Healthcare workers and their role in nutritional intervention: Exploring the tactics of tailoring and inventiveness in the eThekwini District

by

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ABSTRACT

This research report explores health care workers' implementation of nutrition intervention strategies in daily practice, examining how the limiting realities of the field prompt tailoring of advice based on patient-to-patient variation. Nutritional and epidemiological shifts have added to a quadruple burden of disease in South Africa and have dictated national and provincial frameworks to include dietary guidance for patients. As custodians of these policy shifts, health care workers are faced with the challenge of offering dietary guidance amid a social context that drastically delimits patients' uptake of these prescriptions. This research report explores how health care workers navigate nutrition and health challenges in their own social and personal lives and how this influences their nutritional guidance to patients. Through semi-structured interviews in the eThekwini District of Durban, healthcare workers have been found to inventively tailor nutrition advice based on the context they practice in and influence by personal experiences. The research aims to deepen and complicate understanding of nutrition intervention in healthcare settings while also considering the healthcare worker's perspective as key in implementing and maintaining the local and global challenge of malnutrition and diet-related non-communicable diseases.

Key words: Healthcare workers, nutrition intervention, eThekwini District

LIST OF ABBREVIATIONS

Covid-19	Coronavirus Disease of 2019
dr-NCDs	Diet-related Non-Communicable Diseases
DHS	District Health System
HCWs	Healthcare Workers
INP	Integrated Nutrition Program
MAM	Moderate Acute Malnutrition
NCDs	Non-communicable Diseases
N-NCDs	Nutrition-related Non-Communicable Diseases
PHC	Primary Health Care
SAM	Severe Acute Malnutrition
WHO	World Health Organisation

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INTRODUCTION

Nutrition and what people consume worldwide has become a public health concern due to its influence on global health systems and individuals. Manifested through obesity, malnutrition and other nutrition-related non-communicable diseases [**NCDs**], these issues place pressure on health systems to deal with the burden of patients. Healthcare workers [**HCWs**] have become the mediator between nutrition-related policy and patient response while dealing with the same nutrition and health challenges in their own lives.

While the World Health Organisation [**WHO**] and other key global players laid out targets in 2016 to reduce malnutrition by 2025 (WHO, 2014) and systematically ease the global burden of disease (Global Burden of Disease, 2019), factors such as the coronavirus disease of 2019 [**Covid-19**] present unprecedented challenges that HCWs must navigate practice through. This environment is where practice occurs and where policy succeeds or fails. Under these conditions, in the complex social-political and cultural milieu of everyday life, HCWs must implement their training in nutritional intervention. These conditions beg the question: How do HCWs apply individual tactics in response to such contexts? How do these tactics compare with other HCWS in the same field?

This research project focuses on the eThekwini District, situated in the province of KwaZulu-Natal on the eastern coastline of South Africa. It draws on interviews with key informants, primarily doctors, nurses and dieticians who are directly involved in implementing nutritional intervention for patients. These HCWs are currently in practice in the eThekwini District at the time of the research project. Some HCWs live and work in the same area they grew up in, while others have come from other parts of the country and continent. Pseudonyms are used throughout the research project, ensuring the anonymity of participants.

The central aim of this research project is to explore the tactics and methods of HCWs in their implementation of nutritional intervention strategies. How health practitioners navigate their daily practice within the web of government policies and global determinants of health is at the crux of the argument. While the global and national framework may be indicative of care at this level, it is only in understanding the experiences of those responsible for implementation that the reality of nutritional intervention in healthcare can be established.

While there has been much public health research that focuses on the role of nutrition intervention strategies (Viajar *et al.,* 2022; Underwood, 2012; Pekka *et* al., 2002; Ross *et al.*, 2012), there is undoubtedly a necessity to expand the South African narrative from an Anthropological perspective. There have been rich studies on related topics in other parts of the country. One particularly relevant study by Hunter-Adams and Battersby (2020) aimed to understand the perspective and experiences of South African HCWs. The study was based in the Western Cape,

in Cape Town, and interviewed a few key informants in this field comprising doctors, nurses, and dieticians. The alarm of HCWs in rising nutrition-related non-communicable diseases [**N-NCDs**] was observed and the emphasis HCWs placed on individual responsibility for changing diets. The results of the study proved extremely interesting in identifying how HCWs understand the contexts of the patients they see but have to deal with structural challenges that may challenge attempts at nutritional intervention:

> "A marked lack of connection between health and social services at the local level, and a shortage of dieticians, meant that doctors provided rapid, often anecdotal dietary advice. While providers often had empathy and understanding of patients' circumstances, their training and context had not equipped them to translate that understanding into a clinical context. Providers seemingly could not reconcile their empathy with their perception of dr-NCDs[1] [diet-related NCDs] as a failure of prudence or responsibility by patients. Significant shortcomings within health systems and social services make reflexive practice very difficult" (Hunter-Adams & Battersby, 2020).

The study in the Western Cape provides an excellent foundation to begin understanding the conditions that HCWs practice under and the challenges of implementing training in a new context. The results showed the shortcomings of health systems and social services for HCWs further frustrated their practice due to these key health systems issues: "continued prioritisation of infectious diseases; short appointment times, complex health needs, provider turnover, and language barriers" (Hunter-Adams & Battersby, 2020:5). Similar health system issues have been identified in the current research project and have created challenges and frustration for HCWs in nutritional intervention. HCWs in this study also seem to simultaneously acknowledge that patients have little control over their dietary choices while at the same time blaming patients for their dietary choices.

The research done in the Western Cape found that reflexivity in practice may be frustrated through system shortcomings. Reflexive practice in health care refers to a "deeper process of reflection… examining one's own thoughts, feelings and actions and their impact on both the [patient] and on the self as the [health] practitioner" (Reid, 2016). The current research report builds on this through its findings, which show that there exists a level of reflection and improvisatory action that HCWs enact in clinical settings. This, rather than training or policy, is what constitutes nutritional interventions in practice. The current research report wishes to understand the tactical ways in which primary HCWs attempt to reconcile empathy for patients' circumstances with assertions of individual responsibility amid the health system's shortcomings. Its focus is on what nutritional

[1] Diet-related non-communicable diseases (dr-NCDs) and nutrition-related non-communicable diseases (N-NCDs) are interchangeable terms used by other researchers concerned with the influence of food on diseases groups. Both terms refer to the category of non-communicable diseases directly influenced by nutrition and diet.

interventions actually look like in the clinical setting (which is fundamentally social), far removed from policy or text books. The gap between training and implementation in HCWs' nutritional interventions can be understood through a richer understanding of personal and social challenges in the field. The daily practice of HCWs is what constitutes healthcare in South Africa and is thus, essential to research and the ultimate success of our healthcare interventions..

While much research has been done on healthcare and nutrition, it has often been considered from a patient-orientated perspective. This research aims to locate the practice of HCWs within more extensive discussions of healthcare promotion. The findings of the research report and the discussion will add to the cumulative discourse on the topic, as it considers the daily work of achieving nutrition from the perspective of those expected to advance it. This will allow a unique perspective of HCWs' experiences of implementing nutrition training in daily practice. Anthropology offers a discourse in nutrition unlike any other and allows the social organisation of nutrition to be critically examined. A prominent thinker and contributor to nutritional science stated, "In no area of biology is the relationship with the social sciences more inclusive or critical than in the nutritional sciences" (Barnes, 1968). The need for combining the social sciences with aspects of biology and nutrition is succinctly captured in this statement.

The key element in the research paper's argument is that, due to access to and interpretations of nutrition, it can largely be considered social in its approach and affects each individual differently. HCWs are social beings themselves and navigate through the social mazes of nutrition. Under global and national direction, HCWs are trained to implement nutritional intervention strategies to ease the burden of disease presented by N-NCDs and malnutrition. The environment that this nutritional training must be implemented in is unique and varies from one healthcare worker to the other. The patients that are seen differ in various parts of a country and have established eating habits, often culturally, socio-economically and socially bound. This is typical of South Africa, where there are regional variations in eating habits and access to food sources. Nutritional and epidemiological shifts within and across countries have changed the narrative regarding food and health. It is therefore of vital importance that all aspects of nutrition are considered.

The research report is structured in the following way:
Chapter One sets the scene for the research project by introducing the methodological approach that has been applied and the limitations encountered. Practice theory, which serves as the theoretical framework for this report, is also discussed in this chapter. Chapter Two explores how nutrition is framed within the global health literature and how HCWs' role as nutrition interventionists is understood. This discussion locates the study within the South African context while also drawing global comparisons. Chapter Three seeks to understand the inventive tactics of HCWs as they apply their nutritional training in the field and the practice of comprehensive care through family medicine. Following this, Chapter Four discusses the language of food and how it is

used by HCWs and the role of reflexivity in practice. The final chapter, Chapter Five, ties up the research project with a discussion of the findings.

CHAPTER ONE

Methodological approach during a global pandemic

Before fieldwork began, ethics clearance was granted from the University of the Witwatersrand's Human Research Ethics Committee (Medical), with further clearance being granted by both the KZN DOH and the National Health Research Database. Each site was further contacted for site approval, upon receipt of ethics clearance. Fieldwork was conducted in the eThekwini District of Durban during the second half of 2021. The period of fieldwork coincided with an increase in Covid-19 infection rates in South Africa that signalled the third wave of infections. The pandemic moved all methods of data collection to be remote and online. The primary reason for choosing an entire health district was for the diverse population and health services concentrated within eThekwini and the rich experiences it would allow. Additionally, it would provide further context to the conditions that HCWs practice in while following District directions.

The eThekwini District forms one of the 156 health districts in the country (Department of Home Affairs, 2022). The area is a testament to this inequality, varying between the highly urban city centre and townships in the surrounding areas. The HCWs who participated in this study practice in both areas and are from Durban or its surroundings. The eThekwini Health District's services are jointly provided by the Provincial Department of Health and the Local Government authority. There are seventeen provincial hospitals in the district and eight community health centres (KZN DOH, 2022a). Participants in this study included HCWs from both provincial hospitals and community health centres. This is one of the benefits that researching within an entire health district allows – a mixture of health facilities that operate under a single District order. Two local activists in the eThekwini District were also interviewed to allow a fuller picture of the food environment of the area to be painted. Below is a table summarising the participants of the study and their place of employment:

Place of employment	Occupation	Participants (**N=20**)
Phoenix Community Health Centre	Medical Doctor	3
	Professional Nurse	9
McCord Provincial Eye Hospital	Medical Doctor	1
	Dietician	1
Addington Hospital	Medical Doctor	1
	Dietician	1
Private & General Practice	Medical Doctor	2
NGOs and Activist Groups	Activist	2

TABLE 1: Participants of the research project

Participants

Twenty participants informed this research project. This included seven doctors, nine nurses, two dieticians and two local activists. Out of the 20 participants, twelve identified as female and eight as male. Two HCWs had received their primary medical training outside South Africa, in Zimbabwe and Uganda. While each HCW had their unique cultural background, most participants were Indian South African, with other Black, White and Coloured South African participants[2]. All names used concerning participants are pseudonyms.

A few HCWs had practiced in the eThekwini district for over twenty years, while other participants were in their earlier years of practice. Doctor Nikhil, the most recently qualified of my participants, drew attention to the difference in practice early in the interview when he stated:

> "Being a young doctor, we straight out of med[ical] school almost. So, we still have this habit of counselling our patients and being a bit more 'all-round' compared to the older doctors, I've noticed" (Nikhil, General practice physician)

A 'young doctor', like Nikhil, describes the differences within practice between the more recently qualified doctors and the less recently qualified. He reasons that those that qualified more recently have had a different level of training that is more rounded in its approach. A key question is what has changed in medical school from earlier training to now, and how does this influence daily care? More of this will be discussed concerning the nutritional and epidemiological shift in countries

[2] The four racial categories refer to the formal designation of race groups within the country- Black, White, Indian/Asian and Coloured.

worldwide and health systems' response. Regardless of this, however, this mixture of HCWs, qualifying at different times in different locations, creates what constitutes as health care in South Africa.

Due to the restrictions caused by the Covid-19 pandemic, I was forced to turn my attention to understanding the daily negotiations of food in the district through activists' experiences and the challenges they faced. The activists that informed the research project also had a unique role in building up the descriptive narratives of the sites in the research project. Interviews with these participants shed light on the difficulties that the population of eThekwini faced and provided descriptions of challenges that HCWs had to practice in and live in themselves. All HCWs lived in the eThekwini District at the time of data collection; they were all also faced with the same challenges relating to food (in)security and restrictions under Covid-19. Due to the growing need for healthcare during Covid-19, most HCWs remained employed, albeit under highly stressful circumstances (Spiers J, Buszewicz M, Chew-Graham C, *et al.*, 2021). During the Covid-19 pandemic, HCWs were placed in the category of ‘essential workers’ and ‘frontline workers’. HCWs in Africa were given concern in these times due to the “mental stress, physical exhaustion, separation from families, stigma, and the pain of losing patients and colleagues” (Chersich, Gray, Fairlie *et al.,* 2020) that they face while additionally caring for sick patients. How do HCWs help free others from challenges that they, themselves are facing?

Covid-19 created restrictions on movement that drastically changed daily life. A significant example of this is related to fishing laws and informal street trader and vendor licenses. A noteworthy activist in the Durban area, renowned for his success in drawing attention to the needs of those struggling in the community and creating solutions to ease these challenges, states:

> “All of a sudden- overnight, people who relied on subsistence fishing were told they cannot fish and need permits[3]…these people had been fishing for generations and depend so much on fishing for survival. What must they eat now?” (George, Food and political activist)

The frustration caused by sudden government policies to curb the spread of the virus was palpable in interviews. In addition to health-related anxieties, many people dealt with unemployment and food shortages, despite monthly distress grants being provided by the government. Another significant disruption to daily life was the effects of the Covid-19 lockdown on the informal trading sector, which suffered greatly in this period. The informal economy accounts for 5% of the gross domestic product of South Africa (New Frame, 2021) and has been petitioning for many years to be recognised in their contribution by providing more open laws to operate under.

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[3] Fishing permits are a legal requirement in the country. During Level 5 lockdown, these permits became more relevant as only those fishermen classified as 'essential services’ (not for recreation) were allowed to fish to curb the spread of the virus by limiting exposure.

Opinion papers in established news sources report on Durban street vendors feeling 'overlooked and undermined' by government (Daily Maverick, 2018), worsened in recent times when Covid-19 and civil unrest in the area made them feel the municipality did not consider them. The municipal system made many feel like they were kept "waiting in queues and running from cops" (New Frame, 2021) while "living perilously close to the breadline" (New Frame, 2021). These traders "sell everything from mielies to coat hangers and secret socks" (New Frame 2020). Activist, George, spoke more of how non-profit organisations such as Asiye eTafuleni (AeT) and others like Market Users Committee have been working closely with the informal trading sector for many years to try make daily life and work easier.

The presence of the established informal sector in Durban speaks of a resilient population that is forced to think in unconventional ways regarding matters of food and daily life. Other research in this area has yielded rich studies that speak directly to this topic (Khumalo & Ntini, 2021; Forkuor, Akuoko & Yeboah, 2017). In this sector, a voice has also been provided for the foreign population of South Africa who is forced into the informal economy to survive in a new country. This speaks directly to questions of 'lifestyle' and the controversy that the term presents in replacing a choice of a style of life with a given state of circumstances. A poignant article from Asiye eTafuleni speaks directly to this point, reflecting a story from an informal trader during the height of lockdown during Covid-19:

> "[A mother] sells cosmetics on the streets of Warwick Junction, and alongside her while she works, sit her two small children… [she] used to earn up to R400 a day, but now "it is a battle to earn R50," so she can longer afford to pay for childcare. She is a single mother from the Eastern Cape and has no family in Durban so she is forced to bring her children to work with her…only one of her children has a birth certificate, so she only receives one Child Support Grant payment per month. For the past few months she has been borrowing money from her co-workers so that she can eat." (Asiye eTafuleni, 2021)

The story of this mother and her young children points less to a chosen style of life and more to a forced *state* of life. How people navigate matters of diet and daily life, broadly classified under lifestyle and how they receive, appropriate, or reject the nutritional guidance from HCWs – is worth studying in its own right to help aid national policy being translated into individual action. How HCWs that both inhabit the same vicinity as their patients, and attempt to manage both their own and their patients' dietary challenges, is of interest to this project. The heightened effects of Covid-19 are worth discussing in more detail in how the daily life and practice for HCWs have been impacted.

