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EXPERIENCES AND KNOWLEDGE OF HEALTH CARE WORKERS IN CHRONIC DISEASE MANAGEMENT IN LOW AND MIDDLE INCOME COUNTRIES - NAMIBIA, AFRICA

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Abstract

Chronic diseases burden has been increasing globally and is the leading cause of death in many LMICs. However, health systems have been primarily designed for acute conditions and must be adaptive in order to deal with the complexities that come with Chronic disease management (CDM). The CCM emphasizes the need for patient centred care with meaningful interactions between the health system and the patient. Health care workers (HCWs) are the drivers of improved CDM but are thought to be inadequately prepared for this shift. This study explored the experiences and perceived roles of HCWs in CDM in the out-patients department of Otjiwarongo Hospital, Namibia

Methods: A qualitative study was done among the HCWs rendering services in the out-patients department. Data was collected using a semi-structured interview guide and audio-recording of interviews. Transcribing was done and analysis done through an inductive method of thematic analysis. Emerging codes and sub-themes were arranged into overarching themes.

Results: The following were the emerging themes: 1. Understanding role as HCWs 2. Understanding patients' expectations 3. Social support-role of family/community 4. Models of care 5. Opportunities for improvement. The results show that the HCWs lacked understanding of the needs for chronic care. As such they were not able to leverage on existent support structures to offer patient centred care in line with CCM.

Conclusion: HCWs lacked an understanding of the dynamics of CDM and how it differs from acute care. Consequently, they do not have supportive relationships with their patients to keep them motivated to treatment plan. Their experiences show that the health systems have not adequately adapted to the dynamics of CDM. It is recommended that efforts be made to empower them with skills and knowledge. Through trainings to enhance their role in CDM.

Keywords: CDM; primary care setting; HCW; Namibia; Africa;

Introduction:

Chronic non-communicable diseases are an emerging threat on the rise within low middle-income countries (LMICs) [14]. They have a huge social and economic burden on individuals, communities, nations as well as globally. Appropriate and holistic chronic disease management (CDM) is pivotal in ensuring primary prevention, early diagnosis and prevention of the onset of complications secondary to chronic diseases [19]. This study sought to understand the experiences of health care workers involved in chronic disease management in a district hospital in Namibia

Chronic diseases are broadly described as lifelong, incurable and ongoing conditions which will require patient-centered, long term and continuous medical care (Centre for managing Chronic Disease, 2019). They are associated with prolonged care, frequent hospital visits, debilitating complications such as disabilities and in some instances even premature death. Globally, Diabetes Mellitus, Cancers, Cardiovascular conditions and Chronic respiratory conditions have been identified as a main chronic disease. In addition, Mental illnesses is emerging to be a chronic condition of much public health in the last decade. In 2016 72% of the deaths were attributed to these conditions only [33]

The effective control of acute illnesses and curbing of the HIV pandemic has paved the way for the emergence of chronic diseases as major public health threat. People tend to live longer enough to experience chronic diseases. Globalization and urbanization have seen many adopt sedentary and unhealthy lifestyle which fuel the early onset of chronic diseases. This epidemiological transition is equally being experienced in sub-Saharan Africa

Nearly 38 million deaths per year are attributed to chronic diseases [33] In 2016, two-thirds of the deaths were secondary to chronic diseases, with over 80% of these

occurring in LMICs [5]. While the incidence is on the decline in developed countries, there is still an upward trend in CD associated mortality in LMICs. Globally there is a huge negative impact on the global economy as CDs contribute to about 50% of the premature deaths of the productive age group [33]. The World Health Organisation at its high-level meeting in 2011 targeted to reduce deaths from non-communicable diseases in those under 70years by 25% by 2025, a figure that has not been attained in most LMICs. Between 1990 and 2010, 46% of deaths occurring in sub-Saharan Africa was attributed to chronic diseases. Approximately 80percents of these deaths from non-communicable diseases in LMICs [33].

The impact non-communicable disease has been estimated using the Disability-Adjusted life years which incorporates fatal (years of life lost due to premature deaths) and non - fatal burden (years lived with disability). Between 1990 and 2017 DALYs increased by 67% from 90 million to over 150 million, while NCDs increased by 27%. Over the same period communicable diseases had a downward trend (see figure-1)

