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Article

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Lived experience of diet-related health education in type 2 diabetes and hypertension comorbidity in The Gambia

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Abstract

The incidence and prevalence of type 2 diabetes mellitus (T2DM) and hypertension (and their comorbidity) have been increasing in sub-Saharan Africa, including The Gambia. Diet is a critical driver of these public health problems, and diet-related health education is a major strategy employed for their prevention and management. The aim of this paper is to explore the lived experiences of diet-related health education among individuals with comorbid type 2 diabetes and hypertension in Serrekunda, The Gambia, a subject hitherto unexplored in the country. The study employed a qualitative (interpretivist) methodology. Thirty-two interviews were conducted with 18 participants, with most participating in two interviews at separate time-points between November 2018 and July 2019. In addition to participant validation, the two points in time interviews elicited more depth and provided rich data. The data were analysed using Braun and Clarke's six-phased approach to Thematic Analysis. Four main themes were generated in relation to the experiences: (i) one-off blanket dietary advice (ii) education in a vacuum (iii) diabetes-hypertension diet dichotomy and (iv) imbalanced power relationship. The study underscores the need for a reconfiguration of diet-related health education in The Gambia to include lived experiences as critical components of health promotion in tackling T2DM and hypertension. This requires an ecological approach, critical health education, regulations on unhealthy foods, and active participation of individuals as equal partners in health education.

Keywords: type 2 diabetes, hypertension, lived experience, health education, diet-related

Background

In 2021, globally, it was estimated that over half a billion and one and a quarter billion adults were living with diabetes (type 2 diabetes accounting for 95% of all diabetes cases) and hypertension respectively (International Diabetes Federation (IDF), 2021; WHO, 2023a, 2023b). The two diseases commonly co-exist because of a shared metabolic pathway (Cheung and Li, 2012; Tsimihodimos *et al.*, 2018). Low- and middle-income countries (LMIC) account for most of the burden of the two diseases (Flood *et al.*, 2021; Zhou *et al.*, 2021) with an estimated 24 million and 130 million people living with diabetes and hypertension respectively in Africa region (Adeloye and Basquill, 2014; IDF, 2021).

In The Gambia, the prevalence of diabetes is 1.6% of the adult population (IDF, 2019) and one-third of the adult population aged 25–64 years have hypertension (Cham *et al.*, 2018). A study by van der Sande *et al.* (2000) found that diabetes was significantly prevalent among the urban population living with hypertension and a recent study, which included only women, found that 17% had the co-existence of at least two cardiometabolic risk factors which included diabetes and hypertension (Petry *et al.*, 2021). Considering the shared metabolic pathway between the two diseases and their common co-existence (Cheung and

Contribution to Health Promotion

- First known paper to specifically address experiences of diet-related health education in type 2 diabetes and hypertension comorbidity in The Gambia.
- The research seeks to stimulate debate around the current approaches to diet-related health education in The Gambia.
- Has the potential to inform health promotion policy and practice in The Gambia on T2DM and hypertension.

Li, 2012; Tsimihodimos *et al.*, 2018), it is imperative that health promotion research and practice approach them unitarily (and holistically). Additionally, health experiences being socially constructed, understanding the lived experiences of diet-related health education among comorbid T2DM and hypertension individuals is critical for culturally sensitive and relevant health promotion.

Exploration of this experience is invaluable because, like the rest of the world, health education is the dominant approach employed in The Gambia to tackle the comorbidity. For example, the National Nutrition Policy of The Gambia 2010–2020 (NaNA, 2010, p. 35) identified nutrition literacy, through information and communication, as '…the most appropriate and effective means of achieving…' good food- and lifestyle choices and developing good eating habits. In the updated National Nutrition Policy 2021–2025, this point has been reiterated and one of the two objectives for reducing the prevalence of diet-related non-communicable diseases is 'to increase awareness on the risk factors and major determinants of diet-related NCDs' (NaNA, 2021, p. 17) by, among others, strengthening the social and behaviour change communication. This is supported by some empirical studies in the country such as Nkoka *et al.* (2022) and Foma *et al.* (2013) who found low knowledge of diabetes, and Awad *et al.* (2014) who attribute the high prevalence of hypertension to low level of education and awareness.

