hand-injured patient compliance find extensive echo in the dimensions described by the WHO's Multidimensional Adherence Model (MAM). Participants spoke marginally of patient-related factors and extensively described multi-level contextual features. Agreeing that compliance is a product of more than patient-related factors[26], hand therapy literature has called for us to 'stop blaming our patients"[16] (p.249). This study reiterates the WHO recommendation that the simultaneous influence of multiple factors be acknowledged and interventions targeted at all dimensions[26].

All the themes of this study in some way speak to health care team and system factors[26]. This dimension is believed to be understudied within hand rehabilitation and development in this area is needed as it constitutes an area where health professionals are able to exercise change[16]. Participants in the study provided description of a failing primary health care (PHC) system that has necessitated a re-engineering of PHC and National Health Insurance in South Africa[27]. Although the MDT may not be able to exert influence at all levels of health care, opportunities to change systems and services to support compliance abound.

Literature agrees with participants who believed that a dynamic MDT approach should be followed[26], where patients goals and preferences are elicited and integrated early into MDT treatment planning, and all team members communicate a shared message to patients[16]. The hand-injury care team should receive training in compliance and the interventions required to facilitate this[26]. In the diverse South African context, training to develop cultural humility and language and communication competencies may be essential to this[39].

Similar to previous hand therapy studies[1], participants believed that compliance is supported when intervention is responsive to the patients' lived reality. This speaks to the WHO's recommendation for treatment tailored to individual patient need[26].This

resonates with the work of Donovan and Blake who suggest that for each intervention offered, patients "weigh up the costs and benefits…as they perceive them within the contexts and constraints of their everyday lives and needs"[15(p.207)]. It thus stands to reason that if intervention is tailored to fit *the life and times of an injured hand*, then compliance is supported.

This study highlighted the perceived negative impact of an inequitable society, disempowerment, passivity and a paternalistic health system. These subtle yet impactful features are not overtly described in the MAM. Blake and Donovan argue that "patients are *not* on the whole passive or powerless" but "quite capable of making decisions about treatments and lifestyles rationally within the contexts of their beliefs, responsibilities and preferences"[15(p.508)]. The views of these scholars working in the British National Health System may not hold true for the South African context where the health system has been shaped by systemic discrimination and inequality over centuries[17]. Although patient empowerment and active participation in health care decision making is ethically and legally supported, patient passivity or deferment of decision-making to doctors is commonplace[37].

The *powerful collaboration* perspective offered by this study addresses this problem and also finds echo in the recommendations of previous research[1,15]. It has been suggested that therapists balance their and their patients' intervention goals[18]. If hand rehabilitation were likened to a journey, this recommendation may be akin to 'meeting the patient halfway'. Findings, however, seemed to suggest a subtly nuanced posture where patient and therapist start out on the therapy journey together. From the start, the destination is envisioned together, directions negotiated, and the therapist and patient become partners in the co-authoring process. Participant views seem to suggest that it is within this relational positioning that power, which is frequently inequitably distributed, can be shared and harnessed for enhancing patient outcomes.

Another element considered to facilitate *powerful collaboration* was therapy that was directed towards enabling occupational participation and combined aspects of the medical model and client centred practice. Within the hand rehabilitation literature, functional or occupation-based intervention has been recommended as a therapy-related factor that can be used to improve patient compliance[16]. An occupation-based approach, along with flexibly and collaboratively tailoring protocols, has been recommended for rural hand rehabilitation practice[40]. Although challenges exist to

implementing such an approach[22], a growing body of evidence[41,42] suggests that opportunities be provided for therapists to develop their occupation-based knowledge and skill.

The dimension of social and economic factors[26] was evident in each of the themes in this study. *"Your hand is your life"* captured the impact of hand injuries and the compounded loss when injury to the so-called earning tool[43] occurs within an impoverished context. Participants described complex economic and social factors that significantly hindered compliance and outcomes. This highlights the need for research that investigates the relationship between hand injury care and the social determinants of health. While on-going research, education and training should be invested in curative and rehabilitative care, the need for the hand-injury care community to take up its role in hand-injury prevention and hand health promotion seems urgent.