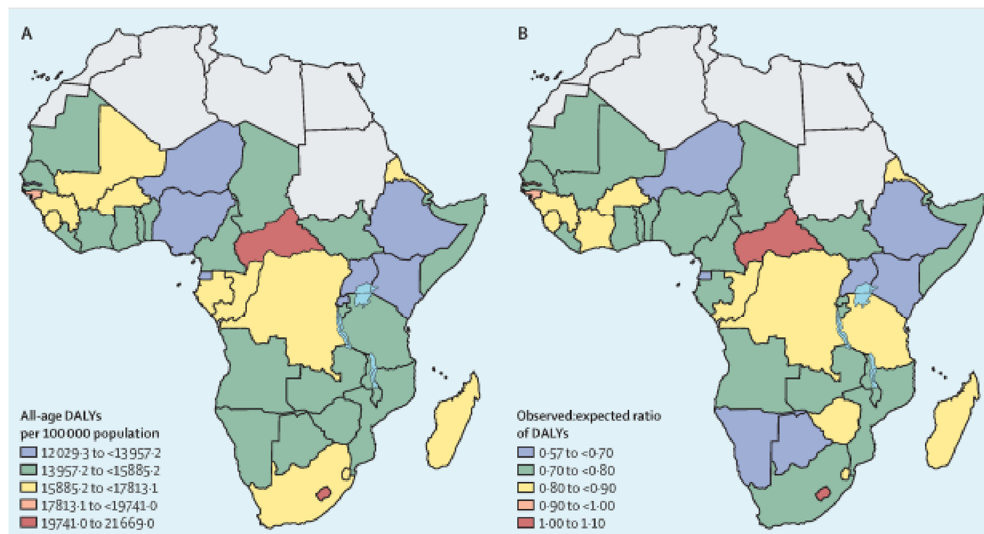

Figure 1: The burden of non-communicable diseases in Africa

The burden of non-communicable diseases by country in sub-Saharan Africa, 2017
(*The Lancet Global Health,2019)*

Namibia -Chronic Disease Burden

According to the Namibia Demographic and Health Survey (NDHS) of 2013, 44% of women (50.6% urban, 38.3% rural) and 45% of men (50.8% urban, 37.8% rural) aged 35-64 years are hypertensive. The prevalence increases with age affecting 55% of women and 60% of men aged 50-64 years. According to the survey, 49% women and 61% of men were unaware that they have elevated BP. The risk factor profile shows a smoking prevalence of 20% (NDHS,2013). According to the WHO Country Profile, Namibia has one of the highest alcohol consumptions per capita of 10.8L for both men and women in the region (NHDS,2013). The Namibian multi-sectoral strategic plan for control and prevention of NCDs highlights the inadequacies of the current health system with a strategy to strengthen primary care services capacity of HCWs.

There is a need to redesign primary care to redress challenges of CDM.The focus of this study is on HCW, cognizant of the major role they must play to circumvent barriers to care and improve patient outcomes. It is against this background that the researcher seeks to know the experiences and perceived roles of health care workers rendering services to chronic disease patients in Namibia. There is current staff attrition and growing burden of chronic diseases, hence the study will open doors to world of possibilities in improving CDM. Therefore, trained and empowered shows are an invaluable asset to CDM. Chronic diseases are linked to alcohol intake, smoking, physical inactivity and unhealthy eating habits as the chief risk factors. These risk factors are more prevalent among the low economic status population due to high risk of exposure and they are likely to be diagnosed late too. They have limited healthy choices due to poverty and overall the burden is more among low socio-economic status population and this further widens health inequality among various social groups.

HCW roles in chronic care

Diabetes mellitus, cancers, chronic respiratory and cardiovascular disease contributed to about 38 million deaths per year globally. The major four NCDs tend to have common risk factors which increase one's disposition to develop ill health. Combating these through risk reduction

may abate early onset of CDs as well as minimize the onset of complications while ensuring acceptable quality of life [32].

Governing bodies such as World Health Organization have come up with initiatives to scale up chronic care. Commitment is also demonstrated in the multisectoral approach of the United Nations in Sustainable Development Goal number 3 whose target is to ensure good health and wellbeing through multi-sectoral approach [3]. Health workers at primary care level have a mandate to carry out primary prevention through risk factor screening. They offer patient as well as community education on behavioral modification. Primary care setting offers an opportunity for population wide cost -effective interventions which may reduce the burden of CDs [23]

Models of care for CDs

Various strategies have been drawn to enhance CDM. The Chronic Care Model (CCM) was designed by Wagner in the 1990s. This forms the basis upon which other framework models are built. CCM is an organizational approach to care for chronic disease patients within a primary care setting (see figure 2.2). Most care within the LMICs is rendered through the primary care settings [21]. This model organizes care through community resources, self-management support, health delivery system, decision support and clinical information systems [20]. The WHO adapted this through the Innovative Care for Chronic Disease Framework. The CCM has three pillars: patient and family at the centre interacting with an informed community and motivated health care worker as shown below