Health education is undoubtedly a critical component of health promotion. However, several criticisms have been raised against traditional approaches underpinned by the assumption of a linear relationship between knowledge and health action; that raising awareness would lead to healthy lifestyles, through rational decision making, and thus the prevention and adequate management of diabetes and hypertension. These criticisms include arguments about the narrow focus of the approach on the individual, relegation of the broader determinants of health and denial of the existing differences in society that influence behaviour (Peterson and Lupton, 1996; Naidoo and Wills, 2016; Green *et al.*, 2019); and it's potential for victim-blaming (Cockerham, 2005; Brown and Baker, 2012; Lupton, 2012). This is described as *lifestyle drift*—a focus on downstream individual lifestyle factors rather than upstream social determinants of health (Popay, Whitehead and Hunter, 2010). It is also argued that it can lead to *healthism*, 'the preoccupation with personal health as a primary—often the primary—focus for the definition and achievement of wellbeing; a goal which is to be attained primarily through the modification of lifestyles, with or without therapeutic help' (Crawford, 1980, p. 368). These criticisms have led to the call for critical health education, which, argue Macdonald et al. (2014), goes beyond the individual, recognizes the social determinants of health and acknowledges the complexity of health lifestyle and behaviours. It relates to achieving social and political outcomes and motivates people to take actions to address inequalities (Green *et al.*, 2019).

Evidence from studies conducted across the globe on the experiences of living with T2DM and hypertension (such as Pilkington *et al.*, 2010; Mathew *et al.*, 2012; Fort *et al.* 2013; Abdulrehman *et al.*, 2016; Naanyu *et al.*, 2016; Peleg, Hadar and Cohen, 2020) found adopting and maintaining a healthy diet to be a constant struggle, particularly for individuals on low income. For example, a recommended healthy diet of fruits and vegetables costs more than half of the household income in low-income countries (Miller *et al.*, 2016), and as a result most countries in sub-Saharan Africa (SSA), including The Gambia, have more than 80% insufficiency in their consumption (Koller and Agyemang, 2020). Other challenges include sociocultural factors such as gender, family size, traditional eating practices like communal eating and availability of culturally appropriate foods (Sherifali *et al.*, 2012; Straw et al., 2019; Zhou, 2019; Banasiak *et al.*, 2020; Bukhsh *et al.*, 2020; Bunkley, 2021). Recognizing these challenges, The Gambia recently launched the 'National Multi-Sectoral Strategy and Costed Action Plan for Non-Communicable Disease Prevention and Control in The Gambia 2022-2027' to, among other things, raise awareness, advocate for subsidies to 'increase the affordability, accessibility, availability and consumption of fruits and vegetables' and 'controlling the inappropriate marketing of unhealthy products' (MoH, 2022, pp. 38–39). For the moment, traditional approaches to health education prevail.

Knowledge of individuals' experiences of diet-related health education is essential to the implementation of such strategies, policies and programmes to enable people to gain control over the comorbidity. In The Gambia, there are no known studies that explored these experiences. The aim of this paper is to fill this knowledge gap by exploring the lived experience of diet-related health education among individuals living with the comorbidity in The Gambia. It has the potential to stimulate debates about current practices and inform health education and promotion policy and practice.

Methods

Study design

A qualitative interpretivist design was employed in this study because it was informed by the ontological position that lived experience of diet-related health education is a social construct—it is created by people's interaction with the world (Barbosa da Silva, 2002; Gray, 2018), their physical, social, economic and political environments—and therefore contextually and situationally dependent. Part of this ontological assumption is that experiences are meaningful. The related epistemological position that knowledge and understanding of the lived experiences (the social construct) could be attained by listening to the participants' perspectives and interpreting them (Patton, 2015) guided the methods. Thus, the interpretivist design, with its central role in exploring the complexity of human experience and providing insight into and understanding of subjective and socially constructed phenomena (Barbosa Da Silva, 2002; Punch, 2014; Bryman, 2015; Gray, 2018), such as the lived experience of diet-related health education for the management of the comorbidity, was considered the most suitable design for the study. Additionally, because so little is known about the subject in The Gambia, an exploratory approach, which sits within the general qualitative methodology, was needed.

Data was collected from November 2018 to July 2019 in Serrekunda, Kanifing Administrative Area, The Gambia's largest urban settlement with an estimated population of 383, 545 in 2016, representing 20% of the national population (Gambia Bureau of Statistics (GBoS), 2017). GBoS further states that the poverty rate in the Greater Banjul Area which includes Serrekunda, was 17% for 2015/16, the latest year for which data is available. Urbanization and the high level of poverty have implications for T2DM and hypertension such as prevalence and maintaining a minimal healthy diet (World Bank, 2020). Thus, it the necessary to understand the lived experiences of the comorbidity in this setting.