To the author's knowledge, this is the first study to report a therapist perspective on compliance in a LMIC. This paper, however, does not communicate patients' views on compliance. This perspective is critical, especially given the socio-political history of the South African health system, and leaves room for a patient voice in future research. A further limitation of the study relates to the transferability of the findings. Although the demographic characteristics of participants is reported, a lack of dense description of the participants and their contexts restricts the readers ability to judge the transferability of the findings[31].

Conclusion

Against the backdrop impending healthcare overhaul in South Africa[27] and challenged healthcare systems globally[44], patient compliance is considered critical to health system effectiveness and the improvement of healthcare outcomes[26]. Within the field of hand rehabilitation, the way in which we conceptualise compliance as occupational therapists matters. Results of this study suggest that collaborative co-construction, or co-authoring of hand rehabilitation programmes is central to enabling compliance. Therapists require a robust understanding of the person they are treating and the complex context in which they function. Communication should be accessible and education effective to support a collaborative relationship, and this should be reinforced by a foundation of systems and services that work.

References

1. Groth G, Wulf M. Compliance with hand rehabilitation: health beliefs and strategies. *J Hand Ther* 1995; 8: 18–22.
2. Mncube NM, Puckree T. Rehabilitation of repaired Flexor Tendons of the Hand: Therapists' perspective. *South African J Physiother*; 70. Epub ahead of print 2017. DOI: 10.4102/sajp.v70i2.270.
3. Wentzel R. *A comparison of the outcomes of two rehabilitation protocols after flexor tendon repair of the hand at Chris Hani Baragwanath Academic Hospital (CHBAH), Johannesburg, South Africa*. University of Pretoria, https://repository.up.ac.za/handle/2263/61677 (2017).
4. Spark T, Ntsiea V, Godlana L. The Impairments and Functional Outcomes of Patients Post Flexor Tendon Repair of the Hand. *HAND* 2016; 11: 141S-141S.
5. Wentzel R, van Velze C, Rudman E. Comparison of the Outcomes of 2 Rehabilitation Protocols After Flexor Tendon Repair of the Hand at Chris Hani Baragwanath Academic Hospital, Johannesburg, South Africa. *HAND* 2016; 11: 139S-139S.
6. Dias JJ, Garcia-Elias M. Hand injury costs. *Injury* 2006; 37: 1071–7.
7. Norman R, Matzopoulos R, Bradshaw D. The high burden of injuries in South Africa. 2007; 037184: 695–702.
8. Norman R, Bradshaw D, Schneider M, et al. *Revised Burden of Disease Estimates for the Comparative Risk Factor Assessment , South Africa 2000*. Cape Town, 2006.
9. Industrial Health Resource Group. *Organising for Health and Safety. A guide for trade unions. 2nd ed: Section 8 Compensation for injured or ill workers*, http://www.ihrg.org.za/oid/downloads/4/10_8_6_47_31_AM_Section 08 - Compensation (Final).pdf (2011).
10. Schultz G, Mostert K, Rothmann I. Repetitive strain injury among South African employees: The relationship with burnout and work engagement. *Int J Ind Ergon* 2012; 42: 449–456.
11. Jeebhay M, Jacobs B. Occupational health services in South Africa. *South African Health Review*, 1999, pp. 257–276.
12. Clark G. The Case for Hand therapy. *TCM* 2002; 78: 75–78.
13. Kelly G. *Regulating access to the disability grant in South Africa, 1990 - 2013*. 330, https://www.researchgate.net/publication/260981842_Regulating_access_to_the_disability_grant_in_South_Africa_1990-2013 (2013).
14. Trostle J. Medical Compliance As An Ideology. *Soc Sci Med* 1988; 27: 1299–1308.
15. Donovan J, Blake D. Patient non-compliance: deviance or reasoned decision-making? *Soc Sci Med* 1992; 34: 507–513.
16. O'Brien L. The Evidence on Ways to Improve Patient's Adherence in Hand Therapy. *J Hand Ther* 2012; 25: 247–250.
17. Coovadia H, Jewkes R, Barron P, et al. The health and health system of South Africa: historical roots of current public health challenges. *Lancet* 2009; 374: 817–34.
18. Kirwan T, Tooth L, Harkin C. Compliance with Hand Therapy Programs: Therapists' and Patients' Perceptions. *J Hand Ther* 2002; 15: 31–40.
19. Sandford F, Barlow N, Lewis J. A study to examine patient adherence to wearing 24-hour forearm thermoplastic splints after tendon repairs. *J Hand Ther* 2008; 21: 44–53.
20. Kingston G, Williams G, Gray M, et al. Does a DVD improve compliance with home exercise programs for people who have sustained a traumatic hand injury? Results of a feasibility study. *Disabil Rehabil Assist Technol* 2014; 9: 188–194.
21. Cole T, Robinson L, Romero L, et al. Effectiveness of interventions to improve