Practice and Covid-19

The time of fieldwork coincided with an unprecedented time of stress for HCWs during a global pandemic, in which they were on the front line. HCWs had been practicing under restrictions and

copious amounts of stress for well over a year. Nutrition was particularly relevant to the crisis of Covid-19 as poor nutritional status and pre-existing noncommunicable diseases were identified as risk factors for Covid-19 (Zabetakis *et al.*, 2020).

To ease participants into sharing their experiences with me, I began by asking how daily practice had changed during the Covid-19 pandemic. This response was often preceded by a sigh and a moment of silent reflection on how a global pandemic has influenced daily practice. “You can’t have normal contact with your patients”, a long-working doctor in the medical field describes, “You touch your patients less…it has compromised, to some extent, what we can actually give to our patients. It makes us feel like we could do a little more” (Yusuf, Community health centre physician).

The circumstances that these HCWs have to practice in has only increased in complexity with the burden of a pandemic. Another doctor, more recently qualified and in his early years of practice, describes the changes with the pandemic as “quite an adjustment”. He says, “before [the Covid-19 pandemic] we never used to worry, we could just meet anyone and touch the patients without having to take two minutes to don on […] equipment before returning to an emergency, which is quite a big thing for doctors. We all just want to go and save [the patient], but now we have to protect ourselves” (Nikhil, General practice physician).

It was evident that the HCWs felt responsibility for those who entered their care and an inability to be as effective in unprecedented circumstances. I realised through participants' responses that Covid-19 was a feature of the clinical context in which dietary advice had to be dispensed. The presence of Covid-19 resulted in a lack of voluntary responses from HCWs not particularly focused in nutrition and speaks to a possible shaping of how much time or priority can be given to this type of intervention under such circumstances. Ironically, the lockdown presented all kinds of challenges to nutrition, causing unprecedented levels of food insecurity and child hunger (Headey, Heidkamp, Osendarp *et al.*, 2020). The effects of this lockdown period on dietary concerns and diet-related illness need to be researched in greater detail to establish the local and national challenges and how to support this.

Throughout the research project, it was vital to bear in mind the conditions that members of the health care workforce were operating in. This is seen in the approach, method, and substance of the interview process. The methodological approach will be further discussed in this chapter, including the challenges and limitations faced and how these were overcome.

Semi-structured interviews

The process of data collection was through online, semi-structured interviews. The biggest challenge was getting information on the research project to HCWs to respond to the invitation to participate. As it was all done online, I began contacting the various hospital management

personnel once national, provincial and university ethics clearance was granted. The procedure at different sites varied, but I was able to get a helpful doctor to post a flyer on a notice board at one site with details of the study and my contact information listed. There were two enthusiastic responses to this flyer. The respondents to the invite were both personally interested in nutrition, one being religiously motivated as a Sri Sathya Sai Baba devotee that followed a vegetarian diet, and the other being a doctor who sold natural nutritional products online. Both of these respondents were beneficial to interview and gave thoughtful insight into different factors that motivate food consumption besides simply terming it all related to 'lifestyle'.

Sri Sathya Sai Baba was an Indian Guru who is revered in India. His devotees follow his teachings on broader life and daily living matters closely. He has made many direct statements regarding aspects of nutrition:

> "...those who live on vegetarian food are less prone to diseases, whereas non-vegetarians subject to more diseases. Why? Because animal food is incompatible with the needs of the human body." (Sri Sathya Sai Baba,1990:34)
>
> He further adds to this on a separate occasion:
>
> "…meat-eating promotes only animal qualities. It has been well said that the food one consumes determines one's thoughts. By eating the flesh of various animals, the qualities of these animals are imbibed. How sinful is it to feed on animals, which are sustained by the same five elements as human beings! This leads to demonic tendencies, besides committing the sin of inflicting cruelty on animals…those who aspire to become devotees of god must give up meat, liquor and smoking." (Sri Sathya Sai Baba, 1994).

Guidance from gurus and other religious leaders in this capacity directly influences choices of nutrition. The daily practice of Sri Sathya Sai Baba devotees are based on inclusivity and tolerance, regardless of dietary practices. It is interesting to understand how HCWs navigate their own dietary choices and how they advise their patients from different cultures, religious groups or socio-economic backgrounds. The research participant who was a devotee also brought to attention the dominance of Western knowledge systems in nutrition and how the hierarchy of knowledge and what is considered 'good' and 'normative' advice may depend on your knowledge system.

The other participant involved in nutritional supplements was also particularly interesting through her journey from a medical doctor in the health sector of South Africa to a 'Health Coach'. Doctor Mirembe describes her first interest in nutrition beginning as a young girl in Uganda and slowly saw the change in foods over the years. "I remember strawberries used to be so tasty and sweet", she describes, "then I noticed as I bought them over the years that these big, pretty strawberries had

no taste". Mirembe expressed in detail the changes she saw in farming methods and the taste of food she found to be different. This also worked on her when she battled personal issues of being overweight and having to change her diet for health concerns. Mirembe is of the Christian religion and describes practices of mass farming and chemically manufactured food to "be against the plan that God intended for his creation", and adds how "this [chemically modified meats and plants] is not how God wanted us to eat". These negotiations of food farming and health regulation through diet led her to an established international supplementation group that promised naturally grown supplementation in a modern diet. The motivating factor was to supplement the modern diet with the vitamins and minerals being stripped away in our food. This points to the social capital that is present in eating healthier and more nutritious foods, even through additional supplements, that is expensive and often unaffordable for many.

Mirembe aimed to understand this course of supplementation through her training as a medical doctor, which allowed her authority in the field. Her persuasive arguments and scientifically-based knowledge of the human body even persuaded me to enquire about procuring supplementation for myself. The process of asking the same questions that I asked other participants pushed me into a period of self-reflection in which I considered the diet I had. Once the interview concluded, I immediately browsed through the website to get an idea of the products and prices. It was interesting to understand what varied responses I received from various sets of HCWs and how their responses shaped a reflection from myself, who interviewed them in the capacity of a researcher.

While these interviews from nutritionally-invested HCWs were significant in the information it provided, I soon realised the difficulty in waiting for responses through this method and decided to use snowball sampling instead. At the end of each interview, I thanked the participant and requested if they knew any other HCWs interested in answering such questions. I requested that they ask permission of the other potential participant and provide me with their preferred contact details, should they be willing. I was able to recruit the bulk of my participants using this method.

This recruitment method is largely why the research sample has been so distributed across the eThekwini District. Initially, I envisioned focusing on two or three sites, but with the restrictions in place, I soon realised that this method would be far more efficient while adhering to research precautions during the pandemic. I was pleasantly surprised with the way the research project was able to expand to include more participants from the area.

Due to a lack of in-person fieldwork and participant observation (based on Covid-19 restrictions), I conducted two additional interviews with very passionate activists in the eThewkini District. Both participants were directly involved in food, health and socio-economic challenges that faced inhabitants. These semi-structured interviews allowed a rich picture of the areas surrounding these health sites to be painted and the kinds of challenges facing the patients.

A total of twenty-two semi-structured interviews were conducted online with the twenty participants, as two additional interviews were conducted with two participants on separate occasions. A choice of online platform was offered to each participant. Most participants opted for a voice call over WhatsApp, with two others requesting a video call on Microsoft Teams and Zoom. Each participant signed consent to have the interview recorded, which was done on a separate recording device. The twenty-two interviews were then transcribed and listed from A-V (devoid of participant names) and stored online in a folder.

When I began the interview, I laid out a few preliminary general questions for participants. I sensed that some participants were uncertain of answering me on some questions relating to their daily practice. I realised some participants needed assuring that there was no 'right' answer to any question and my approach did not assess how much of the regulations and guidelines they followed. This speaks on the importance within the profession of following 'guidelines' and adhering to the correct procedure. I sensed how much participants relaxed as the interview progressed, especially those with whom I conducted a second interview. One participant, in particular, had a personal interest in nutrition and requested another session to talk. Participants agreed to be virtually interviewed at various times of the day and in various settings. Some nurses requested a call be scheduled during a lunch break at work. These participants were taken into account as to where the interview took place and if it could in influence the answers of participants based on where they were and if other colleagues were within earshot.

Health Districts

The health system of South Africa is nationally run and divided into manageable portions per province. Within provinces, there is a further division into health districts. According to Unger & Criel (1995):

> "… [the] district concept derives from two rationales:... the implementation of the PHC [Primary Health Care] strategy, requiring a decentralised management, (and) the organisation of integrated systems which implies that one single team manages simultaneously the district hospital and the network of dispensaries" (125)

The District Health System [**DHS**] development in South Africa was in response to the 'Alma Ata Declaration' (1978) and other public health-focused policies in the 1990s. The WHO identified the need for a vehicle for managing primary health care [**PHC**] delivery, which developed in the form of the DHS. DHS has been defined by Tarimo (1991) as follows:

> "A DHS based on PHC is a more or less self-contained segment of the national health system. It comprises first and foremost a well-defined population living within a clearly

delineated administrative and geographic area. It includes all the relevant health care activities in the area, whether governmental or otherwise" (4).

Thus, understanding the health system from a district level allows a distinct population and geographic understanding- ideal for studies in nutrition and other matters of what-is-termed 'lifestyle'. Focusing on a district level and how the district regulates implementation can be very beneficial in exploring how HCWs practice under the local, national framework and global expectation in nutritional intervention.

eThekwini District

The eThekwini District is situated on the eastern coastline of South Africa. It is the largest province of KwaZulu-Natal and the third largest of the country. The land's topography is characterised by its hilly landscape, with many gorges and ravines. The District is reported to have initiated programs to assist in alleviating food insecurity through "the creation of dedicated structures to drive agriculture, aqua and poultry farming; soya bean project, community support farms; community gardens, mushroom vs hydroponics project" (KZN EDTEA, 2021:3). There exists a powerful irony where people are food insecure despite living in, what is described as, a district with "an abundance of very fertile land…considered to be one of the most productive areas for agriculture in the province" (KZN EDTEA, 2021:6). This points back to another area of food procurement through fishing and restrictions limiting it. In these areas, informal trading takes place through the sale of fresh fruits and vegetables.

The warm Indian Ocean provides a popular vacation spot for locals and tourists to enjoy the warm water, teeming with marine life. The port of Durban is known as one of the busiest and best-managed ports in Africa and has a busy line of ships laden with goods constantly entering and exiting. The beauty of this area is often overlooked by the many socio-economic challenges it faces related to unemployment, HIV/AIDS and many forms of violence.

The eThekwini District of Durban holds 2 556 km² of unique terrain, with an equally diverse population. The population as of 2020 stood at 3,9 million. The average household size is 3,3, with 42,14% of households being headed by women and a large group headed by children and young people between 15 and 19 (eThewkini Metro, 2020). Out of the 3,9 million eThekwini residents, "2,1 million…live below the upper bound poverty line of R 1 227 per person per month, and 17.1%…reported having no income…16.8% of the population has no education while 5.8% have a higher education qualification" (eThewkini Metro, 2020:5). These demographics describe a population with uncertain monthly household incomes, which affects daily life. Poverty induces more socio-economic problems and worsens existing ones.

Health sites

The key informants of the research project were spread across the eThewini District, practicing in different sites. Two sites in particular provided the bulk of informants- Phoenix Community Health Centre [**CHC**] and McCord Provincial Eye Hospital. While all health sites in the district were considered for the research project, respondents to participate were primarily concentrated in these two sites. Both health facilities are far from each other and vary significantly in the patients who frequent their facilities.

Phoenix Community Health Centre

Phoenix CHC is located in, according to previous Apartheid laws, a formerly Indian township. While there are no current laws regulating residency, Phoenix still retains a majority Indian and Black population. Phoenix is characterised by hilly, green landscapes and ample fertile soil. It was in this tropical climate that early indentured Indian labourers farmed sugarcane. The area of Phoenix and its immediate surrounding areas are scattered with disused and active sugar mills, a testament to the early purposes of the settlement. The area now sees high violence rates, crime, drug use, and illness, especially NCDs and malnutrition. It is interesting to note that the area of Phoenix has been studied through The Phoenix Lifestyle Project, which found that there existed a high prevalence of cardiovascular risk factors in Durban South African Indians (Prakaschandra *et al.*, 2016). The study traced the accelerated rates of premature coronary heart disease in the area through increasing risk factors in younger people. The study acknowledged the community's origins as "a heterogeneous population of Dravidian and Aryan ancestry, and are mainly descendants of Indians who arrived in SA in 1860 as indentured labourers on the sugar plantations in Natal" (Prakaschandra *et al.*, 2016:284). Interestingly, the two are mentioned together and it could be merely coincidental that this type of generational sugar farming exists with risk factors linked with diet-related NCDs; or it may require more research in determining possible causal relationships between the two.

The services offered at the CHC draw people from all over Phoenix and the surrounding townships to queue in lines, sometimes for the entire day, just to get seen by a doctor. A doctor is present on-site in the facility at all times, with a night rotation between all doctors of the CHC. To better understand the context my participants were practicing in and some of the geographic details of the area, I drove through the area and observed some of the daily activities that happened around the area. A detour from the busy main road leading through Phoenix into its more minor, windy roads leads you into the heart of a vibrant community, with Phoenix CHC in the centre of it. The CHC is a single-level brown brick building with a dark green tin roof. Outside the green iron gate is a parking lot where relatives often sit and wait for loved ones. Entering the premises during the Covid-19 pandemic, all people are greeted by a security guard armed with a spray bottle of hand sanitiser in hand. The daily queue of patients stretches out far into the street during the early morning hours. These queues often begin the night before and lead into the early hours of the morning. Patients of the hospital are aware of the long wait ahead to see a doctor and would instead come early (or the night before even) to ensure they get seen on that day and are not

turned away or seen too late. Mothers with children in arms, faithful collectors of prescription medication, and other acute patients stand in a line to enter the CHC. A few 'tuck shops'[4] selling chips, fizzy drinks and other confectionaries are near the entrance of the CHC and make a convenient stop for those in line or before they enter the premises. The long wait often sees people buying a snack or *samosas* or an *amagwinya*[5] while they wait. In recent times, as food delivery systems have increased, patients may use their cellphones to order food that motorbike courier delivers to the entrance of the CHC. The CHC has created a whole food economy within its gates that is interdependent with the population it serves. A nurse at the clinic describes:

> "The amount of fast food that people eat has definitely increased…it's so noticeable in patients…there are even Uber Eats[6] drivers outside the gate that deliver food to patients while they wait!" (Salome, Nursing sister)

This indicates the time often spent in the CHC, waiting to be seen and the meal times that pass in this process. Doctor Yash has worked for many years in settings of PHC and is now in practice at the CHC; he describes how he has often been called out of the consulting room to attend to a patient waiting in line who fainted after missing a meal. Many patients already suffer from an illness that is often regulated with medication that must be consumed at designated times and preceded by food. Doctors and nurses at the CHC describe the number of people they see in a day and the lack of time they have to eat. Since before the day begins, the crowds that line up create pressure on all HCWs to ensure it is all cleared by the end of the day. "A few days I don't even get a chance to eat," Doctor Kavesh explains, "the patients are just too many…sometimes I don't know where the day goes".