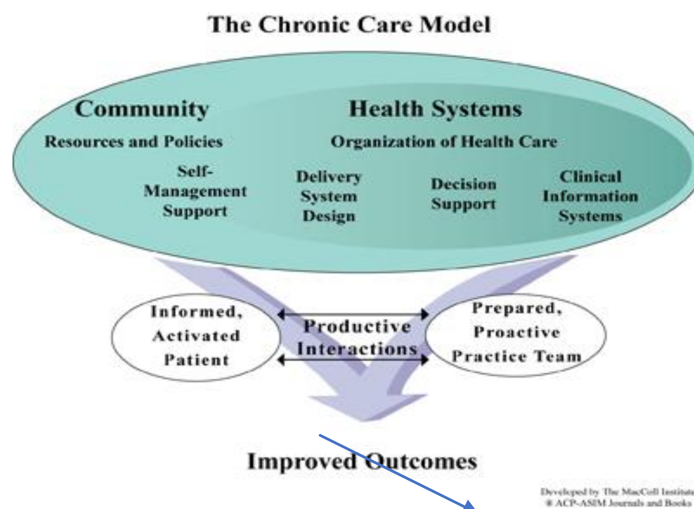

Figure 2.2 Elements of Chronic Care Model

CDs pose challenges to health care services as there is a need for sustained engagement with the healthcare delivery system. While enrolments into chronic care are high, retention, however, tends to below.

CDM requires support for skills for cadres involved more than would be necessary for acute conditions. There is thus a need to task sharebetween the doctors and middle-level cadres (nurses). [16] states that developing countries, amidst other health challenges will need health workers to reduce this rate of increase. Effective collaboration between HCWs and patients has been shown to improve outcomes.

In primary care setting, care is more centered on the nurses. The basis of which is on a relational basis to build meaningful interactions with patients, decentralize treatment support to family and community as well as to coordinate care with other health providers. Family is known to be an important component of self-management in the CCM[10]. The point of contact for involvement of community and family also hinges upon the HCW.

According to the CCM, HCWs play a vital role in supporting patients' decisions concerning their treatment. There is thus a need to enhance HCW patient interactions through strategies such as motivational interviewing [1].

HCWs with other stakeholders

Coordination and collaboration with other health services providers such as herbalists and traditional healers particularly in sub-Saharan countries, is facilitated through the health worker [24] Community health workers are pivotal in overcoming barriers to self-management and improving adherence [27] which has become the cornerstone of CDM. Availability of HCW improves outcome because they bridge the gap in interdisciplinary communication and commitment by stakeholders. They help solve problems, set goals and monitoring of clients [6]. However, staff providing primary health services has been shown limited in skill and knowledge necessary to provide care for chronic diseases in studies done in South Africa [24].

HCWs knowledge and skills

Studies have shown a lack of knowledge and skill in HCWs managing CDs. Those is magnified by the health system too which were primarily designed for acute conditions and ideal for chronic care [29]. NCD training program by CDC for health workers was piloted in five countries including Tanzania spearheaded. Positive results were noted with increased understanding as well as skills among workers which improved their confidence in managing CDs cases [12]Studies done in rural South Africa on health care worker experiences in chronic disease care revealed that health workers are poorly trained and lacked enough knowledge to execute their duties effectively. [24] stated that encounters between HCW and clients need to offer meaningful communication as this can either encourage or discourage continued care in their study, the HCWs lobbied for intensified and formal collaboration with community health workers and traditional healers to aid in active case finding and early referral.

Practical significance of the study

As South Africa has a similar setting, the study was embarked on to get an understanding of the Namibian experience. Since the rolling out of the Namibia Multi-sectoral Strategic plan for prevention and care of non-communicable disease, no study has been done to assess its impact. The study was done to answer questions related to health-worker experience in chronic care in Namibia. Are HCW aware of the differences in models of care for acute and chronic? Are they adapted to implement the strategic plan for chronic care? What are their perspectives on opportunities for improved care? Are the experiences of the Namibian HCW in CDM comparable to other LMICs given the diversity in context?

Methods

This study held 10 in-depth interviews (IDIs) with Health Care Workers at the out-patients department of Otjiwarongo hospital, Namibia. Participants were sampled using purposive techniques. Thematic analysis was conducted with the aid of NVIVO 10 software. Table 1 indicates a total of 10 IDIs that were conducted using semi structured topic guides with a set predefined questions and probes to follow up on the issues as they emerged. The individuals were purposively sampled from the HCWs at Otjiwarongo hospital Namibia. IDIs were conducted in the local language; data were transcribed and translated in English. IDIs took place in a private quiet place and were audio recorded. The interviewers were trained social scientists with experience in collecting data on sensitive topics including chronic diseases and working with vulnerable populations and patients.

Ethical approval was obtained from the University of Liverpool -Laureate as well as the Research Management Committee of Namibia. Invitation to participate was done through flyers to avoid coercion. Verbal and informed consent was sought from all participants. To ensure autonomy, participants were furnished with adequate information about the study verbally and through Patient Information Sheet. Questions and concerns raised were addressed. Informed consent was obtained from each participant in written form after explaining the research process and intended use of findings. Signed consent documents were stored in a lockable cupboard to which only the researcher had access. Participants could exit the study at any stage of the research without citing any reason and would not suffer any repercussions.