Recruitment and sampling

Thirty-two interviews were conducted with 18 participants, in Serrekunda, with most participating in two interviews at separate time-points between November 2018 and July 2019. Heterogeneous purposive sampling was employed. This sampling method ensured the inclusion of individuals from a wide range of variations on the phenomenon of interest because of its potential in revealing shared patterns and themes that cut across different cases (Patton, 2015; Gray, 2018; Polit and Beck, 2020). The common or shared patterns in the diversity showed an important value in the core experiences of the participants and provided a holistic understanding (Suri, 2011; Patton, 2015; Polit and Beck, 2020) of the experiences of the participants. To achieve the variation and diversity, sampling was strategic, and participants included both men and women, from low, middle- and high-income backgrounds, literate and illiterate, with or without complications of the comorbidity, of different age groups from 40 years, and at any stage of experiencing the comorbidity. The sample was selected from a sample frame, which was generated not for probability sampling but for guiding the selection of potential information-rich participants. The frame was generated from referrals made by contacts, caregivers and early participants; the diabetes and hypertension registers in some clinics that were in the research setting; and the direct contact made by potential participants who learned about the study from flyers. The participants were approached by telephone and through the distribution of flyers.

The sample size of 18 was considered adequate because the objective of the sampling was the selection of information-rich cases on the experiences of the comorbidity, not necessarily the number of individuals (see Sandelowski, 1995; Crouch and McKenzie, 2006; Patton, 2015; Mason, 2018; Morse, 2015; Silverman, 2017). The ontological position of the study, the logic of purposive sampling, search for depth and meaning and data saturation further supported the sample size.

Data collection

Data were collected through in-depth one-to-one interviews (qualitative interviewing), using a semi-structured interview guide. The study design being emergent, the interview guide was not piloted; with each subsequent interview, the questions were adapted and refined, relative to the data that were collected and the meaning that was emerging, without losing sight of the study purpose. This method is congruent with the ontological and epistemological position of the study. It creates a greater researcher–participant interaction, availing participants the opportunity to elaborate on their experiences and the researcher to elicit more information, thereby revealing the meaning that people construct from their lived experiences (Boyce and Neale, 2006; Turner, 2010; Bowling, 2014; Liamputtong, 2020). Two interviews were conducted with each participant (except four participants because they either died or travelled abroad for treatment); the first being the main interaction for data collection while the second interview was for participant validation—a return to the participants to check the accuracy of the findings with them (Denscombe, 2017). In addition to participant validation, the two points in time interviews elicited more depth and provided rich data. The interviews were audio recorded, after obtaining informed consent from the participants, and transcribed. All the interviews were conducted by the first author who is familiar with the study setting, speaks the indigenous languages, and is experienced in conducting qualitative interviews. The interviews were conducted in English, Mandinka and Wollof, depending on participant preference and ranged from 35 minutes to 2 hours with an average of 43 minutes.

Data analysis

The data were analysed using Braun and Clarke's (2006, 2013, 2019) six-phased approach to thematic analysis (TA), a reflexive and predominantly inductive approach, involving familiarization with the data, coding, theming, review of themes, defining and naming themes, and producing the report. This sits well within the theoretical orientation of the study. The *familiarisation* was enhanced by the first author conducting the interviews, transcribing them verbatim, and reading and re-reading the transcripts several times to immerse in the data and comparing them with the audio tapes. Interviews conducted in indigenous languages were translated by the first author (a trained translator) into English language.

Coding was done both semantically (using explicit words or phrases from the data), for example, 'Doctor never asked', 'I would have been dead'; and latently (the team's interpretation of the data), for example, 'Family support', "power, 'control', and 'Participant-health worker relationship'. *Themes* were generated by revisiting the codes and the collated data to determine the relationship between them, and grouping codes that were meaningful to the research questions and/or similar and formed a pattern. For example, the codes '*doctor never asked me*', '*control*', '*power*', '*participant-health worker relationship*' and some related codes were combined, by reviewing data extracts, to generate the theme *Imbalanced Power relationship*. The themes were then defined to delineate them. For example, the above theme was defined as any data that captures the interaction between comorbid individuals and healthcare workers and highlights issues of power and control over the interactions. The themes were further reviewed to refine them through an iterative process of going back to the data and the codes.

Trustworthiness

Trustworthiness, the preferred term for research quality in qualitative studies has four assessment criteria: credibility, transferability, dependability and confirmability (Lincoln and Guba, 1985). *Credibility*, that is, taking steps to ensure that the data and their interpretation were as truthful as possible was enhanced by intensive listening and adequate probing during the interview in order to collect rich and comprehensive data; audio recording and thorough transcription; and taking field notes during the interviews. A reflexive journal, from the conception to the analysis and interpretation of data, was also maintained to bring into view any preconceived ideas that may compromise the credibility of the study (Halldorsdottir, 2000). For example, the first author had an insider status as someone who worked in the country's healthcare sector (and interacted with comorbid individuals) for over a decade and his stepfather lived with the comorbidity. These subjectivities were acknowledged and the second and third authors cross-checked the analysis, against these subjectivities, to ensure that the analysis reflected the data, rather than the researchers' positionality and subjectivities. Additionally, participant validation, described by Denscombe (2017, pp. 326–327) as a 'return to the participants with the data and findings as a means of checking the validity of the findings', was done through the second interview where findings were checked with the participants to enhance credibility.