Working under such conditions has created tension in a busy environment. In the main building, a long corridor separating two wards labelled 'Acute' and 'Chronic' are splattered with English and Zulu posters on the walls reading 'Abuse to members of staff will not be tolerated under any circumstances and 'Treat Health Workers with Respect; Verbal Abuse will not be tolerated'. Posters like this line the walls of health facilities all over South Africa in response to the verbal , psychological and even physical abuse that HCWs have faced in practice. A study done in the Western Cape found that 67,4% of participants, largely made up of nurses, had experienced some form of physics violence in practice (Steinman, 2003). The relationship between health workers and patients is of interest and how language facilitates these interactions. How would nutrition matters be dealt with between HCW and patient when an overcrowded system with limited resources creates a heated relationship? This heated relationship can often be overlooked as

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[4] A 'tuck shop' is an informal convenience store, often run out of people's homes.

[5] Samosas are fried dough stuffed with fillings of curried vegetables or meat; amagwinyas are fried balls of dough served with processed, ground meat (*polony*)

[6] 'Uber Eats' is an online food delivery and ordering platform run by Uber, an international transportation company

HCWs have been found to often find violence in practice as being ‘part of the job’ (Kennedy & Julie, 2013).

Doctor Yusuf works at Phoenix CHC and describes how patients specifically ask to be prescribed medication in response to illness, even asking for medication by name. “They come and tell you what they want”, Yusuf explains, “it makes it hard to try and talk about diet when they only want [medication]”. In a different health facility, Doctor Kholeka describes the unforgettable experience of a patient firmly telling her that they came for medical help and not to be told what to eat when given dietary advice for an illness. These frustrations of managing expectations may result in heated conversations between health practitioners and patients. Posters that are created as a behaviour regulator are evidence that there are expectations that are assumed of HCWs and what their job entails and how a lack of expectation fulfilment may lead to frustration. This frustration can run both ways as patients may expect HCWs in the same way that HCWs may have expectations of patients to follow their guidance and adhere to their diagnosis and resulting advice.

A dietician in the district who advocates for nutrition guidance still acknowledges the limitations of all health professionals advising in all aspects, including nutrition. He says, “[patients] don’t want to know what [the health worker] knows, they just want [them] to do [their] job” (Calvin, provincial dietician).

The dietician and social worker’s quarters are situated in a different location to the other activities of the CHC (as is the case in most health facilities). In Phoenix CHC, a slight diversion out of the long hallway leads you to two fully-functional wooden huts that serve as these HCWs premises for practice. The two are often situated next to each other or nearby, as services are often linked. For example, referrals to a dietician may be made regarding a nutrition-related illness and the practicalities of implementing these changes discussed. If the dietician feels the patient requires further social assistance through state grants or other means, they can be referred to a social worker who can try to assist. In the excerpt below, Janet, a passionate dietician at McCord Hospital, describes social work referrals:

> “I hate checking if they [the patients] have a grant because I feel like I don’t want to give them false hope that I can access them one because I’m not […] familiar anymore with all the different grants because I kind of leave that up to our social worker to do and I also don’t want people to feel like hopeful that I’m going to get them one. (Janet, dietician)”

This collaboration between the two departments allows specialising and keeping up to date with current information. Janet shows the necessity to work within the limits of your department as it can be overwhelming to be responsible for providing dietary and social assistance. She speaks highly of her role as a dietician, saying, “I love what I do, and I love being able to help people through food and through something that they are really in control of” while acknowledging her

limitations. It is interesting to note how the same dietician who mentions patients being 'in control' of food also continuously refers to the desperate state of many patients she has seen and the lack of basic needs being met. An interesting conflict exists as dieticians must reconcile their idealised state of nutrition in health (as something everyone is in control of and can regulate) with patient realities and their lack of control in fundamental aspects of life (relating to daily socio-economic struggles).

Reconciling theoretic ideals in health and local patient realities is an extensive theme in most health care disciplines (Smith & Joyce, 2012; Sue, 2002; Weaver *et al*, 2020). The ability for HCWs to do this determines their practice and what guidance they offer patients. Similarly, HCWs in other departments may not be as informed of current guidance in aspects and may have to refer patients to other HCWs who can assist or omit it from the consult. The limitations of HCWs should also be acknowledged, as the responsibility of carrying patients' hope for health and wellbeing outcomes can be burdensome.

A few months prior to fieldwork, in July 2021, Phoenix became a site of heated racial tension. Following the imprisonment of former President Jacob Zuma, after refusing to appear before a corruption inquiry, South Africa spiralled into some of the worst civil unrest in recent times (Financial Times, 2021). Supporters of the former president largely made up this group and were concentrated in the KwaZulu-Natal region, spreading to many parts of the country, especially Johannesburg. Riots and looting erupted in these parts of the country "fed by broad disgust at poverty, inequality and the government's failure to provide even the most basic services, like water or electricity" (The New York Times, 2021). Over 340 people died in this mayhem, with Phoenix being among the sites of highest tension in the country.

Opinion Writers in The New York Times (2021) comment on this:

> "Officials have called the violence an insurrection — an attempt to sabotage Mr Zuma's rival and successor, President Cyril Ramaphosa, in part by stoking some of the nation's oldest racial tensions". Phoenix is home to many Indian and black African residents. "Many Black township residents still live in crammed, low-slung houses with detached toilet sheds. Though plagued by crime and poverty, Phoenix has more robust homes, passed down through generations, some with multiple stories and security gates." (The New York Times, 2021).

The looting and violence created heated racial tension in this area, resulting in vigilante killings by citizens (Vhumbunu, 2021). The violence in the area was felt in Phoenix CHC, which sits directly in the middle of the community. A doctor describes his experience working a night shift at the CHC during the unrest:

> “No patients were coming, they were scared of what was happening…all the roads were blocked from work to get back home. I just told the security guard to lock the gates and the few of us who were there slept inside the doctor’s quarters until the next day” (Kavesh, PHC doctor)

In addition to treating physically injured patients during the looting and violence in the country, HCWs themselves had to face the stress of being in danger while performing their job. The country's violence threatened their safety, and they were forced to stay at work through the night. “I was so scared, and my whole family was back home” a nurse at the clinic describes, “I was constantly checking to see if they were fine while being scared myself at work” (Mary, Nursing sister).

It is commendable that HCWs were able to practice under such conditions in the year 2021 alone. The strain of a global pandemic and civil unrest stretched them thin as they tried to maintain usual practice under the conditions. Such challenges in health care are often a sad reality in South Africa. The resilience of HCWs and their inventive tactics in these times ensured that health care did not completely collapse under the weight of many pressures.

McCord Provincial Eye Hospital

Another site that many participants came from was McCord Provincial Eye Hospital, located off a well-commuted road in the suburb of Berea. The hospital offers provincial-level services and requires patients to have a referral from other health care providers. The hospital has 77 inpatient beds and no general outpatients (KZN DOH, 2022b).

Currently known as the province of KwaZulu-Natal’s eye hospital, McCord hospital was once a missionary hospital established as a central point in Durban. McCord Hospital was a well-established semi-private hospital, taken over by the KwaZulu-Natal Department of Health in February 2014, where it was repurposed as an eye hospital (KZN DOH, 2022b). Core staff and other staff that would fit the profile of an eye hospital continue to work at the hospital and have seen the shift in management. The resident dietician of McCord Hospital, Janet, has worked at the hospital for over ten years. She describes the shift since the hospital transitioned to an eye hospital and went from consulting with patients for general dietary guidance needs to those with visual impairments. This was largely older patients with vision impairments, many of whom suffered from NCDs and other illnesses that made their eyesight fail. Janet sees a limited number of paediatric referrals as visual impairment with children is not as frequently diet-related.

To better understand the site, I drove down the long one-way road on which the hospital building was spread. Beginning with the Out-Patients Department (OPD) at the beginning of the road, another larger building towers over the road with various wards on each floor. During Covid-19, the OPD queues were redirected to the staff car park to provide an open space for air ventilation.

Administration buildings line the rest of the road and buildings that are no longer in use after being taken over by the government. The hospital once saw a mixture of patients from the surrounding suburbs but is now limited to patients travelling far and near for an eye hospital.

It is worth considering how some HCWs who may be generally trained may work at a site, like Phoenix CHC or McCord Hospital. It may be the same basic training, but it must be implemented under such different circumstances, even if they both belong to the same health district.

Limitations

As nutrition in healthcare is such a broad topic and worth studying in manageable portions, it was important to limit the focus of the research project to the health worker's perspective. I found many studies done on nutrition from a patient perspective – with many authors expressing the need to include nutrition into holistic healthcare policy and planning (Nnakwe, 2012; Verma *et al.*, 2018). There seemed to be a gap in the literature concerning understanding how HCWs delivered dietary advice to patients and implemented the training they received.

HCWs are the ones who stand between policy and action and are a crucial part of bettering and maintaining health (Gaede, 2016). I realised that focusing solely on HCWs and their side of the process would yield a significant result. These results would show what is being done right and what may need improving to increase the success of nutrition intervention.

I limited my participants to those that practiced directly in nutrition-related interventions: doctors, nurses and dieticians. While many other HCWs are essential to the process, these three groups directly deal with the care of patients. The role of community health workers may also overlap in some aspects but have not been included for the sake of this research project. This in no way limited the reach of the research project as the three players are seen as key in upholding nutrition in health.

A limiting factor to the research project was conducting fieldwork during restrictions in a global pandemic. The implementation of social distancing, curfews, and limited access to health sites made fieldwork completely remote. This ensured safety to both participants and me, especially at a time of rising infection rates of Covid-19. This did not discourage the research in any way but instead prompted a desire to understand how HCWs were dealing with daily practice in addition to a global health crisis. The complex reality was that the burden presented by malnutrition and associated illness was still very present and lay in the shadows behind Covid-19. Identifying poor nutritional status and pre-existing non-communicable diseases as a risk factor for Covid-19 (Zabetakis *et al.*, 2020) further places pressure on nutrition. It is interesting to understand what extent of nutrition HCWs can focus on at a time like this.

While the pandemic did not hinder the research project, it largely influenced participation. This was seen in both the respondents' invite to participate and the extent of participation. Under non-pandemic circumstances, the research may have been conducted using in-person semi-structured interviews and participant observation. This access into health sites and the ability to gain trust with participants would have allowed a slightly more straightforward recruitment process. Instead, by sending out an invite to be responded to, respondents were limited to those particularly interested in the research topic. This was completely understandable as, being on the front line of response to the pandemic, HCWs were often overwhelmed under such conditions. A nurse who spent the last two years working under these conditions describes the anxiety she began to experience after working in such a situation:

> "I ended up with so much of anxiety but I've gotten out of it now. It has taken me a long time…over a year to get over the anxiety…just when I'm finding my feet again, I tend to get a little more anxious again every time there's a new wave [of infections]…or changes in the facility, it makes you a little bit anxious because then the demands get greater because there's a shortage of staff..then of course you limit your movements…you're scared to use the toilet because you don't know who would have gotten in before…you get wary about everything…your movement at work, being in a health facility, in a clinical environment. It limits even your thinking capacity because you just want to think about yourself" (Karen, Nursing sister).

The conditions that these HCWs have had to practice in the last few years have affected their everyday lives. With such fears and challenges to overcome, it was hard to imagine many HCWs responding to such a research participation request.

It was only after many interviews that I realised that many participants who willingly responded to the participation invitation were those who personally understood or cared about nutrition in some way or the other. While either for religious or personal health reasons, they wished to talk with me more on the topic. I did not want the research skewed in being exclusively HCWs interested in nutrition that participated, so snowball sampling allowed a more diverse population. Around forty people were contacted online via email and WhatsApp message. Out of these forty, only fifteen responded.

Theoretical Framework

The theory that primarily informs the research seeks to understand how nutrition training is *practised* in daily life. This is understood through practice theory. Practice theory is not a tightly-bound theory with a single definition but is composed of a family of theories that explain everyday life's routine, repetitive activities. While the field of Anthropology offers rich perspectives of the theory by the work of Anthony Giddens (1976;1979), Sherry Ortner (2006) and Pierre Bourdieu (1977; 1990), this research project draws exclusively on Bourdieu's work, the most relevant to the topic.

Practice theory explores, understands and analyses the dynamics of interaction under conflict between a bigger social structure on the one hand and human agency on the other hand. Practice theory highlights how and why there are differences in the motives and intentions of different human beings, how we adjust with each other, and how we transform the world we live in. How people negotiate that through their thinking with the social structure is looked at. Practice theory mainly studies how people act and perform in a given structure, both formally and informally, specific to one's culture. Thus, the main aim of a social theory is to show that people are social actors who affect the social structures in which we live, and in turn, they are affected by the social structure. Practice theory, therefore, studies the circular association of social beings under society. It understands the role of social structure on the individual and how the individual adapts and affects the structure through practice or performance by acting.

According to Bourdieu (1977), three central components make up practice theory- field, capital, and habitus. These three concepts will be briefly discussed respectively.

Field

The concept of field locates the daily life of people, the social agents, in their expansive array of interactions. These interactions involve discussions, negotiations and conflicts as social actors navigate their daily life. All people have multiple fields they enter and exit throughout the day and have to interact in these fields according to the field's norms (Bourdieu, 1977). The more traditional use of the word 'field' divides the world's activities and sites of interest into spheres that are respected as separated yet overlapping in some areas—for example, the fields of art, science, literature and religion. The concept of field, according to Bourdieu, is further subdivided into subfields to expose the more minor interactions within these broad fields. Fields are perceived as a microcosm in which social agents and institutions interact with one another following field-specific rules.

The rules in fields are not formalised but are tacit in nature and need to be internalised by the agents to demonstrate appropriate practices and strategies. The internalisation of field-specific rules enables the agent to anticipate future tendencies and opportunities (Bourdieu, 1977). There is no global rule that applies to all fields. The rules and conditions on a social field have to be found by empirical research. These rules are unspoken and unwritten but mutually understood by all actors in the field. The internalisation of these rules occurs by practising and repeating them, resulting in integrating them into individual personalities and gestures.

Field is a scene of a 'locus of struggles' with a network of positions. As each actor in the field works and has different intentions, aims and objectives, they strategise to maximise their own objectives and goals. It is these struggles that must be accounted for through empirical research.

Within fields, there exist differences in position. For example, and relating to the research, within the medical field, there exist positions of relative subordination from surgeons, doctors, nurses, dieticians, administrative staff and other workers in healthcare and the patients that enter this space. As each actor in the field navigates their intentions, they aim to maximise their objectives by strategising accordingly. Position refers to a given conceptual location of relative status, power, dominance, subordination or equality in a given field. All actors work under the same social fabric of the field while navigating their individual roles. The concept of power again comes into play and refers to the debate of structure and agency.

Bourdieu's theory of practice offers a middle-ground approach to structure and agency by acknowledging both as determinants of a particular practice (Bourdieu, 1990).

Capital

Capital is another crucial element of practice, according to Bourdieu. Variance in capital allows it to be a principle cause for distinction. People are endowed with a specific quantity and structure of resources they can put at stake to obtain the right to enter a social field- an entry price. There are particular sorts of resources within each field that are valued, referred to as 'capital'. These resources are not equally distributed through society, as made evident through the presence of power and the relationship it creates. Not all actors have equal access to forms of capital.