Interviews were carried out in local language and each interview was allocated 30 minutes on average.

At no stage was the identity or name of respondent documented. Each respondent was allocated a code to ensure confidentiality. The audio recordings were stored in a PIN coded smartphone as well as a password-protected computer.

Data Analysis

The audio recordings were listened to at least twice and transcribed. Initially, key topics were picked from each interview based on responses to the topic guide. Where divergent ideas were raised these too were captured. The responses were then organized into common subthemes and then subsequently into overarching themes. A codebook was used to help and visualize the process of analysis.

Results

The thematic areas were as follows:

Theme 1: Understanding of what CDs are

-defining CDs

-impact of CDs

-type of care

Theme 2: Understanding of one's roles as HCWs

-prescribe and send home

-health education

-monitor regularly

-refer to the next level of care

Theme 3: Understanding of patient needs and expectations

-regular monitoring and physical examination

-short waiting time

-readily available medications

-health education from the care provider

Theme 4: Importance of a support system

-role of family and community

-better outcomes with family support

-health extension workers

-community health information centers

Theme 5: model of care

-self-management and its features

-differences between acute and chronic care

-integration vs vertical service provision

-not enough time, no training

After analyzing, the data 5 main themes emerged from the study:

***Understanding of chronic diseases and their impact*.**

Defining CDs

The participants managed to define chronic diseases using a wide variety of statements. CDs were defined as conditions which require lifelong treatment as well as monthly follow up. Conditions which a patient had to leave with for the rest of their life. Hypertension, Diabetes Mellitus, Asthma and in some cases mental illness were cited as examples. Chronic diseases are incurable. Patients need to drink treatment to be controlled.

"Chronic diseases are diseases that people have that they have to live basically with for the rest of their lives, that we as health workers manage by giving them medications" P1

Impact of CDs

It was noted that chronic diseases have an economic burden on the country as the government must purchase expensive medication. One respondent cited that owing to the illness of productive people, the country suffers a loss of skill and less input economically because of this. Interestingly when describing CDs in the Namibian context, factors such as poverty were cited as being major drivers of the epidemic. P5 reiterated this saying:

"…Diabetes needs a special diet which they cannot afford. Even if you give them health education, the nutrition part is mostly not covered they will be poorly controlled."

Respondents cited that because treatment is lifelong, there is a tendency to poor adherence and thus the onset of complications. Upon diagnosis, the sufferers tend to think it is the end of the world. Some even withdraw from community activities.

Patients need to afford the special diet need to keep some of these chronic diseases under check, because these are out of their financial reach, the medical condition is thus poorly controlled.

***Trends*:**

Some attributed an upward trend in chronic diseases cases due to internal migration from other districts in search of medications and / or employment opportunities.

"…. because of shortage of medications, the other regions are coming to Otjiwarongo because it's a transit town." P3

On the other end one participant attributed the increase to "minds that have opened".

"Nowadays as I see it, its increasing, its already having an impact on the health workers…. actually, more patients are on treatment" P8

Understanding of their roles as HCWs

Most challenges cited were system related issues. The increased workload which reduces the time available for health education. There is lack of a monitoring system to track the progress of patients. Therefore, there are no targets or set out objectives to keep both provider and client motivated. On some occasions when clients are referred to physician-only treatment is prescribed without examination of patients. This demotivated the referring HCW.

***Routine duties*:**

The roles of HCWs mentioned varied from one respondent to another. Overall, most felt their role was to screen, treat and prescribe medication for follow up patients. Difficult cases were referred to the physician otherwise a patient is seen after 3 months by the doctor.

"My duty is to screen and prescribe medication. I also refer difficult cases to the doctor." P5

***Health education*:**

Some cited that they do take time to offer health education to their clients. The role of health education was acknowledged as being central amidst the challenges that come with offering health education.

Health education ought to be given at first visit on what is your disease, what is your treatment, how to manage your lifestyle.

"…have to know what is his sickness as a chronic disease patient, what is his treatment, how must he manage his treatment…. I mean this exercise, diet, his follow up dates."

P3 expressed that this ought to be holistic to talk about one's health, not just one's treatment. Patients are put on treatment without any explanation. There is no time, and some see no value in offering health education.

"…as nurses we are also few in the department and we only give health education when we get the chance……but it is very important and must be given at first contact." P8

One felt health education is only necessary in certain circumstances:

"…to give health education in condition where I see patient is poorly managed." P3

Some cited that giving health education takes a lot of time hence this could not be done. Language barrier was another challenge to delivering health education.

"…. language is a barrier because we are from different ethnicity and some of us do not come to the level of the patient." P8

Those who did offer it did so while screening the patient simultaneously. Group health education was been offered in general but not with a focus on chronic diseases.

Other respondents did not appreciate benefits of health education.

"...even if you give them health education they will still come back." P5

Benefits of health education mentioned included that the patient would gain a better understanding of their condition. This would enable patients to make decisions about improving their lifestyle such as exercising, healthy eating.