Transferability is essentially a judgment or decision a reader makes after going through the detailed description. To enhance that, rich descriptive data on the procedures and extracts from the interviews are provided. *Dependability* and *confirmability* were enhanced by keeping complete records, in an accessible manner, of all aspects of the study from the conception to the interpretation.

Ethical considerations

The study was approved by Leeds Beckett University and the Joint Gambia Government/MRC Research and Ethics Committee before any data collection was conducted. Prospective participants were provided with the Participant Information Sheet outlining the purpose of the study, the procedures, potential risks and benefits, privacy and confidentiality, right to voluntary participation and/or withdrawal, and they had at least seven days to consider participation. Informed consent form was signed, by those who decided to participate, prior to the interview. No participant withdrew from the study. Anonymity was a key ethical issue and was addressed by excluding from the transcripts any information that would identify a participant and using pseudonyms in the presentation of the data extracts in the findings section.

Results

Participant characteristics

The sample included nine male and nine female participants. The age range of the participants was 42–80 plus

Table 1: Participant profile table

Pseudonym/age/gender	Ethnicity	Family composition	Socioeconomic status	Length of time from diagnosis	Time lived in the urban area
Foday, 65, M	Wollof	Nuclear	Low income	T2DM *21 years* HTN *1 year*	Since birth
Yama, 60+, F	Mandinka	Extended	Low income	5 years	40 + years
Beauty, 60, F	Fula	Nuclear	Middle income	T2DM *24 years* HTN *3years*	Since birth
Tafsir, 51, M	Wollof	Nuclear	Low income	T2DM *10 years* HTN *3 years*	Since birth
Kalifa, 73, M	Serer	Extended	Low income	T2DM *8 years* HTN *9 years*	Since birth
Adama, 48+, F	Mandinka	Extended	Middle income	T2DM *1 year* HTN *5 years*	Over 18 years
Sarjo, 60, M	Jola	Extended	Low income	T2DM *7–10 years* HTN *4 years*	40 years
Fatou, 60, F	Mandinka	Nuclear	High income	24 years	45 years
Majula, 55, F	Mandinka	Extended	High income	19 years	Since birth
Jainaba, 42, F	Mandinka	Nuclear	Middle income	10 years	25 years
Arfang, 80+, M	Mandinka	Extended	Middle income	5 years	About 60 years
Maryam, 78, F	Wollof	Extended	Middle income	T2DM *3 years* HTN *>10 years*	Since birth
Astou, 66, F	Wollof	Extended	Middle income	T2DM *26 years* HTN *10 years*	50 years
Seyfo, 59, M	Mandinka	Nuclear	High income	T2DM *10 years* HTN *3 years*	44 years
Lamin, 67, M	Mandinka	Nuclear	Middle income	T2DM *13 years* HTN *1 year*	40 years
Binta, 49, F	Wollof	Single mother	Low income	2 years	Since birth
Masaneh, 67, M	Mandinka	Nuclear	Middle income	6 years	40 years
Pateh, 70, M	Mandinka	Nuclear	Low income	7 years	53 years

years. Three of the participants were of high-income background, nine were middle-income and the rest were low income. Nine of them lived in nuclear families, eight in extended families and one described herself as a single mother. They came from five ethnic backgrounds: nine Mandinkas, five Wollofs, one Fula, one Jola and one Serer. All participants had the comorbidity (both diabetes and hypertension) with 1-year minimum and a 26 year maximum duration of living with the conditions. While both diseases were diagnosed for some at the same time, some of them were first diagnosed with one and the other one some years later. The participant profile table is provided in Table 1.

Key themes

The findings are categorized into four themes: one-off blanket dietary advice, education in a vacuum, diabetes-hypertension diet dichotomy and imbalanced power relationship. Where quotations have been used, these have been attributed to pseudonyms to ensure anonymity.

'One off' blanket dietary advice

Upon diagnosis of the comorbidity, the participants were provided dietary education. In doing this, a blanket approach was used, meaning that an individual's uniqueness was not considered; health education was a prescriptive transmission of the same information to every comorbid individual, resulting in recommendations that did not reflect their individual and social realities. The central theme of the one-size-fit-all health education was abstinence from certain foods. The following data extracts highlight the key messages of the educational activity and its blanket nature.