Capital is by no means limited to economic means but extends to the cultural, symbolic and social. Economic capital refers to money, credit, inheritance, properties, or other means for acquiring and controlling people, goods, and services. Social capital refers to friends, social class of family, social connections to people with money, power, or both. Social capital is associated with economic power and is enhanced by those judged to have a minimum degree of separation from others in power positions. Cultural capital refers to cultural inheritance, upbringing, education, academic qualifications, certifiable credentials and legitimated knowledge. Symbolic capital refers to prestige, honours, a distinction of some form linked to cultural capital, although not necessarily positioned for power or economic capital. Bourdieu has explicitly separated these forms of capital, but more for empirical means. However, they should not be understood in isolation from each other as they operate in tandem (Bourdieu, 1990).

Habitus

Bourdieu (1977) defines 'habitus' as: "a subjective but not individual system of internalised structures, schemes of perception, conception, and action common to all members of the same group or class" (86).

Habitus alludes to a person's or a collectivity's combination of dispositions, literally embodied by being internalised and expressed through the body. Dispositions refer to tendencies, propensities, or inclinations of individuals, institutions, or things. Bourdieu refers to the example of timidity and

arrogance and how specific body postures, stereotyped actions and even internal states of a person can be associated with such dispositions (Bourdieu, 1977). They are permanent guiding principles, prejudices and principles. These preferences are classifying and self-classifying schemes with which people generate and organise everyday practices and representations. In terms of its context and environment, the field has a direct bearing on the development or creation of the habitus. Furthermore, the habitus ensures that agents act according to field-specific rules as all agents tacitly recognise “the value of the stakes of the game and the practical mastery of its rules”.

On the one hand, the habitus is the result of social structure, of the social class (doxa) more precisely, and the rules of the game on the field that have been internalised (illusio) (Bourdieu, 1990). On the other hand, the habitus also structures practices and reproduces social fields, as individual strategies and practices are products of positions and rules that inevitably assure the economic and social conditions for reproduction. By acting in conformity with the structure, the individual conforms to the structure and reproduces it.

The class habitus that stems from our position on the social field leads to the Doxa. This knowledge of what is taken for granted in a field that sets social boundaries and limits our social behaviour. In this regard, the habitus limits practices and strategies and “entertains with the social world” by ensuring that action is performed intentionally without intention to conform to our relative position in the field.

CHAPTER TWO

Literature in the public health context

Nutrition and health literature is steadily increasing as scientific advancements increase knowledge of nutrition-related non-communicable diseases [**N-NCDs**] and other nutrition-related illnesses. The global food trade and subsequent expansion of the global palate have additionally inspired new literature on the topic.

Priyanka, a senior nursing sister from Phoenix CHC describes the influence of globalised food in her practice:

> "Sometimes even I get shocked when I hear the things patients think they must eat to stay healthy…what is all this *quinoa*[7] and other things…they don't realise how they don't have to go to South America to eat healthy when they can do it here [in South Africa]" (Priyanka, Nurse)

Priyanka describes a common reality in which patients are influenced by global systems and try to re-enact such systems locally. Literature is abundant on aspects of all these processes.

In order to narrow down the most relevant literature on HCWs as nutrition interventionists, a scoping review was done using the research question- *how do HCWs interpret, appropriate and dispense the nutritional training they receive in everyday practice?*

Scoping reviews involve a systematic process of sorting through existing literature on a topic, indicating literature gaps. The process followed the framework by Arksey & O'Malley (2005) and included Levac *et al.* (2010) recommendations. The keywords formed from the research question were used to compile the Boolean search term- *"health care workers" AND (nutrition OR diet OR food OR eating) AND (training OR learning) AND (interpret OR appropriate OR dispense) AND (eThekwini OR KZN)*.

Searches were done on EBSCOhost, Google Scholar and the South African Journal of Medicine. These research platforms provided a variety of results that widely address the research topic. A scoping review has been beneficial to this research period in which no in-person fieldwork could occur. The scoping review provides the research context to develop through what exists and provides a basis to analyse the research project's findings.
The results of the scoping review are charted as follows:

[7] Quinoa is a grain, originally farmed in South America

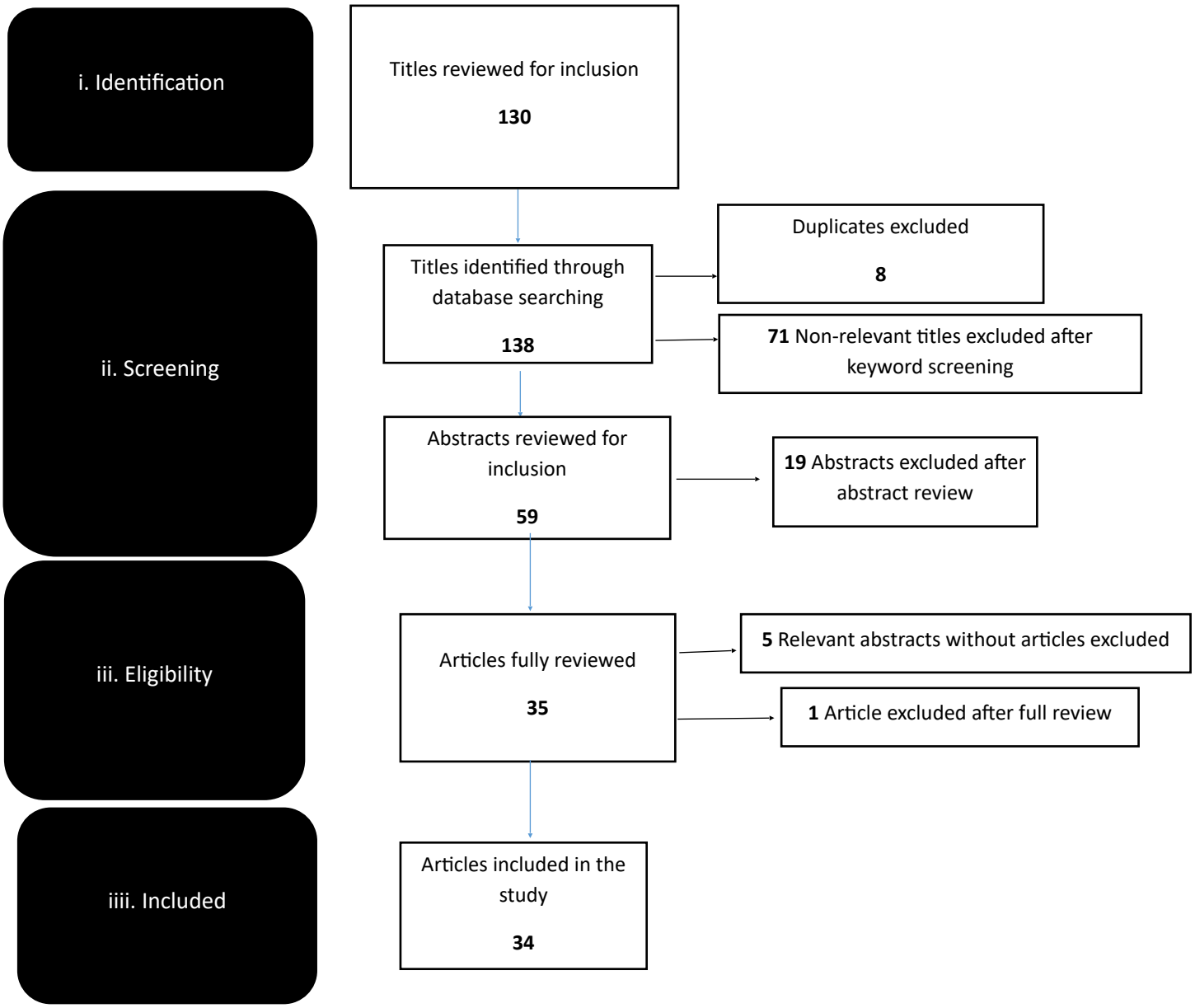

Figure 1: *PRISMA flow diagram of the selection process*

The 34 included articles are used to thematically divide this literature section into those most pertinent to the research topic. The central theme picked up in all articles included was matters in the public health context. The entire research report is embedded with literature on the topic throughout each chapter. This section pays particular attention to an essential aspect of literature that focuses on the public health context around nutritional intervention

Common themes identified in the included articles are discussed in the arena of public health. The themes identified were: *Malnutrition- a challenge, Malnutrition- a response, Nutrition in HCWs training* and *Lifestyle,* and will be discussed respectively to follow.

Malnutrition- a local and global challenge

The need to incorporate nutrition into health care is not a new phenomenon but has increased with the rates of malnutrition worldwide. Fanzo *et al*. (2022) identify malnutrition as "undernutrition, including childhood stunting[8], wasting[9], and micronutrient deficiencies[10]; overweight and obesity[11]; and diet-related NCDs[12]." (19).

The coexistence of undernutrition and over-nutrition creates a "double burden of malnutrition" (WHO, 2022), manifested at an individual, household, or population (communities, regions, countries) level (Tziomis & Adair, 2014). At an individual level, stunting or micronutrient deficiencies may co-occur with obesity or overweight (Modjadji & Madiba, 2019). An example of a household level is in a study done in a rural district of South Africa where acute malnutrition (in the form of thinness) in schoolchildren was identified, contrasting the high prevalence of overweight and obese mothers of the children (Modjadji & Madiba, 2019:9). South Africa is rampant with the double-burden of malnutrition at a community level, with high levels of undernutrition existing concurrently with communities with equally high levels of over-nutrition. The inequality in nutrition is evidence of South Africa being the most unequal country in the world (The World Bank, 2022). National inequality further drives global inequality, making the double-burden of disease spread to nutritional disparities between countries.

The global and national levels of malnutrition have not always existed as such. Fanzo *et al.* (2022) describes this change:

> "many countries have undergone what has been called the 'nutrition transition' over the past 30 y[ears], in which countries that have become more industrialised and urbanised shift away from traditional diets to diets high in fats, sodium, and sugar, and including more meat, and increasingly sedentary lifestyles" (19).

There is also an epidemiological shift (Omran, 2005) in many countries that describes "the shift from a high prevalence of infectious diseases and malnutrition resulting from pestilence, famine, and poor environmental sanitation to a high prevalence of chronic and degenerative diseases" (Popkin & Ng, 2021:2). As health policies are designed and implemented in response to health needs, understanding the nutritional and epidemiological shifts in a country begins answering why

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[8] Stunting: Low height-for-age; Globally, 149 million children under five were stunted in 2020 (WHO, 2022a)

[9] Wasting: Low weight-for-height; Globally, 45 million people were wasted in 2020 (WHO, 2022a)

[10] Inadequate intake of vitamins and minerals required for producing enzymes, hormones and other substances for development and growth; Iodine, vitamin A and iron are considered most important.

[11] Too heavy for height, according to body mass index (BMI) of weight-for-height; resulted from an imbalance of energy consumed and expended

[12] Includes cardiovascular disease (heart attacks, stroke), certain cancers and diabetes. (WHO, 2022a)

health practitioners' training is structured in the way it is. It also rationalises multidisciplinary and trans-disciplinary care for patients, inclusive of dietetic and social counselling.

A new challenge to malnutrition is the onset of a global pandemic. Unlike any other pandemic in history, Covid-19 prompted a disturbance in the rhythm of every country. Varying lockdown restrictions in countries has created real economic differences. The gross domestic product of South Africa has seen a 2.5% reduction as a result (Salisu, Adediran & Gupta, 2021:99). The non-economic effects (social and psychological) are being assessed as countries work toward returning to some sense of normalcy. The effects of Covid-19 on nutrition are significant, as seen in the Global Nutrition Report of 2021:

> "The Covid-19 pandemic is fuelling the global nutrition crisis and highlighting the importance of good nutrition for our health. Achieving healthy diets and ending malnutrition has become an even greater challenge than before, particularly for the most vulnerable groups such as people in poverty, women and children and populations living in fragile states…the strong links between poor metabolic health, including obesity and diabetes, and worse Covid-19 outcomes have highlighted the importance of improving nutrition for good health worldwide. Tackling poor diets and malnutrition, and the underlying inequities, policies and systems that drive them, is therefore a crucial part of recovering from the impacts of the pandemic and ensuring populations are resilient to such shocks in future" (Global Nutrition Report, 2021:10)

The pandemic has stretched global and national systems thin and exposed the challenges of countries. The most vulnerable are caught in the most turbulent aspects of this. Research conducted on past pandemics reported:

> "pandemic outbreaks have decimated societies, determined outcomes of wars, wiped out entire populations, but also, paradoxically, cleared the way for innovations and advances in sciences (including medicine and public health), economy, and political systems" (Huremović, 2019:7).

Critical reflection and research into this time of tragedy may help provide much needed public health intervention in nutrition matters.

Malnutrition- a global and local response

In many countries, including South Africa, nutrition has been delegated to Primary Health Care [**PHC**]. In 1994, South Africa responded to the malnutrition crisis with a multi-sectorial program, the Integrated Nutrition Program [**INP**], which includes the Departments of Health, Social Development and Agriculture. This has been implemented all over the country and includes activities like the Primary School Nutrition Program, food parcels and community programmes (Brits *et al.*, 2017).

The INP has undergone changes in time to address the population's changing needs. For example, “in 2010, the Nutrition Supplementation Programme (part of the INP) was renamed the Nutrition Therapeutic Programme (NTP) to emphasise that it was not just a social welfare programme but a therapeutic measure to address malnutrition” (Iverson *et al*, 2012). The name change from ‘supplementation’ to ‘therapeutic’ is an excellent indication of the deeper needs of nutrition and care and how it is not something that can just be easily supplemented through social welfare. The deeper needs of nutrition refer to ensuring wider availability and education of nutrition. By addressing nutritional challenges at a community and societal level through therapeutic means, it promotes that patients are more nutritionally confident by the time they enter the health care system. HCWs can then focus more on addressing patients' clinical and basic nutritional needs without having to get into too many social aspects. In an assessment done on the INP at PHC facilities in the Free State of South Africa, it was found that the program was not as effective due to poor implementation and monitoring of the program and poor follow-up of patients (Brits *et al.*, 2017).

Care in nutrition is by no means limited to the PHC sector. Globally, nutrition demands more specialised care, as health professionals are heavily relied on as sources of reliable, scientific knowledge, as previously mentioned. HCWs are given opportunities in countries like the USA to advise on dairy and non-dairy alternative products related to health matters (Clark, Pope & Belarmino, 2022). The idea that such product-specific guidance can be provided to patients is indicative of the state of authority that health professionals have in this area and the influence in daily activities (such as drinking milk) that they are capable of. Global models of care such as this may pressure non-nutrition-focused health workers in South Africa as they battle through challenging systems, mainly in PHC.

Calvin Young is a practising nutritionist at one of the largest and most established health facilities in eThekwini. He also serves as a provincial director and mediates national framework with local realities. He describes the challenges in bridging this gap with burden in his voice:

> “There is really so much work to be done between the national directives and understanding what the challenges are in each local clinic and hospital…it’s obvious that something needs to be done…but the lack of resources […] and the lack of training…some PHC facilities are so under-resourced with no phones, computers or access to training…it’s so hard to implement this there” (Calvin, provincial and local dietician).

Implementation within resource-limited settings can be frustrating and tiring amidst a global directive that continues to emphasise nutrition in healthcare.

Globally, unhealthy diets have been linked to over 8 million deaths a year, with over 40% of men and women being overweight or obese (WHO, 2021a). Prior to the Covid-19 pandemic, the nutritional and epidemiological transitions of the world prompted a global goal towards reducing the effects of nutrition-related health issues through maternal, infant and young child targets and non-communicable disease targets for 2025 (WHO, 2014). In December 2021, these targets were accelerated in the following ways:

> "Expand initiatives to prevent and manage overweight and obesity;
> Step up activities to create food environments that promote safe and healthy diets;
> Support countries in addressing acute malnutrition;
> Accelerate actions on anaemia reduction;
> Scale-up quality breastfeeding promotion and support; and
> Strengthen nutrition data systems, data use and capacity" (WHO, 2021a).