Challenges experienced by HCWs:

Respondents felt younger patients on chronic medication tended to default more than older people reason being that they do not understand their conditions. On the other hand, some older people took their treatment erratically under the premise that no harm is done. In general, people who are less well informed tend to default their treatment.

Failure to offer quality care was another challenge raised. HCWs extended their roles to referring difficult cases and every other patient to the physician after 3 months. This is the visit were patients ought to receive blood tests and be monitored to see if they were doing well on the treatment. At times nurses will not refer patients for physician because of the high workload and thus continue to prescribe medications in patients whose progress cannot be tracked.

"...I can not refer because the doctor will be overloaded because they already have sick patients referred." P3

'*We check the HGT for diabetics but the other patients we only do weight and temperature." P3*

This is despite knowing that chronic disease patients need to have kidney and liver checked regularly. There was a recommendation of the client to be reviewed by a physician after 6months, not 3.

Almost all HCWs acknowledged a skills deficit

"I just came with my knowledge of being trained as a nurse…I am working now almost 10 years and I'm never updated, and I never heard CD screening…it is from my university training 20 years ago" P2

Understanding patients' needs and expectations.

Most patients come with different expectations according to the perspectives of theHCWs. Clients come with a negative vibe. They come expecting to be examined, to be checked if their treatment is on track. Hence the frustration when they only get treatment prescribed and no tests or physical examination done.

"*I was there at the hospital, but the doctor did not touch me, the nurse did not touch me…" Patients expect even basic things such as a greeting and not just the "treat and go"attitude. P5*

"…they need attention also from the HCW side." P2

One participant suggested that this also contributed to their frustrations too whenever their clients are not satisfied. HCWs reported a group of patients who believe they are not sick and only need to pick up their treatment.

"Patients say …us we are not sick; we are just here for follow up.so I think their expectation is to be helped fast because they are not sick." P3

They are not amused by long waiting periods as they deem themselves not sick. In some instance lack of regular patient monitoring has resulted in patients who will skip their treatment for a day or so because there are no tangible consequences

"…there is nothing I can do about chronic cases" P7

Value of patient support system

***Family*:**

Patients with a good support system tend to have better treatment compliance overall. Family support was noted to be necessary for young patients who on their own will not understand their condition. In special cases such as psychiatric cases, families were found to offer treatment support to ensure good adherence. Families offer emotional and psychological support to chronic disease patients who may be facing challenges.

Families help the client reduce recurrent hospital visits because of a better understanding of a disease process. They help individuals understand their condition.

The relationship between the patient and family is reciprocal with patients being educators of their families too on medical issues. Similarly, the community serves to support such cases.

On the contrary, families bear some of the consequences of chronic diseases. Where the breadwinner is affected, families may end up in poverty as they fail to work to provide for their families. Families are affected emotionally and psychologically as a result.

"If the person taking care of you is sick, the younger generation is affected emotionally and psychologically." P6

***Non-skilled health staff*:**

Other cadres in the Ministry of Health were reported to be useful in partnering the efforts of HCWs in CDM. These include social workers who are occasionally called in to support treatment. However as one HCW would say that the social workers would need first to be taught information specific to chronic disease to be relevant. As they are most knowledgeable on a general platform.

"We have a social worker but really it is not so consistent. Sometimes a patient will be waiting for a social worker for days" P4

***Community*:**

This is where the general populous can obtain information about chronic diseases when to report oneself to a health facility for screening. This can be achieved through awareness campaigns or community information centers. Peer groups among people with the same chronic diseases are likely to increase interaction and exchange of ideas which can improve their health outcomes.

Models of care

***Self-management*:**

This is not embraced by many health workers as there is no understanding of it. The success of self-management was thought to rest on the type of the person and the willingness of the patient to participate in it. Under this model, patients will know more and will be better placed to educate their community.

Some felt that in whatever model of care, clients ought to meet the health worker halfway too. The current integration of services was noted to be associated with increased workload hence not enough time to dedicate towards chronic care.

Integrated Care

Others, however, saw an opportunity which comes in with integration whereby patients are targeted for early screening through health education. Integration also allows for continued screening of known chronic cases for the onset of other chronic diseases. Some HCWs attributed the poor organization of health services to the lack of designated department for chronic diseases.

"...it is because there is no special area to see chronic cases. They just mix with everyone. That is why they are not given attention." P3

Health System centered care

Arrangement of health care systems whereby all acute and chronic cases follow the same procedure tends to demoralize chronic cases who feel they should not spend long at the hospital as they are not sick. Drug stock-outs further demotivates clients and is often a driver of poor adherence.