> *They* [healthcare workers] *have condemned me from eating anything that has sugar.* (**Jainaba, female, 42 years**)
> *They told me to stop a lot of food for the diseases. That I should not eat sugar, or anything that has starch… About the* [blood] *pressure, they stopped me from eating milk that has fat and things like that. Yes. They asked me to stop those. And palm oil…* (**Binta, female, 49 years**)

Generally, the diet-related health education was one-off (mainly done at the time of diagnosis) and relegated thereafter. Subsequent interactions (usually monthly clinic appointments) were dominated by assessment of physiological parameters—mostly blood pressure and blood sugar—and the prescription of medications, rather than the exploration and understanding of comorbid individuals' experiences, reflecting a predominantly medicalized approach to the management of the comorbidity. This experience was across both public and private healthcare facilities. Participants identified operational organization of healthcare facilities, resource constraints such as inadequate staffing, and a desire for profit as contributing factors.

> *When you go there, if they check your blood pressure and check your blood sugar, they write and you go to their pharmacy, to collect the medications from there. I get advice from other sources, other people …* (**Yama, female, 60+ years**)
> *…I think, may be, it is because of the way the hospitals operate. Because the hospital is a private hospital, and you have one specialist who is there. The rest are all contracted. Those people are there to at least make sure they get lot of clients so that at the end of the day they go home with something.* (**Seyfo, male, 59 years**).

Education in a vacuum

The diet-related health education was done as if the comorbid individuals lived in a vacuum, with no socio-political influence on the choices they make. Participants lamented that the approach effectively condemned them to an impossible feat. They mentioned several socio-political factors such as changing dietary patterns, socioeconomic status, gender, and communal eating, as constraints on their capacity to make healthy dietary choices. Participants nostalgically recalled the diet and dietary habits of the recent past and how the current trends affected their health and their agency to adopt diet-related advice.

> *Our, in those days, in our childhood, what we ate was blessed—rice, coos, sorghum, fonio … We used to eat these, and we were healthy. There was health…but now, these domori jankadingo* [cursing the contemporary foods] *… good food does not exist. Uhh-uhh* [shaking head] *does not exist.* (**Sarjo, male, 60 years**)

Jankadingo literally translates to 'illegitimate child'. This term was used to describe the disillusionment with the dietary changes (nutrition transition), and how they limited the capacity to adopt healthy eating. The widespread availability of the foods recommended to be avoided narrowed their options. For example, one recommendation was to stop consuming certain additives to food such as bouillon cubes, but the participants found this impossible because of the influence of the broader food environment on their choices.

> *It is just now, but in the good old days, the foods we ate made us healthy. But now these foods that are existing, the jumbos and the karabkarabs* [other additives to food], *whatever you do you cannot avoid them. They are the ones available … That is what has given so much power to these sicknesses…* (**Arfang, male, 80+ years**).

Financial constraint or poverty accentuated the limitation on the capacity to follow diet recommendations. Poverty was described as 'the biggest crime' against maintaining healthy diet and participants argued that if they had the financial means, they would have some capacity to adopt the recommendations. Thus poverty, combined with factors such as the nutrition transition, was a juggernaut that turned the healthy diet recommendations into a death sentence, as it were.

> *Poverty is the biggest crime. Because today where I am sitting here, had it been that, you know, I had the financial resources, even the food I eat will not be the same food as these people are eating…Poor people cannot determine* [what to eat]... *Because you don't have this and you have that. What you have is what you have to consume.* (**Foday, male, 65 years**)
> *Because of poverty… I eat whatever I have…All the things I have been advised to stop eating, eh, if I had stopped them, I would have been dead by now.* (**Pateh, male, 70 years**)

Additionally, communal dining culture posed a great challenge to the comorbid individuals. The diet recommended for the comorbidity differed from the diet of the family, making dietary management difficult and expensive, thereby limiting control over healthy choices, particularly for those who depended on others for their dietary needs such as food preparation. The family would prepare food based on their preferences leaving participants with two options: eat or remain hungry.

> *That is very difficult. Like me, I am amputated now. I don't do many things for myself… Even the food they help me to prepare it. I have no choice, sometimes they cook it to their own preferences. I have to eat it or remain hungry. It is difficult… The family cannot have two different cookings. The time and the materials, the ingredients, for the cooking, it is difficult.* (**Majula, female, 55 years**).

Gender was another factor that affected the capacity to follow the dietary advice. Men and women had different gendered experiences. Men depended on women for their daily food preparation because they were not socialized to cook and/or prepare food. Therefore, the dietary advice put men in a perplexing situation where they either ate what was prepared or would not eat to their satisfaction. This could be described as a disabling masculinity because it restricted them from making healthy dietary choices.