These targets aim to ease the double-burden of malnutrition and display how key global players wish to support those in low- and middle-income countries where the diet-related burden is heavily felt. Malnutrition and related premature deaths are projected to increase due to the Covid-19 pandemic, which caused exacerbated food insecurity and poor diets (Headey, Heidkamp, Osendarp, *et al.*, 2021). As much as global efforts are made to create a cleaner worldwide picture of health and diet, it is up to localities to implement these steps. Following this will look at how HCWs training is structured to respond to these dietary needs.

Local responses through healthcare workers' training

Before HCWs enter the field of practice, they are thoroughly trained through theory and practical skills. The entry requirements for a doctor varies to that of a nurse and dietician. To qualify with a Bachelors of Medicine, Bachelors of Surgery (MBBCh), a minimum of six years of training is required, whereas a Bachelor of Nursing Science (BNurs) and a Bachelor of Dietetics (BDietetics) take a minimum of four years.

The health sciences study in South Africa is afforded a higher level of capital than other disciplines. Bourdieu's practice theory explains the capital in reference, where capital extends beyond economic to social, cultural, and symbolic (see *Theoretic Framework*). As mentioned previously, within the faculty of health sciences, various degrees can be studied that require a minimum entrance criterion and vary in duration and qualification. From a perspective of time and subsequent student fees, different levels of economic capital are required. Academic entry requirements for each discipline also vary, as different academic competencies are widely required in different professions. Each field requires preliminary sciences subjects to be successfully completed at a certain standard before being accepted. An absence of science can exclude one entirely from consideration. There is also a minimum academic expectation that ensures acceptance in a highly competitive field. Studying to be a medical doctor affords a level of prestige

due to being highly competitive and having a higher entrance criterion than other disciplines and more capital requirements of various forms.

The requirements for different universities may also vary within a country, affording some more prestige than others. Particularly in South Africa, where Apartheid's drawn-out effects can be felt in structures like education, the differentiation of education in the country remains in some ways (Salisbury, 2016). A certain level of capital must be maintained throughout studying, with a new level being required to complete the degree successfully. Social capital is constantly exchanged during this time and may influence positions in the field. Entry into a new field, upon basic qualification, can depend on various factors, including practical requirements of the job. As more specialisation in the field is allowed, new methods of capital must be acquired, and new fields entered into.

Practicing HCWs are required to maintain competence in the field by additional up-skilling that is often demanded on the job. After working in the dietetics departments of the private and public sphere for many years, Janet, a dietician at McCord Hospital, expressed how she wishes her training included more aspects for her job. Janet works until 12:30 pm at McCord Hospital then works in a private location for the rest of the workday. Now a senior dietician, Janet reflects on the skills she had to learn along the way. She says,

> "From my perspective, I think [dieticians] get trained very well to be a government dietician…we have no understanding of medical aid, running a business [or] social media. We are not prepared in any way for that…we are very well-groomed for work in government and understanding the policies around that and managing patients from that sort of perspective" (Janet, dietician)

Janet found that her training did not equip her to be a private consult dietician. The theoretical and practical components trained her more to work in a government setting which she thoroughly enjoys. She says, "I love working in government as well. I feel like I can make the biggest change here…people don't have to pay for my services but they can benefit from the skill I have".

Another critical component that Janet felt lacking in her training was counselling. As she sees patients on a referral basis from doctors and nurses, she speaks about the gap in the system:

> "Often a patient will just get told, 'oh, you're diabetic, please go and receive this medication and refer to the dietician…they come to us like, 'am I going to die? Will I lose my legs? How long do I have?'…the doctor hasn't really counselled the patient" (Janet, dietician).

She finds many patients even asking her basic information, such as "What is diabetes? How can you manage it?". These sorts of questions are the basic counselling skills that Janet feels she

requires in addition to her dietetic training. “[The patients] come to us and we have to do quite a bit of the counselling…I don’t think that’s a skill I left my [dietetic] training with in a good way”, she says, “I’ve been a dietician now for…fourteen or fifteen years and it’s now something I can say I’m good at, but it’s something I’ve had to learn to be good at…from a training perspective, that’s what’s lacking as well”.

The skill of counselling is something Janet realises she acquired on the job and had to learn while she practiced her training. After around fifteen years of practicing these counselling skills through practical sessions, she can only feel confident in this skill. This reflection on training showed me how reflexivity in practice can practically improve systems and is, thus, essential to healthcare. From the interviews with dieticians in the study, I realised how the consultations they had with patients often forced them to translate the largely biomedical approach they were trained in into a more biopsychosocial one that was relevant to different patient’s context and their individual needs.

In the training of doctors, it differs entirely in how nutrition is taught. Nutrition is taught as a minor theoretical module in the first years of training. This module only lasts a few days and the next time they are introduced to nutrition is in the fifth year, during a family medicine rotation. During this block, medical students learn of aspects of nutrition and how to implement it in settings practically. Doctor Kavesh, who qualified from one of the best universities in the country, describes how interesting and informative this experience was:

> “I really learnt the most in that family medicine block…we learnt about practical nutrition aspects that our patients faced and how we can help them overcome this. Child and maternal care was often emphasised…I think that’s because the area we practiced in was hit so hard with malnutrition in kids and their mothers. Hygiene and sanitation were also a problem [t]here, so we combined this approach with educating children how to properly wash their hands and have good general hygiene for their health” (Kavesh, medical doctor).

It seems medical schools in South Africa may teach students how to respond to public health problems that are most pertinent to where they practice. This is a key point as it shows the tailored response to public health problems that tertiary education engages with compared to a more standardised approach. It seems that students were aware of the need to respond in such a way to the problem and focus on maternal and child care nutrition. The combination of nutritional intervention with health hygiene education is indicative of the public health approach that is combined in family medicine. The concept of family medicine will be discussed in greater detail in the chapters to follow as it contextualises nutrition in healthcare in a meaningful way.

Lifestyle

Nutrition cannot be mentioned without mentioning the buzzword ‘lifestyle’. *Lifestyle* is defined as: “the typical way of life of an individual, group, or culture” (Mirriam-Webster, n.d.). Anthropology

acknowledges the difficulties that the term has created as it suggests a choice. By discussing the term in itself, it ignores the complex life conditions that act on individuals to influence choices related to nutrition. Based on the socio-economic complexities described in each site of the research project and the way food is often less of a choice in many South African homes and more a means of survival or familial culture, it is clear that the concept of lifestyle is far more nuanced in its influence in health than the word implies. Pierre Bourdieu's work has contributed to arguments on 'lifestyle', as his framework of practice theory challenges the concept, particlarly through the habitus. Bourdieu's theory links health, lifestyle and social structures through the influence of the family and education on an individual's habitus (Huppatz, 2015). Habitus has a 'dual nature' and functions as a mediator between class and lifestyle practices (Kögler, 2013). The practices that describe different lifestyles can be understood through the 'dual nature' of the habitus, which refers to the following:

> "On the one hand, the habitus is an outcome of recurring patterns of social experience that are characteristic of one's social (class) position and manifest as dispositions of tastes, preferences, and perceptions…on the other hand, the habitus produces specific patterns of social behavior common to actors of similar social standing" (Ambrasat *et al.*, 2016:4).

While it is important to acknowledge the habitus' influence on lifestyle, Cockerham (2013) adds:

> "The merit of [Bourdieu's] perspective is that [he] fully (perhaps overly in some instances) acknowledges the important role structure has in shaping and often determining human social behavior, including lifestyles. This return to a more structurally-aware approach comes decades after the demise of structural-functionalism and the ascendancy of agency-oriented theories in health sociology and sociology generally" (127).

There has been a vital reconsideration of structural influence in healthcare. This research project wishes to take a middle-ground approach to matters of lifestyle relating to health, which acknowledges the structural influence on lifestyle while not overstating its influence. This is particularly relevant in South Africa, where structural inequality is still relevant due to the drawn-out effects of Apartheid.

The term 'lifestyle' has been added to other words to create complex compound words of 'lifestyle diseases' and 'lifestyle intervention'. This indicates that the concept of 'lifestyle' influences health and health systems. How does the way a person lives dictate disease and who can be responsible for intervening in this? This question will be looked at to follow.

Lifestyle diseases

The term was introduced in Japan in 1996 as a response to the proposal by the Council on Public Health in Japan to replace the term "adult disease" (Kang, 2004). The term describes "a group of

diseases where symptomatic appearances and progress are affected by living practices including eating, exercising, rest, smoking, and drinking" (Kang, 2004). The way these living practices are controlled is often not up to choice and is influenced by various socio-cultural and economic factors. When these factors are not considered, people can be blamed and stigmatised. Feelings of guilt may deter any change, leading to disease progression. Obesity stigma has been identified as a globalising health challenge (Brewis, SturtzSreetharan & Wutich, 2018). A study done in Durban aimed to expand the under-researched local narrative on the severe impact that stigma has on weight (Govender, Al-Shamsi & Regmi, 2019). The study found that weight stigma and the average household income are associated with abnormal eating behaviours and suggested promoting psychosocial support (Govender, Al-Shamsi & Regmi, 2019:89).

Lifestyle diseases are also linked to N-NCDs, accounting for 15 million annual 'premature deaths' (WHO, 2021b). Another key area attributed to lifestyle practices that may lead to 'lifestyle diseases', is using substances like tobacco and alcohol. Tobacco smoking is of particular interest in the South African context, where a study concluded that overweight, smoking doctors make 'terrible counsellors' (Bateman, 2013). This statement was made by Dr Derek Yach, the previous leader of the WHO's Framework Convention on Tobacco Control, in an article titled: *Doctors' lifestyles vital for SA's health - global expert.* Dr Yach explained how "doctors who smoke and present as overweight or obese are 'far less likely' to counsel their patients or become effective disease prevention agents, let alone engage in any public discourse on legislative health measures" (Bateman, 2013: 214). It is evident that HCWs and patients alike have to consider the implications of practices like smoking and drinking alcohol when it affects health. The reasons for using such substances may range between structural factors, psychosocial or other forms of economic difficulties. How HCWs can detach their personal feelings or advise against the same substances they may use is of particular interest. The same study that considered these doctors who smoked tobacco further stated, "when it comes to tobacco and nutritional choices, people favour today's pleasures over tomorrow's rewards. Societal pressures and environmental factors make health choices tough" (Bateman, 2013: 214). While health choices may be more 'tough' to navigate, it does not mean that nutritional choices are as indulgent as suggested in this statement regarding favouring pleasure. HCWs are also affected by structures that influence behaviour. While the personal experiences of HCWs may seep into consultations, it is problematic to make a generalised statement that they make 'terrible counsellors' based on a single aspect of practice.

In a systematic review on doctors' smoking habits on literature published in English and Spanish the results concluded:

> "Smoking status of doctors may affect their delivery of smoking cessation treatments to patients, with smokers being less likely than non-smokers or ex-smokers to advise and counsel their patients to quit but more likely to refer them to smoking cessation programmes" (Duaso *et al.*, 2014).

This study shows that doctors' tobacco smoking status influences counselling on the same topic, highlighting how counselling by HCWs is not devoid of personal experience.

Another area that this was discovered was through the advice that health professionals in the USA dispense on dairy and non-dairy alternatives (Clark, Pope & Belarmino, 2022). A study was done on this topic, one of the first in this area, and concluded that there exists a “personal bias in nutrition advice…[as] health professionals’ nutrition recommendations may reflect their personal nutrition choices” (Clark, Pope & Belarmino, 2022:1). This conclusion was determined after a survey conducted showed:

> “The majority of health professionals…would recommend both dairy and dairy alternative products to patients. However, health professionals who preferred PB [plant-based] milk or followed PB dietary patterns were more likely to recommend dairy alternatives and less likely to recommend dairy” (Clark, Pope & Belarmino, 2022:4).

This example is another powerful display of how matters of daily choices that can loosely be termed as relating to ‘lifestyle’, are entirely individual, even for the HCW.

It is clear that aspects of what is termed ‘lifestyle’ affect HCWs in the same way it affects the patients they see. HCWs may be aware of the context and situation of their patients and be sensitive to the factors that can influence specific modes of life to be lived. As mentioned previously, in a similar study in the Western Cape of South Africa, HCWs may struggle to reconcile the empathy they have for their patients’ situations with their perception of diet-related illnesses as a failure of prudence or responsibility by patients (Hunter-Adams & Battersby, 2021). With the pressure of lifestyle diseases and the responsibility it places on individuals for their health shortcomings, HCWs too may see diet-related illness as a responsibility of patients. This reconciliation of empathy with perceptions of diet-related illness is crucial for nutritional intervention that considers the entire situation of the individual and the factors that can influence decisions in nutrition.

Lifestyle intervention

Lifestyle intervention is defined as “any intervention that include[s] exercise, diet, and at least one other component (e.g. counselling, stress management, smoking cessation)” (Sumamo *et al.*, 2011). In this type of intervention strategy, there is help offered for a factor that can influence health outcomes like exercise and diet and a therapeutic component to help make an intervention in these areas more accessible. There is still another component that must be addressed in this type of intervention, however, which includes the contextual, social and other structural factors that influence aspects of lifestyle. This approach will be more biopsychosocial and will account for biological, psychosocial and socio-environmental factors that can aid health intervention strategies.

Until this important component is appropriately addressed, intervention in these areas may be weak and unsuccessful.

Primary Health Care in the Public Health Context

Primary health care [**PHC**] is described by the WHO as a "whole-of-society approach to health… [focusing on] people's needs and as early as possible along the continuum from health promotion and disease prevention to treatment, rehabilitation and palliative care, and as close as feasible to people's everyday environment" (WHO & UNICEF, 2018). Nutrition is largely bound within this context. This foundational sector of healthcare provides the most relevant indication of how national frameworks function and cope under community challenges that are uncovered through illness and addressed through healthcare. Nutritional health intervention at this level should thus focus on ensuring that it is tailored to best suit the community it serves (Siegfried et al., 2018).

The WHO has promoted the use of nutritional training for managing undernutrition and compromised nutritional care that can weaken the body's defences against disease and create greater susceptibility to NCDs. Sunguya *et al*. (2013) documented how nutrition training was fundamental in improving healthcare workers' nutrition knowledge and competence in managing child undernutrition, a common problem in PHC in South Africa. The WHO states that "the person responsible for health care at the family level is the community health worker…being the first point of contact that the family has with the health care services" (WHO, 1986:1). According to this definition, these workers should ideally be professionally trained to deal with the most prevalent health problems relating to nutrition. A large part of such training and dispensing of advice is from understanding the specific needs of a community (WHO, 1986).

The concept of public health has many critiques in an idealised state of health care. In a critique of PHC in a South African context, the following was discussed:

> "Inconsistencies and poor understanding of primary care and primary health care raises unrealistic expectations in service delivery and health outcomes, and blame is apportioned when expectations are not met…There is a need for renewed political and policy commitments toward quality primary health care delivery, re-orientation of health care workers, integration of primary health care activities into other community-based development, improved management skills and effective coordination at all levels of the health system. There should also be optimal capacity building, and skills development in problem-solving, communication, networking and community participation" (Dookie & Singh, 2012:2).

The concept of PHC is ideal for complex human populations, but without rigorous training in how to implement such care and a firm grasp on what PHC should be, the concept remains vague and is left to the personal practice of the concept.

The need to frame the public health context in relation to the research project's question on nutrition intervention has been identified through the scoping review performed. Within this context, a deeper understanding of the need for nutrition intervention is established the global and individual response to malnutrition.