"Patients complain why there is no medication in the facility and why weare not doing anything to check them like blood tests".P1

Quality of care: The attitudes of patients are also mirrored in the attitude of HCWs in dealing with acute versus chronic cases. Some would give both cases equal amount of time for consultation. One HCW mentioned that it is exciting to screen an acute case because one is eager to know what is wrong and to see the outcome of the treatment instituted. Another mentioned that because acute diseases are curable hence there is a need to give them more time.

"I am eager to screen acute cases because I am eager to know the problem and manage it, but chronic cases it's the same always" P4

Those who would give more time for chronic cases cited the need to spend more time giving health education as a necessity for such cases.

Opportunities for improvement

***Human resources*:**

Participants acknowledged the existence of Health extension workers as partners of health within the community.

"The government must recruit and train health extension workers…they have time since they are mostly in the community to do home visits" P5

However, their active involvement was reported to be questionable. Some felt that they only focus on HIV/AIDS program clients or that they do not have enough knowledge of chronic diseases. Health extension workers were believed to help strengthen adherence according to the respondents.

"We are getting a lot of defaulters while have a lot of health extension workers…their role is very weak. They mostly concentrate their home visit on HIV positive cases" P5

Health systems innovations:

Against the background of limited time and human resources, one respondent suggested health education through ongoing television programs that will be played in strategic places such as waiting areas. Community health information centres can be used as a means for members of the public to gain more information on their chronic diseases and for them to help care for their family members. This would also provide a platform for early self-referrals to health facilities.

"we can establish a community health information center where people can be informed about their condition and be helped to take their medication as their own responsibility." P8

Trainings:

Most participants felt they needed to be trained specifically for CDM. Some needed mere guidelines availed to guide their practice. Others who were in practice for over 20years said they still used the knowledge from general nursing training to inform their current clinical practise

Targeted training of health extension workers on chronic diseases so that they can include chronic disease follow up during their home visits

"If I can be considered for training to improve my skills as the skills I have are from 20years back."

Summary of results

The results show a diversity in experiences of health workers in CDM. There is some understanding of chronic diseases and their impact. However, the different models of care designed for CDM are not fully appreciated. HCWs face system challenges in addition to lack of skill and adequate knowledge. They proposed trainings to empower them for CDM.

Discussion

The findings of the study in summary allude to fragmented care for CDs within the facility. The burden of CDs may continue to grow unabated if some gaps are not closed and best practices leveraged to provide quality CDM. While the findings may not be completely unique, however their interpretation within this context is a gateway to context specific solutions. Here below are implications of findings:

Health education:

There was a knowledge gap demonstrated in this study among health workers on chronic diseases management. Studies done among HCWs in similar LMICs have demonstrated a lack of knowledge and skill amongst practitioners [24]. Most CDs are avoidable, or onset may be delayed through primary prevention such as screening and giving prophylaxis to those at risk. Health education on behavioral modification is a component towards risk reduction and thus primary prevention (WHO-PEN). Opportunities for primary prevention through health education are missed when health education is not given. Beaghole et.al states that acute case consultation is an opportunity for HCWs to proactively screen for risk factors despite the limitation in time. HCWs themselves need to be empowered on evidence-based interventions in order to relay them to the patients. HCWs are advocates, champions and educators of CDs and this should be well versed with issues of policy and implementation of CD policies[25]

However, it has been shown through various studies that risk reduction through lifestyle modification is one of the mitigation factors to reduce the early onset and premature deaths from chronic diseases. The WHO PEN protocol emphasizes curbing CDs in low resource setting at primary care level. The guideline enables the HCW to screen, diagnose and manage

A study done in Kwazulu Natal showed positive benefits of engaging community health workers in chronic disease follow up. These cadres have already been part of the successful Antiretroviral program. However, they needed to be equipped with the knowledge to screen and follow up. In South Africa, even traditional healers were incorporated and sensitized on when to refer clients. Namibia has a significant proportion of informal health providers who if engaged may help curb this growing epidemic [26]

Integration: Integration is advantageous especially in settings where there is staff shortage. Strengthening chronic care at the primary setting has a greater impact as it targets both primary prevention and control. In most LMICs, primary care is the entry point to care and thus must not be a missed opportunity. Maher et.al in their paper propose a framework in which there is the integration of chronic communicable disease care such as TB/HIV and chronic non-communicable disease program [23]. Success stories of such are exemplified in the HIV/Diabetes and Hypertension integration in Cambodia[17]. At 24months review of their cohort only 3% of HIV patients were lost to care and almost 90% of the diabetics remained in care. Integrated services help to reduce stigma associated with certain disease states [16]. WHO states that integration includes coordinating financing too for prevention and maximizing community resources. It also ensures sharing of information across settings, providers and time. This essential in influencing policy change[26].