> *Let me give you one advice, learn to cook. I regret it. You see, it is my wife and daughters-in-law who cook, actually they do everything, cleaning, washing, everything. They cook what they want. That's what I have to eat. But sometimes, uhm, I don't blame them. Will that happen if I knew how to cook?* (**Kalifa, male, 73 years**)

For women, it could be assumed that, unlike men, they would be able to make healthy dietary choices because of their role in food preparation. However, this role required them to satisfy the dietary needs and preferences of the family even if they, the women, would go hungry. Although experienced as a limitation to following diet recommendations, the women considered the gendered role as a duty that must be fulfilled to the family. Living in an extended family further complicated this experience.

> *If it was only me and my husband, it would not be difficult… Sometimes* [laughs] *he complains about why I am not doing what doctors tell me. But it is not just him and me. We have children, we have other members of the extended family here. I don't want my name to be everywhere* [indirectly saying I do not want to be accused of not treating them well because of the food]. *So, you just manage.* (**Adama, female, 48+ years**).

A consequence of education in a vacuum, an educational approach that did not factor in the above experiences, was that the comorbid individuals would go hungry because of the limited available options and the fear of complications of the comorbidity.

> *They told me not to eat so many things… Now… I feel hungry but what can I do?... I don't know what to eat. Because in those days, I used to eat everything. I did not worry … Now I am even afraid to eat…* (**Fatou, female, 60 years**)

Diabetes–hypertension diet dichotomy

Another key experience of the diet-related health education was the dichotomization of diabetes and hypertension diets. Participants stated that they were told about the foods that should be avoided for managing the diabetes *and* those that should be avoided for managing the hypertension. A clear distinction was made between these two diets. Thus, in the perplexity of balancing the distinct diets for diabetes and hypertension, they focused on the one perceived as the most serious disease, in most cases diabetes. The implication of this was that foods that were associated with the perceived lesser disease were not given the required attention by the individual.

> *About the diabetes, they asked me to stop sugar itself, and juices that have sugar, and rice that has*

> *starch and things like that. About high blood, I have been asked to stop palm oil, things like butter, things that have fat, fatty milk, I have been asked to stop all that.* (**Binta, female, 49 years**)
>
> *You just eat what Allah provides you, do not disturb yourself. That's what you eat… You will see certain things that may be tolerated by diabetes but not tolerated by hypertension. But you have to eat it… Because there is nothing else you can eat. So, if the two diseases are combined, it is very difficult.* (**Majlua, female, 55 years**).

Another dimension of this dichotomy was the distinction between comorbid and non-comorbid diets, requiring separate food preparations. The prescribed restricted diet for the comorbidity, and the requirement for separate dishes, meant that the comorbid individuals could not always eat to their satisfaction because the household food for the day may not be suitable for their dietary needs.

> *When you are in a home and your diet differs from the diet of the family, it would be difficult to get your fill because most of the time…*[pointing to a bowl of food] *you can see "futoo"* [food made from coos] *there but they have cooked benechin for lunch. So, I will not have any "daajiyoo"* [sauce] *for the futoo… I will see how I will eat it like that… It is like when your diet differs from that of the family, you can never get your fill.* (**Masaneh, male, 67 years**)

As a result of the above challenges, people with the comorbidity devised their own strategies for dietary management. These included a reduction in the quantity of food eaten to half of what they used to eat before the diagnosis, or skipping meals. For example, not eating dinner after having a 'good lunch'. Some replaced dinner with alternatives like tea with lime or hot water which were believed to have a buffering effect on high blood sugar and cholesterol levels.

> *This is, some of these things are from my own observation … that if I have eaten lot of starch… at least I will have a high risk of carbohydrates in my system, which will take sometimes for it to be digested… this is why if I have a good lunch…I don't take dinner. I only take a cup of tea, maybe with lime. But lime I know even if I have lot of sugar in my system, the lime would be able to digest some of them. Or the tea would be able to because of the hot tea, that would be able to digest some of them and I would not have lot of…it would get, reduce even the cholesterol in the system.* (**Seyfo, male, 59 years**)

Imbalanced power relationship

The interaction of the comorbid individuals with the healthcare workers—the interactions in which diet-related health education happened, rather than being dialogical and participatory was unidirectional and controlled and dominated by the healthcare workers who determined the content and process, requiring people with the comorbidity to comply with the instructions. This reinforces the passivity and sense of powerlessness of the comorbid individuals and their dependence on the healthcare workers. The participants described this experience as having 'no choice' but to comply and would blame themselves for any negative outcomes of noncompliance.