therapy adherence in people with upper limb conditions: A systematic review. *J Hand Ther* 2017; 32: 175–183.
22. de Klerk S, Badenhorst E, Buttle A, et al. Occupation-Based Hand Therapy in South Africa: Challenges and opportunities. *South Africa J Occup Ther* 2016; 46: 10–15.
23. Van Stormbroek K. *The extent which Community Service occupational therapists are equipped to treat patients with upper limb injuries and conditions*. The University of Cape Town, https://open.uct.ac.za/handle/11427/13807 (2015).
24. Sherry K. Disability & rehabilitation: essential considerations for equitable, accessible and poverty-reducing health care in South Africa. *South African Heal Rev 2014/2015* 2015; 89–100.
25. MH B, LA M, JP K, et al. Patient perceptions and compliance: recent studies of the health belief model. In: Haynes R, DW T, DL S (eds) *Compliance in Health Care*. Johns Hopkins University Press, 1979.
26. World Health Organisation. *Adherence to long-term therapies: evidence for action*. Geneva, https://apps.who.int/medicinedocs/pdf/s4883e/s4883e.pdf (2003).
27. Department of Health. *National Health Insurance policy: towards universal health coverage*. 2017.
28. Joffe H, Yardley L. Content and Thematic Analysis. In: Marks D, Yardley L (eds) *Research Methods for Clinical and Health Psychology*. Sage Publications, 2004, pp. 56–66.
29. VERBI GmbH. MAXQDA, https://www.maxqda.com/products/new-in-maxqda-12 (2018).
30. Creswell J. *Research design: Qaulitative, quantitative, and mixed methods approaches*. 4th ed. Thousand Oaks: Sage Publications, 2014.
31. Krefting L. Rigor in Qualitative Research: The Assessment of Trustworthiness. *Am J Occup Ther* 1991; 45: 214–222.
32. Stegink-Jansen CW, Collins PM, Lindsey RW, et al. A geographical workforce analysis of hand therapy services in relation to US population characteristics. *J Hand Ther* 2017; 30: 383-396.e1.
33. van Stormbroek K, Buchanan H. Novice therapists in a developing context: Extending the reach of hand rehabilitation. *Hand Ther* 2017; 22: 141–152.
34. The Health Professions Council of South Africa. Report on the demographics of registered occupational therapists.
35. Aronson J. Compliance, concordance, adherence. *Br J Clin Pharmacol* 2007; 63: 383–384.
36. Cambridge University Press. Cambridge Dictionary. *2019*, https://dictionary.cambridge.org/dictionary/english/adherence (2019, accessed 11 July 2019).
37. Rowe K, Moodley K. Patients as consumers of health care in South Africa: the ethical and legal implications. *BMC Med Ethics* 2013; 14: 1–9.
38. Hammel KRW. Client-centred occupational therapy: the importance of critical perspectives. *Scand J Occup Ther* 2015; 22: 237–243.
39. van Stormbroek K, Buchanan H. Novice occupational therapists: Navigating complex practice contexts in South Africa. *Aust Occup Ther J* 2019; 66: 469–481.
40. Kingston GA. Commentary: Rehabilitation for Rural and Remote Residents Following a Traumatic Hand Injury. *Rehabil Process Outcome* 2017; 6: 1–5.
41. Grice KO. The Use of Occupation-based Assessments and Intervention in the Hand Therapy Setting – A Survey. *J Hand* 2015; 28: 300–306.
42. Daud AZC, Yau MK, Barnett F, et al. Integration of occupation based intervention in hand injury rehabilitation: A Randomized Controlled Trial. *J Hand Ther* 2016; 29: 30–40.

43. Rabiul S. Acute Occupational Hand Injuries With Their Social and Economic Aspects : A Hospital Based Cross Sectional Study. *Innov J Med Sci* 2017; 1: 15–18.
44. Sanchez-Serrano I. *The World's Health Care Crisis From the Laboratory Bench to the Patient's Bedside*. First. Elsevier, 2011.

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