Model of care:

In the model of care in the study, visits were unplanned without any objectives nor expected outcomes. The absence of a clear care plan has resulted in the dissatisfaction of both patients and HCWs. There needs to re-organize chronic care to ensure that patients are monitored regularly and made aware of their progress. A study in South Africa showed that those whose blood sugar was checked regularly tended to be more adherent and motivated to continue their care[24]

The findings from the study showed that HCWs were not well versed with patient centered care model. Chronic care is somewhat still fragmented and tends to be facility centered as opposed to patient centered. Lack of monitoring of clients is associated with general poor client outcome and subsequently failure to influence policy due data unavailability[23]. The ICCC is a framework adopted for CDM by WHO for reorganizing and improving the quality of CD care. Its building blocks are patient, health care organization, community and policy level. Team models of care are advised with incorporation of less skilled but trained volunteers with skills in patient education, motivational counselling and behavioral change (ICCC Framework)

The National Multisectoral Strategic Plan for Prevention and Control of non-communicable diseases in Namibia 2017/18-2021/22 has a thrust on capacity building through the training of HCWs. They need to be mentored and supported by working through health teams which may include a pharmacist and physician and a social worker.

In addition to integration, care needs to be standardized from a public health perspective [18]. The findings show that care in the study setting was solely dependent on the HCW and could not be comparable between practitioners. For ease of evaluation of programs, the DCM needs to be adaptive and standardized.

Support system: there was weak linkage between the HCWs, and the patient's family observed in the study. While many acknowledged the role the family plays in treatment support to ensure adherence, it was rarely

mentioned the need to involve them in planning care. Because chronic disease needs daily modification of ones' lifestyle it is important to design treatment plans around the client and family (ICCC framework). Both family and community have a role to play in the continuum of care.

Maher et.al,2009[23] state the importance to have targets for chronic disease patients asthis keeps them motivated when their progress is tracked. Family helps to ensure adherence. Community likewise has a supportive role in raising awareness, mobilizing resources as well as removing stigma which may be associated with certain CDs (ICCC Framework)

CHWs have a role in bridging the gap between HCWs and the community. Successful chronic disease programs such as practised under the community-based Diabetes Mellitus program in South Africa has hinged its success upon engaging community health workers. In the face of increasing workload, decentralizing treatment support to community-level intensifies adherence and timeous referrals. The decentralizing of HIV/TB programs resulted in significant scaling up and coverage in rural South Africa [18]

CHWs were shown to help maintain trust by the community in the health system [13]. One arm of continuity of care is enhanced through patient-professional relationships. CHWs are known to alleviate some threats to this relationship [25] In the study most HCWs were not satisfied with the service of CHWs. If quality care is to be rendered, there is need to leverage on the above benefits of CHWs. Through training they can be adequately prepared to render assistance community support groups such as been rolled out for HIV program serve to strengthen adherence. Activities at the community level need the support of local; health facilities to ensure that correct messages are being taken out there

The lack of collaboration with other practitionerssuch as social workers, health extension workers, pharmacists and physicians are a challenge to care according to this study. Other further support that establishing team-based care may pose a challenge especially in LMICs. However, coordinated care is encouraged in such settings, referrals and back referrals may be used to ensure continuity of care [25]

The challenges mentioned in this study are not unique to the Namibian experience, however, due to the uniqueness of this context offer opportunities for improvement. The lack of laboratory and medications calls for government commitment financially to procure these. Studies have shown that lack of an enabling environment tends to demotivate practitioners. Poor compliance of one's patient also discourages practitioners.in order to enhance adherence, there are consorted efforts needed which include ongoing patient education. Patients ought to be part of their treatment plan as well as their monitoring. This makes them more accountable for their health while for acute cases, planning of care may not be mandatory, chronic disease care needs to be planned by a health team.

Discussion of Research Process and lessons learned

Literature search and review process.

There were no related searches for studies done in Namibia found.no paper exists on health care workers of Namibia. Therefore, the investigator had to use the experiences of similar low income or sub Saharan African countries as a proxy. Searches with 'chronic diseases' were rare, however when the chronic diseases are referred to specific disease states such as Diabetes or use of terms such as non-communicable diseases, the yield was better. Literature review is a rigorous activity as one had to alter search terms too on other search engines. The researcher did not find any work which matched in title with the current work done.

Methodology and data collection

Data were obtained as per the initial proposal. The sample provided a symbolic representation of the concept in question bringing out the various dimensions and their variations. Interviews are good method in order to obtain rich descriptive detail. However, it is a time intensive procedure. If done again the investigator would recommend broader sampling by exploring HCWs in the private sector as well as satellite clinics. Seeking approval and travelling to these sites would require more time which was not feasible for current study. As a means for triangulation focus group discussions with key informants could have been considered at proposal level.

Analysis and report writing

A clear process of analysis has been shown in annexure which would arrive at more or similar raw data and categorizations. The process of transcribing is intensive in both time and effort. Validity of the study was expressed in the rich data from the participants which captured their language and meanings and subsequently was the source of the codes and themes concluded upon. This gives the study its credibility. Analysis long interviews is quite tedious, one would require significant breaks in between to enhance concentration.