> *What would I do? I have no choice. Like what the Mandinkas say, "If you have no choice about an issue, you must do it". Because someone who knows tells you not to do it, then you the one who does not know, if you do it whatever you have from it is your fault.* (**Jainaba, female, 42 years**)

In addition to the unidirectional flow of information from the healthcare workers to individuals living with the comorbidity, the former employed fear messages such as emphasizing the negative consequences of noncompliance, rather than exploring the factors that could affect the adoption of the recommended 'healthy' behaviours and dietary habits. For example, a participant mentioned that in an effort to scare her into action, she was admonished that the consequences of high blood pressure were worse than death. A common response of the comorbid individuals to the non-dialogical health education was to nod in agreement, not ask many questions, and do whatever they thought was best for them.

> *I told them "uh-huh"* [an expression signifying "I have heard you but I won't do it"]. *What else did they tell me? The things they mentioned are plenty. I cannot stop them.* (**Pateh, male, 70 years**)

Discussion

The aim of this paper is the exploration of the lived experiences of diet-related health education among people living with T2DM and hypertension comorbidity in Serrekunda, The Gambia. The experiences of the participants highlighted several challenges. One of these was the homogenization of the comorbid individuals, defining and characterizing them by their medical diagnosis, and thus providing blanket and decontextualized dietary education. Previous studies, such as Pilkington *et al.* (2010); Sherifali *et al.* (2012); Abdulrehman *et al.* (2016); Fort *et al.* 2013 and Bukhsh *et al.* (2020), highlighted the important role of individual and social contexts in adopting dietary recommendations for diabetes and hypertension management. They found that individual and social circumstances (usually beyond the control of diabetic and hypertensive individuals) led to juggling between competing priorities like buying healthy foods versus paying rent, ultimately affecting the dietary choices individuals make. A systematic review by Miller *et al.* (2016) shows that a healthy diet of recommended fruits and vegetables costs more than half of the household income in low-income countries. Consequently, most countries in SSA (including The Gambia) have insufficient consumption of fruits and vegetables with more than three-quarters of Gambian adults eating less than the daily recommended servings because of the prohibitive cost and seasonal availability (Koller and Agyemang, 2020). The current study highlighted a complex interaction of individual and social circumstances including income status, gender, nutrition transition and traditional eating practices as critical factors in the experience of diet-related health education.

The study showed a synergy between income and the broader societal issues such as the nutrition transition and gender norms. For example, most West African countries, including The Gambia, are in the early stages of the nutrition transition (Bosu, 2015) and its intersection with low income had a significant impact on adopting dietary recommendations. Thus, the participants' contention that while financial wherewithal could boost the capacity for healthy dietary choices, the pervasiveness of unhealthy foods would be counterproductive. These factors further interacted with gender norms to influence the choices individuals made. A study in Senegal (Bunkley, 2021) found that advising women to change their diet and cooking methods threatened their sense of place and role in the family. Therefore, in an attempt to avoid scrutiny, control and judgment, women give preference to the family's dietary needs over their own, hold themselves responsible for the choices they make, and rely on individual agency rather than social support (Li *et al.*, 2014; Pitaloka and Hsieh, 2015). These experiences highlight the central role of societal arrangements (Marmot, 2015), compared to awareness, in determining dietary choices, health actions and outcomes. Efforts to change the comorbid individuals' dietary behaviour, sometimes through fear messages, without addressing the broader (upstream) factors could be described as unethical, with the potential for victim-blaming (Peterson and Lupton, 1996; Cockerham, 2005; Brown and Baker, 2012; Lupton, 2012; Naidoo and Wills, 2016; Green *et al.*, 2019).

The participants' experiences underscore the limitations of traditional approaches to diet-related health education for the management of the comorbidity and challenge the position of The Gambia's National Nutrition Policy 2010–2020 that information and communication are the most effective means of nutritional literacy, making good food-and-lifestyle choices and developing good eating habits (NaNA, 2010). While information and communication may improve 'nutritional literacy', it did not necessarily translate to making 'good food-and-lifestyle choices' and 'good eating habits' for the comorbid individuals. Limited control over social and environmental conditions for making healthy dietary choices was central to their lived experiences. Therefore, action on these conditions, for example, the nutrition environment and understanding gendered norms, is of central importance and requires a shift from traditional health education to *critical health education* which recognizes the broader factors and acknowledges the complexity of health lifestyle and behaviours (Macdonald *et al.*, 2014). The Gambia has taken up this challenge in the recently launched multi-sectoral strategy for NCD prevention and control. If implemented, and not influenced by lifestyle drift, this has the potential to empower individuals in adopting healthy diet.