CHAPTER THREE

Following from the understanding of the public health context being shaped as a response to the burdens of malnutrition, this chapter seeks to understand the daily practice of HCWs. This chapter will look deeper into the training of HCWs and how it helps them respond to the demands of daily practice, where they see patients who are all different.

Healthcare workers' training

The three groups of HCWs for this research – doctors, nurses and dieticians –are all trained at different nutrition levels. Dieticians are trained in all aspects of food and health, beginning with Nutrition 101 and moving into more focused clinical work. The status of a dietician in South Africa is equaled to that of a nutritionist elsewhere. In an interview with an experienced dietician in central eThekwini, she said:

> "Overseas we would be called a nutritionist, but in South Africa, like that's a little offensive to us [laughs]…nutritionists would just study community nutrition and basic nutrition guidelines. Whereas, a dietician, we do therapeutic nutrition and we're able to prescribe supplements and actually give personalised, individualised nutritional information" (Janet, dietician).

While light-heartedly stating the offence through difference, this distinction between a nutritionist and dietician in South Africa is particularly relevant to this research. The kind of advice that should result from such in-depth training of nutrition and all its aspects of health pays attention to the individual and can tailor advice around this.

In a study done by the *Lancet Planetary Health,* it was concluded that "medical education in nutrition across the globe is decidedly lacking" (Devries, 2019:e371). The study found that in 24 studies done in nutrition worldwide, medical students had uniformly low levels of nutritional knowledge and confidence in counselling. Devries (2019) comments:

> "Despite the paucity of nutrition curriculum in medical school, the study found that interest among medical students in nutrition is uniformly high. Previous research has shown that keen interest in nutrition among incoming medical students typically wanes by the time of graduation…when medical students do not see nutrition substantively incorporated into their curriculum and do not observe clinical mentors incorporating nutritional interventions into their care plans, what else can they conclude but that nutrition is not as important as they had once believed? (e371).

This refers directly to the attitudes surrounding nutrition and how it depends on the context it develops. Despite medical students having an initial interest in nutrition, it requires continued

support and emphasis to become part of the personal practice of doctors. It becomes highly subjective and dependent on the doctor's interest as to what degree the training in nutrition is implemented.

Nurses' basic training also includes nutrition but, once again, is limited. Upon basic training of all HCWs, there may be opportunities for further training or up-skilling. The prompting of additional training stems from various places- either through personal interest, professional requirements or local needs. Some HCWs develop an interest in certain care areas and specialise their training in this area. An example of this is Doctor Rayhaan, a family medicine specialist who was spurred to specialise in family medicine to address the rising needs of his patients. Family medicine provided holistic care for his patients, and he was able to use all he learned in practice practically.

Another way HCWs may engage in further nutrition training is through professional requirements or local needs that arise. All HCWs in South Africa are required to update their skills and maintain particular continuous professional development (CPD) points to comply with their professional registration with the Health Professional Council of South Africa (HPCSA). Many HCWs willingly comply, although the areas of training can differ vastly. In an interview with a long-practicing dietician in central eThekwini, she described dutifully attending conferences and training on aspects of nutrition throughout her career to fulfil CPD points. HCWs may choose courses of interest or use to them in their daily or future practice or may be indirectly pushed into one due to local contexts. In interviews with nurses at Phoenix CHC they describe their up-skilling of treating malnourished babies. This course became a requirement under the crippling burden of malnourished babies that these nurses had to attend to. “I just felt out of my depth”, a nurse describes, “my basic training didn’t prepare me for giving practical advice to these mothers bringing in these skinny babies fed on all kinds of wrong foods”. As many nurses felt this same pressure in a community centre, they were encouraged to attend a two-day conference on treating severe acute malnutrition [**SAM**] and moderate acute malnutrition [**MAM**] babies.

SAM and MAM babies are typical patients at Phoenix CHC. Many nurses describe the time they take to explain to mothers what to feed their babies to ensure they are not malnourished. Nurses who were mothers and from the local area spoke with confidence and authority on what they advised these mothers. Sister Salome shared a success she had in helping a mother in preparing food for her baby:

> “You tell the mother…instead of that why not make a healthy snack for them?, After we talked a lot she came and said,..’you know sister, I tried what you said of making the white sauce out of the baby's milk..the Nido, and it worked wonders because I was always wondering why the baby's not eating the pasta. I said, no let me take out some pasta and make it with the Nido , and then he was familiar with the taste and he ate it up’. I was so

> glad…you know, these are the little things that you bring about…just encouraging the mothers" (Salome, senior nursing sister)

Salome's confidence in advising her patients comes mainly from the fact that she has lived her whole life in the area she currently practices in and has a solid grasp of the circumstances of her patients. This kind of care is ideal for a PHC facility that offers care and practical advice to patients from community members. This style of care is largely in line with the intended principles of PHC, as laid out by the Alma Ata Declaration of 1978.

All patients are different

Another major factor of why nutritional advice must be tailored to a patient is because all patients are different. As previously discussed on the social nature of food and life practices, patients are all required to navigate their food choices while being embedded in a community, family and other social structures. These social structures do not allow patients to be considered entirely autonomous and often dictate choices. The very existence of different disease groups is a testament to patients' differences. What affects one may not affect the other. What works for one may also not work for the other.

Regarding many chronic illnesses, there is often a cocktail of social, cultural, familial, environmental and socio-economic factors that drive dietary habits and contribute to an impairment of health. When it comes to diet-related matters, it is often deemed the responsibility of doctors, nurses, and dieticians to untangle and dissect this complex aetiology to find the root cause. Patients who present as overweight or obese have more than just weight to address but must address the cause of excess weight. Weight gain may not solely be due to an excess of processed foods but could also be due to several challenges such as miseducation, genetics, mental health issues, a lack of access to quality foods or even family norms around food. These are just some of the many factors influencing people's personal choices.

Patients are also people with desires that may feel more comfortable in a certain way of life over another. A dietician describes the difference in counselling a patient whom she says "wants to be helped" compared to those without the same apparent desire. This is common with HCWs categorising patients as those who want help and those who do not. This begs the question of what constitutes wanting to be helped? Furthermore, if circumstances and structural factors impede will, how are patients who are unable (rather than unwilling) to be helped considered?

HCWs additionally want to feel useful, even though they often feel useless given the circumstances under which they are expected to affect change in patients' lives. The dietician's idea of help may feel most successful if it is based on what she is primarily trained to do- dispense dietary guidance. However, the patient's attitude can similarly be determined by not being able to or not wanting to be helped in the way that the dietician is helping them. For example, patients may

be unable to implement the dietician's changes practically. Some patients may open up about this experience while others may feel uncomfortable as counselling on food choices can feel deeply patronising. The push-back that HCWs feel in nutritional intervention may be more to do with the training style that is not always guaranteed to land with the patient and may frustrate them. Further research must be done to establish how the nutritional intervention that HCWs are trained in is received and practiced in daily life.

While it may be encouraging to work alongside patients who are more responsive to nutritional intervention, it seems up to the determination of the HCW to tailor their advice in a way that resonates with the patient. Similarly, it is up to them to determine whether or not they will pursue nutritional intervention even with those patients who appear ‘less willing or less able to implement changes. This implies that success in nutrition intervention is a testament to HCWs' individual inventiveness.

The dietician describes seeing a patient sitting in front of her, paralysed with fear, as she begs her to help her change her diet so she does not lose her eyesight. She had just been referred from an ophthalmologist after a degeneration in her eyesight due to “uncontrolled diabetes”. If she did not change practices that influenced her health, particularly her diet, she would completely lose sight in her left eye. “If I don’t get my diabetes under control, I am going to lose my eyes and I need to see. What must I do, bearing in mind I earn this?”, this plea stirred the heart of the dietician to make the most cost-effective meal plan she had done. She was never trained to aid with such a restricted budget, but the dietician was spurred on because she saw she was so determined that it made her want to do something permanent for her. In resource limited settings in which primary training is blind to the context in which it must be implemented, there seems to be a heavier reliance on patients' attitudes and motivation. It is difficult to imagine how other health professionals not trained as extensively in nutrition practice within such limited settings and how much time they have, especially during a global pandemic, to advise on all aspects of health and nutrition.

Other nurses and doctors shared the same sentiment of being more motivated to help patients that seemed to *want* to be helped. A doctor, passionate about nutrition, describes her challenges with patients who seem offended when routine health problems get nutritional advice. Doctor Chisanga describes the silence that followed after a patient responded with, “I came here for medical advice, not to be told how to eat”, after dispensing nutritional advice. It became clear to Chisanga that it would be futile to offer any advice to this patient, and she should instead provide a consult free from any dietary guidance. It is interesting that dietary guidance is not considered *medical* by patients and could indicate a more general understanding of what medical consults are perceived as. With the guidance of media advertisements and other unsolicited forms of dietary guidance through television, radio, the internet and other platforms, finding advice on what to eat seems wasted during a consult with a healthcare professional. Patients may further consider dietary advice ineffective or unactionable, which means that it cannot have any real consequences for

their health. If advice is too far removed from the patient's reality, they may find this same advice condescending to be told how to eat. Dietary advice is not also considered to offer immediate treatment and is thus not considered as valuable as a prescription for fast-acting pharmaceuticals. Nutritional intervention often involves tailored modification of guidelines and a reassessment in time to determine the intervention's effectiveness. It is not easy to keep 'checking up' on such intimate matters of food and weight with people and hold them responsible for their choices in what they eat and drink. Even the process of a patient weighing themselves on a scale in front of another person can be daunting, especially if they appear to deviate from the norm weight. The same dietician, Janet, mentioned previously, describes how she avoids this:

> "I try my best to make them comfortable…we begin by just talking and weighing is the last thing I do. Many patients feel embarrassed to do this…especially if they're obviously overweight…you don't want to do that to them and make them feel bad. It's always good to try build a relationship with them first and the last thing you should do is make them stand on a scale" (Janet, dietician)

As Janet described this important precaution to maintain in practice, I imagined the vulnerability of the scenario she described. I imagined how many must feel as they stand on a scale in front of a professionally trained dietician. Relating to Bourdieu's concept of practice theory, the disparity in capital between the HCW and the patient is prevalent due to the higher capital of being professionally trained to work in the field. Due to this difference in capital, those without the same skills and knowledge must consult with those who do have this. These differences create varied positions of power in the field and can affect comfort regarding more personal matters (weight, income, familial and social factors). It is up to the HCW to adjust their consults accordingly, perhaps by making small changes in these ways of changing the order of the consult in order to build rapport first.

Patients all have different life contexts and varied abilities to exercise choice in such circumstances. It becomes reliant on the HCWs to tailor advice around their needs while considering their context if advice is to be effective. It was noted that when patients are willing and self-motivated to change, it pushes the HCW to help them more. Doctor Chisanga describes a patient who asked her for help and what she felt:

> "It really made me so excited to help this patient when she asked me for help and said she wanted to change her eating…I said, 'yes! *this* is the change you need" (Chisanga, senior medical doctor)

This kind of willingness was also echoed by other HCWs, particularly those trained in intervention through brief motivational interviewing. This type of intervention is a tool that aims to increase the desire to change in the one needing intervention and the belief that they can do it (Hall, Gibbie &

Libman, 2012)). The concept developed in the field of addiction to help people work through ambivalence about behaviour change based on the following assumption:

> "Most patients do not enter the consultation in a state of readiness to change their patterns of drinking, smoking, exercise, diet or drug use; therefore, straightforward advice-giving will be of limited value and will lead to the kind of non-constructive dialogue often encountered in the addictions field: the interviewer's arguments for change are met by resistance from the patient" (Rollnick, Heather & Bell, 1992).

This intervention technique has been expanded to general medical care and involves the technique titled 'RULE" -'Resist the righting reflex; Understand the patient's own motivations; Listen with empathy; and Empower the patient" (Hall, Gibbie & Libman, 2012). This method aims to swap a paternalistic approach with a more coercive one, leading to lasting results. While this may be a step in the right direction, the final step of empowering the patient is far easier said than practically done. A patient may leave a consult feeling empowered, but it is highly dependent on the patient's circumstances and ability to enact profound change that will determine if change can occur. This kind of counselling may effectively motivate the patient to desire lasting changes, but the reality of enacting these changes depends on many other factors and cannot be guaranteed and are often out of the patient's control.

These differences in people and contexts create various patient populations to exist. The differences in patient populations may result in a need to specialise in specific disciplines. One disciple is of particular interest to the research project- family medicine- and will be discussed to follow.

Family medicine

"Family medicine asks the question of what is the patient behind the disease; not what is the disease of the patient" (Rajan, Family Health Care Specialist).

These words rang in my head long after my interview with Doctor Rajan. By this time, I had four prior interviews with other family medicine specialists, and after this, I realised the premise of why they were such interesting exchanges. The interviews impressed me greatly with the relative level of depth these specialists had in aspects of nutrition and health. The reason became clear- family medicine considers the *person* of the disease and not the individual disease condition; this made all the difference.

Family medicine is:

> "The medical specialty which provides continuing and comprehensive health care for the individual and the family. It is the specialty in breadth which integrates the biological, clinical and behavioural sciences. The scope of family medicine encompasses all ages, both

> sexes, each organ system and every disease entity." (American Academy of Family Physicians, 2019)

This kind of integrated health provided by a single physician has its roots in early medical care in which the first physicians practiced as generalists. They were responsible for all roles of medical care- "they diagnosed and treated illnesses, performed surgery, and deliver babies". This type of medical care is unlike modern medicine, where specialisation occurs and disrupts the traditional understandings of hierarchy and 'capital' in the medical field. With advancements in technology, the expansion of medical knowledge and social influence (McWhinney & Freeman, 2009), physicians began limiting practices to defined and specific areas of medicine. Following World War II, the specialisation of disciplines thrived, leaving a diminishing generalist practice. A continuing prestige in specialisation and the increasing value of technical and research skills made generalist practice an unpopular career (McWhinney & Freeman, 2009). Currently, there exists a social prestige around specialisations and diseases (Norredam & Album, 2007). Those at the top of the hierarchy are:

> "active, specialised, biomedical, and high-technological types of medicine practised on organs in the upper part of the bodies of young or middle-aged people were accorded high levels of prestige. Medicine with the opposite characteristics had low levels of prestige" (Norredam & Album, 2007).

More technologically advanced types of care require further training and further economic capital. Adding to this, according to Bourdieu's practice theory, it is additionally endowed with symbolic and cultural capital that heightens its level of prestige. This applies to the physician's prestige and to the patient too who is "young or middle-aged" (Norredam & Album, 2007). This age group is considered part of the workforce and an essential part of society; the social capital they are granted is more than that of children and older people. Care for this age group is probably awarded more importance due to their ability to contribute through their work economically. This kind of care seems like someone is being saved through medical intervention and is different to geriatric or palliative care, where it is assumed that little can be done to save the old or those with severe, complex illnesses. It is evident through specialisation that varied capital levels exist in a field and create distinctions and degrees of power.

Nutrition intervention falls into the category of having opposite characteristics to those considered more prestigious and thus considered less prestigious. Instead of "active, specialised, biomedical and high-technological" medicine, nutrition intervention involves more counselling and navigating behavioural change within many contextual constraints. Nutrition intervention forms part of general care and care for certain specialities where diet-related considerations are more relevant, such as in relation to diet-related non-communicable diseases that can lead to the progressive degeneration of major organs. Nutritional intervention has now become an expression of HCWs'

role definition, as mandated by global and local structures. The level of capital that nutrition intervention holds in medical practice and general society can additionally determine how much attention is paid to this matter. As care becomes increasingly super-specialised, the break from early generalist practice becomes more distinct. This break has led to a more inclusive discipline, as the public found the fragmentation of their care different from the comprehensive, continuing care they previously received and became increasingly vocal on this. A major consequence of this fragmentation of care was a deterioration of the doctor-patient relationship (McWhinney & Freeman, 2009). The response to this was the formation of family medicine as a speciality.