Strengths of the study

The study was conducted in a primary care setting which is the backbone to chronic disease care in the Namibian Health System.Hence the findings give an overview of experiences in most primary care settings and may be used to inform clinical practice within similar contexts. Semi-structured interviews used allowed for chronic disease management to be explored from the perspectives of the health workers who are key players in reducing this epidemic.

Limitations of the study

The selection of a district hospital limits the findings to a district-level scenario, perhaps experiences at health facility level or in the private sector could be different.

The researcher had intended to focus on the out-patients department as it is the main entry point of chronic disease patients. However practically, in-patient's department and clinics are entry points too likely to have unique experiences.

Interviewing patients could have been used too to gain insight into their perspectives. however due to the language barrier and need for translation coupled by constraints this was not feasible. The study was solely qualitative. However, insight into chronic disease burden may have been acquired through assessing secondary data.

Lessons learnt

Since there is very little research to date within the country, there is a knowledge gap which needs to be fulfilled through more research. For this kind of study future researchers would need to invest more time during planning time to come up with other possible data collection methods.

Qualitative studies yield a lot of information overall. Some meanings may not be obvious at first. Upon reading and re-reading transcripts new meanings may be deduced. Therefore, the investigator needed to allow for time to re-visit the transcripts and recordings a number of times.

Public Health Relevance

As there have not been any studies in Namibia on chronic disease management, this study gives an overview thereof. Whilst the health systems have remained unchanged, however, the increase in morbidity and mortality due to chronic illnesses raises a concern to a world of possibilities regarding health systems adapting to cater for such.

The Namibia experience shows the gap there is in the current model of care versus what is currently recommended by the World Health Organization. The National Strategic Framework for care and prevention of non-communicable diseases is in place but is not implemented holistically. In this fragmented model of care, CDM is less likely to reach optimum levels. There is thus a need to raise awareness and empower both general population and HCWs on the CCM.HCWs need to be equipped both with knowledge and skill to spear head this. The CCM will be strengthen the coordination and collaboration between key players: patient, health systems and community.

Recommendation for policy

- policy should be designed and implemented to roll out CDM at primary care level as this is proven to be both effective and efficient [2]
- Must be political commitment to ensure increased funding for training HCWs. The government should ensure that the health worker is supported through availability of equipment, medications and necessary guidelines for CDM.
- HCWs offer counselling to patients, families and communities and this motivates them to behavioral changes. However as stated by Mendis, 2010, the government ought to provide an enabling environment to support healthy choices. An example of such can be increasing smoking restricted areas or taxation on cigarettes and alcohol.

Recommendation for practice

- Districts need to orient their staff at all entry points on CCM and ensure that it is implemented
- HCWs need to engage through health teams with cadres such as social workers, pharmacists and dieticians in order to give comprehensive care
- In the wake of other challenges facing the health sector mainly the staff attrition, there is need to come up with more innovations to decentralize chronic care. The involvement of family and community is of the essence as has been demonstrated in the successful projects which were community-led.
- There is need to acknowledge and capitalize on the availability of already existent cadres, the health extension workers. By training them and equipping them with materials for them to be able to carry out community follow-ups. Empowered HCWs will be better placed to pass on evidence-based knowledge to other community members. Though a study by Andand demonstrated that healthy lifestyle adjustments tend to be more effective when given by workers with more education such nurses and physicians than by lay ones[2]. This does not preclude the benefits of engaging community health workers in a task-sharing model of care. Jeet et.al [16] states that engaging these cadres has been associated with a reduction in physical parameters such as blood pressure even though they may not be able to influence behaviour change such as adherence.
- Health education by HCWs should be intensified with the aim of risk reduction among the non-diseased and delay in onset of complications among the diseased. Primary prevention ought to be reinforced through already existent structures.

Recommendations for future research

- Future studies aimed at assessing the implementation of CCM ought to be done. This will guide policy makers in identifying enhancers and barriers to effective CDM
- For exploration of experiences from the perspective of chronic disease patients. This will be useful to identify best practices and unmet needs in the health systems which if targeted will improve health outcomes.
- A quantitative study to measure the actual burden of CDs and determine risk factor profile of CD patients in the district. This will inform future policy.

Conclusion

Chronic disease is an emerging threat however some population-based measures are effective and efficient in reducing their impact. HCWs have a critical role to play in a primary health setting to mitigate the onset and consequences of chronic diseases. There is an urgent call to ensure that the health systems are adapted to this emerging burden primarily through empowerment and enabling of the HCW on evidence-based measures of chronic diseases prevention and care.

This study sought to explore HCW experiences and it has demonstrated the need for training and strengthening in CDM. Weak linkages in care as well as opportunities to improve chronic care were demonstrated. Notwithstanding the value of theseexperiences which shall be used to inform policy change in line with robust empowerment of HCWs.

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