Also, the dichotomization of diet into *diabetic-hypertensive* and *comorbid-noncomorbid* diets was particularly problematic. Rather than a unified and holistic approach to the dietary management, the comorbidity was categorized into two discrete diseases that required different dietary approaches. This is despite the common metabolic pathway shared by both T2DM and hypertension (Cheung and Li, 2012; Tsimihodimos *et al.*, 2018) and the lack of evidence that a distinction should be made between diabetes and hypertension diets. This is not surprising because controversy and confusion remain, despite some consensus, about the dietary management of diabetes and hypertension (Farouhi *et al.*, 2018; Cook *et al.*, 2020). The approach was reductionist and led to a struggle to balance the dietary management of the two *discrete* diseases. It put further pressure on individuals and their families to prepare separate dishes, a herculean task in a society with high poverty levels and communal eating culture. The preoccupation of thought with balancing the two diets, characteristic of healthism (Crawford, 1980), led to frustration, a sense of powerlessness, poor dietary management and disease complications (similar to findings from George and Thomas, 2010; Hill *et al.*, 2013).

Lastly, passive participation in health education was another key experience of the participants. Rather than being participatory and dialogical, the health education was characterized by the healthcare workers prescribing ways of living for the comorbid individuals. This reflects a biomedical orientation by defining the comorbid individuals by their diseases (as pointed out earlier) and as bodies that need mending, rather than *persons* with voices and experiences that matter. This approach gives preference to knowledge derived from scientific disciplines, legitimizing the power and authority of the healthcare workers and passive participation of individuals on issues affecting them, while delegitimizing lay knowledge and subjective experiences (Peterson and Lupton, 1996; Ayo, 2012; Naidoo and Wills, 2016). Participation is essential to giving 'voice' to comorbid individuals and foundational to empowerment—the 'holy grail' (Rissel, 1994) and the distinctive feature and central concept of Health Promotion (Laverack, 2007; Green *et al.*, 2019). Laverack (2007, 2019) argues that for health improvement, individuals should actively participate in their care through the distribution of power to enable them to gain greater control over decisions and resources. Consequence of passive participation, and the lack of 'voice' in the health education, was that the personal circumstances of the comorbid individuals were not assessed and understood, and the strengths and motivations that could empower them or the constraints that could inhibit positive behavioural changes were not considered. This was disempowering and created a feeling of being choiceless.

These findings have implications for the key values of Health Promotion—participation, empowerment and equity. If the trajectory continues, the purpose of Health Promotion as espoused in key Health Promotion documents since Ottawa will be defeated. These implications would be applicable to any health promotion intervention in any context, for example, interventions to reduce the number of new HIV infections or reducing childhood obesity in a country with increasing rates. During health education, whatever the context or health issue, individuals should not be defined by their health problem, homogenized or approached as if they lived in a vacuum without external influences on the choices they make.

Strengths and limitations

A strength of the study is that being the first study in The Gambia that explored the lived experiences of the comorbidity, it has the potential to stimulate a debate around, and inform, health education policy and practice in the country and similar contexts particularly SSA, and inform future studies on the subject. Being conducted among individuals living with comorbid T2DM and hypertension in an urban setting, having a small sample size, and excluding individuals without the comorbidity, the study may not reflect the experiences of rural residents living with the comorbidity and non-comorbid individuals; and may also not be generalizable. Therefore, further studies are needed to understand the experiences from a rural dimension and a non-comorbid perspective.

Conclusion

This paper focuses on the experiences of diet-related health education among individuals with T2DM and hypertension comorbidity in The Gambia. The experiences of the comorbid individuals show that the traditional approach to health education, focused on behaviour and lifestyle change, limited the capacity of the comorbid individuals to make healthy dietary choices. It jeopardizes the ethos of Health Promotion—empowerment (Rissel, 1994) by marginalizing the influence of social factors on health and health-related outcomes. The findings of the study underscore the urgent need for a reconfiguration of health education and healthcare policy and practice in The Gambia to reflect lived experiences in diet-related health education. Therefore, critical health education, which focuses both on individual capacity and structural factors is recommended. Decisive action needs to be taken to control the nutrition transition, for example, by implementing (and enforcing) regulations against unhealthy foods. The paper also highlights the need for capacity development in dietetics and nutrition, and critical appraisal of evidence. Healthcare workers who provide dietary education to comorbid individuals should be trained in evidence appraisal and have access to evidence-based, contextually relevant and sensitive dietary guidelines. There should be strategies to encourage the active participation of comorbid individuals as equal partners in health education.

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