The history of family medicine is fascinating in understanding how it emerged as a response to people's needs. For this reason, this kind of care seems most comprehensive in its approach and includes nutrition in its scope. Doctor Katheryn is a recently retired family physician who spent many of her prime years in McCord Hospital. She describes how training in family medicine in the early 2000s helped her “see the person as a whole person”.

The statement by Katheryn was fascinating, although mentioned quite casually. The ability to see a whole person behind the eye, lung, brain or other organ is fundamental to the discipline and responds to people's need in caring for their comprehensive needs. Family medicine considers determinants of health, another crucial aspect of modern health care.

The discipline of family medicine is significant in the practice of specialists and in general medical students. Dr Kavesh, a doctor who qualified a few years ago at a leading South African university describes:

> “In fifth and sixth year we do rotations in different blocks….in the family medicine block was where I learnt most about nutrition. I also learnt how to implement it…they taught us about reflexive practice…we also did a rural block that was part of it. That’s where I learnt the most about nutrition” (Kavesh, PHC doctor)

The basic principles of family medicine specialisation allow a focus on the holistic needs of the patients and provide practical aspects of training. Family Medicine specialists spoke of the continuous relevance and practical guidance that specialising in the disciple allowed. Doctor Jameel adds:

> “At the family medicine registrar program…we have monthly meetings where we have academic days basically that cover a range of topics including diet, lifestyle changes and non-communicable diseases” (Jameel, PHC doctor)

These academic days that he describes were very interesting as he went on to say how, “There were interesting presentations that we had to…critique, for example, the Banting diet, the Mediterranean diet…stuff like that.”
The relevance of even expanding the medical gaze to understand and critique aspects of diets are so vital and show that the whole patient is being considered. The life behind the patient is understood more profoundly. By discussing it and critiquing its relevance and benefits, doctors felt able to provide informed and tested advice to patients. The method of critiquing diets based on scientific facts endow these doctors with confidence and authority in aspects of nutrition.

This method of teaching has not always been part of family health care. A family medicine specialist who qualified over twenty years ago did not critique diets in the same way (the same diets were not even established then) but still held the same rigour in understanding the whole patient. This shows how the discipline of family medicine is dynamic and aware of shifts in the population's social needs.

While the training in family medicine has been cited as some of the most comprehensive and inclusive of nutrition in medical physician training, it is still wholly dependent on the individual in how it is implemented. Within the discipline, it considers the *whole* person. Nutrition is just one component of this, and while it may suit the needs of the research project, it may not be the main component of the whole person that the doctor focuses on. This is where personal reflections and interests take precedence and dictate even how such knowledge is implemented and dispensed. For example, a family medicine specialist may learn comprehensive training but may have a personal experience in life that focuses largely on one part of health, such as family support. This may drive the doctor to focus on this aspect over nutrition or others in a consult. This is only practical as it is unreasonable to expect doctors to constantly provide every patient with complete, holistic care in a single consult. For this kind of care, ongoing and continuous assessment is needed. The doctor is forced to triage advice to patients, with the order determined by personal guidance. Training will not be able to guide doctors through every aspect of advising every kind of patient in different circumstances and with a different set of means. It is at this point where personal choice by doctors must be applied.

Tailoring of advice

HCWs are forced to apply their training in the health sciences into their practice, but this is not devoid of personal experience. As mentioned previously, studies have found that the personal choices and preferences of HCWs can influence their guidance and advice (Hunter-Adams & Battersby, 2020; Clark, Pope & Belarmino, 2022; Bateman, 2013). It is fascinating to understand how HCWs reconcile personal preference and experience with their practice and tailor their advice to the patient population they see.

While HCWs may be trained to understand nutrition at a general level, they cannot be trained to identify it in all its forms in different contexts and have to learn it through purpose or experience. Linguistic variations of foods and local varieties may take practice to understand and familiarise oneself with the ingredients to advise accordingly. Diets that include local ingredients may be overlooked to the less attuned HCWs eye, often mainly due to lack of practice from habit or not being from the area.

A now-experienced nurse described the challenges of being a fresh-faced nurse twenty years ago and arriving in a new place all alone. She had trained in Mpumalanga and moved to Durban for personal reasons. Being of a rich Sepedi heritage, there were many things she had to quickly learn in a predominantly Indian township. The personal adjustment itself was challenging, leaving behind family, familiarity and comfort. The most challenging, however, was advising patients of whom she had no grasp of their personal and social lives. “For some things, it was okay,” she said, “but when it came to matters like diabetes, obesity and all these other things, I had no idea what to say. I was young and inexperienced and didn’t understand their lifestyle”. She describes the time and experience it took to understand the patients she saw in a better way to advise them.

Many participants echoed the initial challenges of the field. However, the inventiveness of HCWs was evident by overcoming these challenges and gaining mastery in this field. “Yes, of course, I advise my patients daily on nutrition”, Veronica, a PHC nurse, confidently says, “I know what they eat and I know how to advise them. They can’t fool me when they come with their sugar sky-rocketing, and I ask them what they had in line while they waited to be seen…of course, the *Coke* and sweets they had while they waited will affect their sugar results”. Sister Veronica has learnt from years of experience that the long lines in the clinic and lack of appropriate food choices while waiting may force already sick patients to consume sugary drinks and sweets. She is not only able to tailor her resulting advice based on her awareness of the local patient population, but is also able to interpret the results of a sugar test with this in mind. In a different situation, an unaware HCW may assume the patient has another factor determining the sugar results and diagnose and prescribe care accordingly. This shows the extensive knowledge that HCWs are expected to gain as they serve a local population, particularly in PHC where resources are frustrated.

A question that was asked to all participants in the research project was ‘What has been the biggest influence in how you personally understand nutrition?’. This question prompted a few seconds of thinking by most participants and was constantly followed by a significant event or person of influence who shaped how they understood nutrition. In settings with apparent dietary influence, such as in diet-related illnesses, HCWs may rely more heavily on personal influence. Sister Lakshmi, a professional nurse at Phoenix CHC stated:

> "The biggest influence I think is because my father's been diabetic…from a very young age [for me]…for my entire life…now I'm trying not to become diabetics so I try to eat healthier, or as healthy as I can. I even became vegan to prevent myself from getting these, you know, because my father had every chronic issue you can think of. So the way I carry on [in] my life is the same way I educate my patients." (Lakshmi, professional nurse)

The statement shared by Lakshmi is significant in her concluding statement of how the way she lives her life and the choices she makes regarding food and health is how she wishes to educate her patients. This approach may result in an emphasis on matters relating more closely to personal experience for her, such as diabetes she saw in her father and a genetic predisposition for this that she fears for herself. Sister Lakshmi shared how she now follows a vegan diet, separate from her husband and 5-year old son, both of whom she cooks non-vegan and other meat dishes for.

Another nurse, Sheryl, at the same clinic spoke as passionately about nutritional intervention, which I soon realised stemmed from an entirely different place to Lakshmi- personal weight gain and following of diets. "About ten years ago, I was 89 kilo[grams], and it was because of my personal events at home", Sheryl describes. "I was going through a divorce, and I became depressed…I would eat whatever I had…then gradually, I realised that was not me. I was changing myself to be somebody else altogether…then gradually I pulled myself together and started on [a] nutrition program on my own…I'm now actually 54 [kilograms]" (Sheryl, nurse). The stark difference in dietary influence is evident through the two stories of these nursing sisters who work together in the same facility. While one may be motivated by fear of others' ill-health, especially of loved ones that are close to one and have been seen suffering, the other may be entirely personal and stem from something as nuanced as emotional and mental health challenges caused by personal matters.

Some influences in nutrition may go unnoticed at first. For example, Professor Yunus, a family medicine specialist, described his most significant influence simply as "my wife". After chuckling at this realisation, Yunus adds that he only really became aware of what he was eating after he got married. "My wife is a great cook, and she likes to cook healthy food," he says, "she makes a lot of dishes in a Mediterranean diet and other healthy things with lots of vegetables. So yeah, it's all my wife [laughs]". Yunus' reflection highlights the often unnoticed influences that can precede action. Yunus may be inclined to tailor his advice according to foods that he eats and enjoys, without even realising this. This may result in a lack of focus on nutritional intervention, which is also a testament to the personal influence of nutrition in the daily practice of HCWs.

Dieticians, on the other hand, are explicitly trained to tailor advice to patients and advise them according to their health problems. Calvin, the dietician at Addington Hospital, describes how he implemented training programs in breastfeeding for mothers at the gateway clinic.

> “There are many mothers who do not know the basic steps of breastfeeding, and it’s something I realised was a common problem. I developed a training program with other people that runs at the clinic on the weekends to guide mothers in breastfeeding. This has really helped many mothers so much and saved babies from malnutrition” (Calvin, dietician).

Calvin displays how the standardised tailoring of dieticians can be expanded to tailor larger-scale nutrition intervention programs for a population. It is equally interesting to note the programs and training that have resulted as a response to patients’ needs and the populations’ restrictions.

It is important to note that the habitus of practice limits the range of advice that can be dispensed as it implicitly maintains the rules of the field. This ensures that practice is kept within certain bounds and is why anecdotal advice can go unnoticed in nutrition implementation. Habitus is formed and maintained through a person or collectivity's combined dispositions. The habitus that HCWs form in settings will reflect their training and individual experiences. This habitus is where practice takes place and is maintained by adhering to the rules of the field.

CHAPTER FOUR

The preceding chapters have aimed to provide the context of malnutrition in healthcare and describe the global and national responses. The practice of HCWs has then been detailed to describe how they train and practice in such contexts. This chapter will focus on noteworthy aspects in practice relating to how nutrition is spoken of in daily practice and reflexively understood.

The language of food

The sub-discipline of Linguistic Anthropology allows an examination of an important aspect of life-language and communication. One method of understanding how people perceive the status of something is the way it is talked about. According to Karrebæk, Riley & Cavanaugh (2018), "food is a social and semiotic fact, and language plays a key role in its construction, evaluation, mediation and definition" (18). The very language used around food and aspects of lifestyle create the social environment, even in healthcare.

Each conversation with HCWs that were part of the research project was unique and full of personal sentiment, character and preferences. A fascinating aspect of language regarding nutrition and health is how those involved in the process talk on aspects of it. In all interviews, there was a distinct way HCWs spoke on *food*, *nutrition,* and *diet*. These three aspects will be expanded on to follow.

The Oxford Dictionary (n.d.) defines these three related, yet distinct terms in the following way:

Food	Nutrition	Diet
1) any nutritious substance that people or animals eat or drink or that plants absorb in order to maintain life and growth	*1) the process of providing or obtaining the food necessary for health and growth*	*1) the kinds of food that a person, animal, or community habitually eats*
	2) food or nourishment	*2) a special course of food to which a person restricts themselves, either to lose weight or for medical reasons.*

Table 2: Definition of Food, Nutrition and Diet

It is important to distinguish between 'food' and 'nutrition'. While nutrients describe the essential element in food, nutrition refers to the first definition for the sake of the research. This implies

nutrition to be a *process* of providing and obtaining (nutrient-rich) food *necessary* for *health* and growth. This is an essential difference to the definition of food *maintaining life* and growth. Both imply a sense of positive development through growth, yet food is required for sustaining life and nutrition for promoting health.

The list of what may count as nutrition (necessities for health and growth) includes an array of animal and plant matter, cooked or uncooked, processed or unprocessed, and in various forms, flavours, and textures. Nutrients may be lost in cooking, modifying or storing, yet food that contains *some* nutrients that promote health and growth can be classified as nutrition. When foodstuffs and drinks become stripped of any nutritional value and do the inverse -health degeneration, it no longer serves the purpose of food or nutrition, according to its definition. These substances like alcohol and extremely modified and processed foods need to be considered through the third category of *diet*.

The definition of diet describes any recurrent intake of a substance by a person, group or animal. This definition is more expansive in what it includes and is open to anything that can be consumed. Diet, in this sense, refers to that which is habitual and consistent in intake. This differs from its other definition of particular foods promoting health and purposefully restricting to certain foods promoting weight loss.

An important component of nutrition and health is the language used to describe what is consumed. As seen from the stated distinctions in food, nutrition and diet, the way HCWs engage with what their patients consume reveals the perception of the role of food in health. The language also reveals the perceived role that the HCW feels concerning the patient and their health and how changes in what they eat can influence health outcomes.

Words in practice

The most frequented word that doctors, nurses and dieticians used was ‘nutrition’. Most questions in the interviews that were posed to HCWs used a language of primarily ‘nutrition’ and may have influenced some word choice of participants. However, it was interesting to note the change in reference when asked about nutrition and responded with answers of ‘food’ and ‘diet’.

Sister Vanessa, a senior nurse at Phoenix CHC spoke of how important nutrition was for all patients she saw. A typical day in the busy clinic consisted of young and older patients. A prolonged period in the paediatric ward emphasised the importance of nutrition in healthcare. In response to how she saw her role in promoting patient nutrition, she replied,

> “My overall belief is that health education is the first line of treatment…when you start teaching patients how to eat properly throughout the day, the rest of it falls into place… nutrition plays a very important role in whichever patient- whether you’re dealing with a

> baby to your geriatrics. It's an ongoing thing, it's something that each day requires- which is nutrition" (Vanessa, nurse)

Vanessa's point on health education was a common phrase by other nurses at the same clinic. The concept of educating on health, from the young to the older, was a priority for many nurses. This involved teaching on the practical day to day elements that promoted health and required navigation between options. In these health education sessions, contextually relevant examples were given to patients that guided them through a typical day. In areas where there seemed to be more choice, guidance was given, down to brand specification.

Vanessa went on to explain how she counsels her patients, especially with children, she said:

> "I have taught a lot of mothers to plan and give them innovative ideas on how to do things for their kids…I ask them, 'why buy it when you can make it?', even homemade custard, instead of *Ultramel*[13]" (Vanessa, nurse)

It seems this kind of education on health is aimed at the child's provider, particularly the mother. Vanessa uses the power of relating real items, like the beloved custard brand of South Africa, with a homemade version where the ingredients are controlled, ideal for appropriate restriction. This is done hoping that practical guidance is easier to implement changes as thinking can be lessened as general guidelines do not have to be thought through at every stage requiring decision. The underlying belief in health education is that people do not *know* and should be informed to act appropriately. This filters down to the day to day decisions, such as should I have a ready-made porridge for breakfast containing preservatives or an alternative lower in preservatives or fresher? It is noted that while HCWs might receive training about nutrition, they talk to their patients about 'food.' This is because food is a social, cultural and familial practice. It has emotional and symbolic qualities. 'Nutrition' reduces food to its effects and utility. Thus, health workers effectively bridge the divide to nutrition by linking it to food.

Another big aspect of this in regard to meat consumption, especially in the areas of eThekwini. There are many cultural groups in this area that have a diet heavy in meat compared to other parts of the world. The South African Indian community mainly refers to this as HCWs in Phoenix CHC often mentioned this.

Vanessa mentioned how she counsels her patients and how patients may confide in her saying things like, "I didn't have bread because I couldn't afford it, but I had *biryani* instead because it was leftover from last night". *Biryani* is a traditional Indian dish that can regionally vary and has its own unique character in South Africa. The main components are rice and a protein provided in either

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[13] *Ultramel* is a brand of sweetened, ready-made custard

meats, chicken, seafood or vegetables. The most traditional in South Africa is either mutton or chicken biryani and is combined with potatoes. While this may be good in moderation, it seems inadvisable to eat that for multiple meals.

Another instance of this is when another nurse at the same CHC many South African Indian patients she sees “lack the finance to actually buy the proper nutritional food, so they’re basically sticking to the same staple food” (Leah, CHC nurse). Being also of South African Indian background and living in the area, she then shifted in her language and became inclusive of herself as part of the group. She continued, “…it’s also our, our…how do I say…we, of Indian origin, we will eat like curry and rice instead of changing into a more healthier lifestyle”. The *curry* that she refers to implies a South African Indian variety of curry made with primarily mutton and chicken meat products.

The word ‘food’ came up mainly in relation to HCWs having to offer their patients advice that stemmed from a more social nature. These were not areas that they were particularly trained to deal with but did so out of personal care. When referring to patients and the food in relation to health, terms of nutrition and diet were used. Food referred to ‘staples’ and the basic requirements of life. When asked what the biggest challenge to adequate nutrition is for patients, many HCWs responded that the lack of finance restricted buying proper food and being forced to stick to the staple foods that lack high levels of nutrients. Staple foods in South Africa refer to things like maize meal, samp, bread and other low-cost, high energy foods.

Food also was referred to concerning the literal giving of food through vegetable gardens. Many HCWs mentioned vegetable gardens in clinics that supplied fresh vegetables to patients without cost. This eased the burden of the clinic's social worker, who sought to procure access to sufficient nutritious food. When food could not be supplied, supplements could be prescribed to patients who needed it for health reasons.

Food was also referred to as a “help” by a doctor who sadly spoke of many of her patients' extremely poor economic condition. The doctor, who saw the peak of her practice at a heightened time of the HIV/AIDS epidemic in South Africa where there was no available treatment, describes the distressed state she was in as patients suffered from a separate lack of income and subsequent lack of food. In the current age of treatment for HIV/AIDS, food has become necessary for adherence to medication. However, there have always been food challenges even relating to the basic food requirement for daily life that many did not meet. “It was challenging to treat many patients”, the doctor describes, “when they were uncertain about their next meal”. A dietician describes her lack of nutritional guidance to some as she says:

“I tell them, you need to see the psychologist or the social worker first and then you can come back to me. Your issues are way bigger than knowing what to eat. I can see they’re not going to focus

on what I'm saying when, right now, they're just worried about how they're even going to get a taxi fare home…it kind of depends on the order of care that they require and then we go from there" (Janet, dietician).

This statement shows how challenging the individual life of a patient is and the level of understanding that each consult requires by HCWs. It also shows the necessity of nutrition but the order of care it falls into. There are often so many socio-economic challenges that plague a single patient that the HCW cannot solve all in one consult and must address the most pertinent first. As the dietician correctly states, without a sound psychological state, thinking on matters of *proper* nutrition may be too hard even to discuss.

Finally, the word 'diet' came up largely concerning restriction and considered measured choices. It referred to "the basic diet for different chronic conditions", or "vegetable-based diets", "Mediterranean diet", "the Banting diet", and other forms of dietary exclusion. Diets always implied some form of restriction, but a sense of power came with this. A long-practicing doctor describes diet as "the only thing people had" and could be monitored, controlled, and adjusted daily. Interestingly, diet, in this case, refers largely to restriction, as it is more readily accessible than many forms of nutrition. Many HCWs spoke more of diet in relation to restriction rather than the inclusion of more varied food groups or nutritional sources. Many HCWs spoke of empowering their patients in this way and "putting [patients'] health back in their hands through their diet". Diet acts as a form of treatment by HCWs as it implies a level of change and informs choice. Choices are made based on health considerations. Some HCWs feel more comfortable knowing their patients make the daily navigations of health before seeking other forms of treatment. A dietician of a general hospital sees patients of all kinds that are put on all forms of medication. Being trained in dietetics and being fully aware of the influence of nutrition on some diseases, she is particularly thrilled when patients come to her for dietary guidance prior to immediate prescription for treatment through medication. In relation to doctors working in tandem with her as a dietician, she says,

> "When I get a patient that says that the doctor's given me three months to make a change to
>
> my nutrition and my diet before they put me on medication, I'm like, your doctor's amazing. You can thank them for that because they actually believe you have the capacity to change…I often feel like patients get given medication because the doctor thinks they're never going to bother to make any nutritional changes, so let's just put them on medication and send them on their way" (Janet, dietician).

It is interesting that diet is related to medication and is seen as a treatment in itself. This implies the power of nutritional control and its influence on health.

The language associated with people's eating habits and their effects on health is worth understanding in all their differences. It may not seem obvious at first through listening to a conversation, but each reference to the intake of nutrients through the language of ‘nutrition‘ ,’food’ and ‘diet’ carries a unique meaning and implicit meaning with it. HCWs may not be aware of the language change they use for this, but its presence shows that a certain amount of navigation is required by HCWs to implement nutrition into practice.

Reflexive practice, reflections in practice

We do not ‘*store*’ *experience as data, like a computer: we* ‘*story*’ *it.*
(Winter, 1988:235)

Reflective practice is considered a “paper requirement of [one’s] career progression in health care” (Koshy *et al*., 2017:1). It can be defined as “learning *through and from experience* towards gaining *new insights* of self and/or practice” (Finlay, 2008:2; emphasis in original).

One of the early theorisers of reflection, Dewey (1933), identified reflection as a specialised form of thinking. Reflection was considered “to stem from doubt, hesitation or perplexity related to a directly experienced situation” (Finlay, 2008:3). While Hunter-Adams & Battersby (2020) identified HCWs to find reflexive practice very difficult amidst “significant shortcomings within health systems and social services” (1), I argue that reflexive practice is widespread in health care in South Africa. Furthermore, reflexive practice is required in response to these shortcomings. To understand this better, it is worth understanding what the concept of reflective practice implies.

Reflexive practice is considered necessary in the health sciences due to the nature of work and each patient's individual experience with a HCW. Each patient who enters the health system is placed in the care of HCWs. In a very real way, the patient’s life is in their hands. This kind of pressure can be overwhelming, so such thorough theoretical training must be solidly established before practical implementation occurs. Very often, reflection in medical practice occurs when situations go wrong in care. For example, “postoperative complications, missed diagnosis, a dissatisfied patient [or] failed procedure…these situations stay in one’s head and force us to begin to think about whether they could have done anything differently” (Koshy *et al*., 2017:1). Reflective practice does not always exist in difficult situations when things go wrong; positive reflection can be more rewarding and just as helpful in building confidence and helping repeat it in future practice. For example, “A well-managed cardiac arrest, an interesting seminar or conference, a patient thank you letter [or] a difficult but well performed procedure” (Koshy *et al.*, 2017:1). Through this process, the assumptions of everyday practice are examined and allow self-awareness and a critical evaluation of a practitioners’ own responses to practice situations (Finlay, 2008:1). Reflexive practice is thus conceptualised as lifelong learning (Balic & Romstein, 2009).

There is certainly at least some form of reflection that takes place in HCWs, evident when asked direct questions on past experiences. As stated, refection can both be in positive or negative experiences. In interviews with HCWs of this research project, they were asked what the most challenging experience they have had with nutritional intervention was and what the most successful encounter they had. Due to the semi-structured nature of interviews, there was no specific order that these questions were asked in. However, the responses of HCWs were interesting as they indicated that 1) reflection in practice does take place; 2) reflecting on positive and negative experiences are subjective and differ from one HCW to the other. The immediate response of most HCWs to the question asked indicated that they had thought on this before, in some way or another, and had altered their practice accordingly. For example, Doctor Jameel reflected on his most challenging encounter with a patient regarding nutrition in the following way:

> "This patient came in determined to get her medication…I tried to offer her advice on diet and all that but she wasn't going to leave without a script and didn't want any advice on what to eat…I was young, and since then I realised that not everyone wants the same things…now I don't like to push too much if patients aren't willing" (Jameel, doctor)

This experience at a young age for Jameel disheartened him in a way that made him reconsider his practice. The only way such an adjustment of not pushing too hard if patients do not want that is if Jameel reflected on this encounter and changed his actions accordingly. The change would be to suit both the needs of his patients and himself. He did not want to pressure his patients into something they did not want to do and be paternalistic about care. He also did not want to continue practicing in a way that may make him feel uneasy. It is not easy to address all patients' needs, especially if it is not communicated in the right way. The posters that line many hospital walls in South Africa that talk about zero tolerance for abuse against health workers are testament to the frustrations in practice and the challenges in health worker and patient relationships. This may result in HCWs choosing how they wish to deal with patients based on past encounters.

Reflexive practice is typically considered as reflection in practice and on practice, however, there is a third reflection that influences practice- personal reflection. When discussing nutrition issues with HCWs of the research project, they began with usual, standard advice: "I give a lot of nutritional advice…we see lots of NCD patients and it's important that they know what to eat" (Karuna, nurse). Many other replies from HCWs were also standardised in the same way, linking nutritional intervention and advice to routine N-NCD and malnourished patients. However, when discussing this further, the reflection was extremely evident even in this kind of practice.

By the end of the interview, Karuna began to share some of her experiences with me. A key question asked to all participants in the research project was 'what has been the biggest influence in shaping how you think about nutrition?' At this question, I felt participants relax slightly through the tone of their voice and their relative informality of answering. The brief pause signalled a

reflection in participants' minds between asking the question and getting a response. Karuna provided the most insight in her answer when she responded:

> "The biggest influence…is because my father's been diabetic, from a very young age [for me]…for my entire life…now I'm trying not to become diabetic so I try to eat healthier, or as healthy as I can. I even became vegan to prevent myself from getting…you know, because my father had every chronic issue you can think of. So the way I carry on [in] my life is the same way I educate my patients"

As soon as Karuna shared this sentiment on her experiences, her other responses became clearer. I was glad that it was one of the first interviews conducted and could be considered when conducting the other interviews. The relevance of personal experiences in the practice of HCWs in matters of nutrition is significant. Each HCW is a person that has also lived through experiences relating to health and nutrition and have a personal opinion for themselves on the matter. It is in times when there is no formal guidance on how to carry out nutrition intervention strategies that HCWs successfully must rely on their own inventive tactics to respond to the situation. In the case where some HCWs have a deeper interest than others in matters of nutrition, how would they deliver this to patients without coming across as paternalistic? Hunter-Adams & Battersby (2020) describe the "anecdotal" form that this advice takes. Other HCWs may not be interested at all in matters of nutrition and can adopt that attitude instead of nutrition counselling.
This does not imply that HCWs are wrong for letting their personal experience and reflections be part of practice; rather, they look at how they can use these experiences in practice at a moderately standard level of care. The lack of training in how to implement nutrition matters into daily practice and how to tailor advice to the context of patients should be taught to HCWs.

During the research process it was important that I, as the researcher, engaged in reflexive practice and considered the factors that may influence my research. One of the factors being that I am from the city in which the research was conducted and had experienced nutrition consults in similar settings. These very consults were what prompted me to question such a topic but I could not let my personal views on the topic lead the research. It was important to be aware of my positionally in the research project and ensure that it did not influence the interviews conducted or how they were discussed.

CHAPTER FIVE

Discussion

Understanding the implementation of nutrition into healthcare from the perspective of those responsible for practically carrying it out is vital as HCWs are core to the constitution of health care in the country. This research project has aimed to explore and understand how global and national policy responds to the crisis of malnutrition and N-NCDs and how HCWs are the link between global health dreams and local realities of implementation.

The research report's findings have been able to add to the discourse on nutrition intervention in healthcare in South Africa. It has also highlighted new findings in the field, particularly in the eThekwini District. The report began with a discussion of a parallel study in the Western Cape that focused on a similar topic of HCWs' perceptions of N-NCDs (Hunter-Adams & Battersby, 2020). Here, training in nutrition was identified as inadequate to deal with the demands of the patient population. Instead, anecdotal advice was often provided to patients when further guidance in training was not provided. The motive behind providing such advice is driven by the responsibility the HCWs feel for the patient- the living being- that sits in front of them, waiting for answers and guidance from them.

Although there is an importance placed on malnutrition intervention, this research report has found that nutritional intervention has not accrued a lot of ‘capital’ in the medical field. Patients may not see dietary advice from HCWs as ‘medical' advice and may not feel they are being truly helped in the way they expect. When such expectations are not met, particularly in resource-limited settings, frustrations can develop and complicate the relationship between health workers and patients, leading to resentment, mistreatment and even abuse in both directions.

Another notable finding relates to the keen awareness that HCWs have of their patients’ food choices being limited by several factors such as resource constraints and family practice, amongst other things. While being aware of this, a persistent and contradictory narrative from HCWs of patients ‘not wanting to be helped’ still exists. It is important in this instance for HCWs to acknowledge their limitations at times and draw more heavily on those who are specially orientated to deal in matters of nutrition. In this case, it would refer to a dietician. This is due to the expectation that patients have in the kind of advice they are given. The role of a dietician is to dispense dietary guidance and is the expected outcome by those who they consult. Until nutritional intervention is afforded more capital in the field of health care in what constitutes as ‘medical advice’, doctors and nurses may feel unable to advise all patients in aspects of nutrition consistently.

Further research is required to better understand the role of patients in nutritional intervention, how patient willingness in consults is determined, and how it influences advice. Policy planning should

be aware of the limitations of patients and how their attitude and ability to enact advice influence how HCWs dispense advice. The research report has unpacked another majorly under-researched area of stigma concerning overweight and obesity. The attitudes of others have been seen to influence the health outcomes of patients and should be addressed through further research.

As nutrition has been identified as a public health concern, an upstream approach to food policy needs to be addressed. This is in line with the following research in public health nutrition that concluded the following:

> "public health nutrition, through the medium of health promotion, needs to address these wider issues of who controls the food supply, and thus the influences on the food chain and the food choices of the individual and communities" (Caraher & Coveney, 2004).

HCWs have still consistently been seen to be inventive in their tactics of tailoring advice to their patients. This has been observed in local brand awareness and recipes that medical consults involve, an adaptation of dietary recommendations to resource constraints, and health workers drawing on personal anecdotes. These tactics are woven into practice and dispensed as nutritional guidance where gaps in tailoring exist. The lack of application in varied contexts has forced HCWs to rely heavily on such tactics amidst urges for more extensive training. A noteworthy (if potentially concerning) way this has been done has been by focusing diet on more a restrictive basis than an addition of new foods, as this may seem more attainable. Working within such resource-limited settings may prompt HCWs to give the most accessible advice they can- have *less* of x food or cut it out completely.

Rather than focusing on the fact that the nutritional care HCWs may provide may be based on personal experience and improvisation, the larger systems of why it is so should be exposed. Their inventive tactics can also be used to learn how to make our nutritional interventions more contextually appropriate.

As nutrition can be regarded as a PHC concern and part of basic healthcare, this must be standardised to ensure that all citizens have equal access to basic care and preventative strategies. The ability to conduct transnational research on similar topics across the country proved highly beneficial in establishing patterns of thought and attitude across the diverse South African population. There has been a clear need to improve training and resources and capacitate HCWs in nutrition. If HCWs possess the tools for nutrition intervention, they may feel less helpless.

HCWs should be supported in their practice and validated in their personal experiences and beliefs. This will help build confidence in practice and ease the pressure of having to think-on-your-feet in practice. The Covid-19 pandemic has stretched HCWs thin, causing many flaws in systems to be uncovered. This period of reflection through research has provided a wonderful opportunity to

understand the state of nutrition in health care in South Africa and assess how the quadruple global burden of disease and the double burden of malnutrition is being addressed through practice.

While there is much emphasis in seeing the person behind the patient and understanding their needs, it is equally important to see the person behind the health care worker. Through understanding them as people, laden with experiences and preferences, training for them can be appropriately created to develop every doctor, nurse and dietician into a professional who is confident in practice and able to tailor their training to a patient's needs confidently. The Covid-19 pandemic has further emphasised how flexible such training must be to be practiced in unique and nuanced circumstances, such as a global pandemic.

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