

Dietary acculturation and perception of healthy diet among elderly Pakistani immigrants in Oslo, Norway: A qualitative study

A Qualitative study

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Abstract

Background: The number of elderly Pakistani immigrants living in Norway is increasing. Dietary habits are essential in maintaining health and wellbeing among elderly. Over time, traditional dietary practices may have evolved among elderly immigrants. However, few studies have focused particularly on this group. This study explores dietary acculturation and its process after migrating from Pakistan to Norway. It centers around their perceptions and experiences of dietary adjustments, early challenges within a new setting and present dietary practices.

Objective: To explore the dietary acculturation process after migration, present dietary habits and health concerns among elderly Pakistani immigrants in Oslo.

Method and target group: The study utilized qualitative approach with semi-structured interviews. It was conducted in Oslo, Norway. It includes 6 individuals interviews and one with one couple, comprising 4 female and 4 male participants. Informants were selected through purposively sample combined with snowball sampling. The interviews were conducted in native language, Urdu and then translated to English. Thematic analysis was used as a method of analysis of the interviews and Berry's model of acculturation was used to better understand the experiences of participants. Ethical approval was obtained from SIKT.

Result: Findings reveal that despite recognizing health benefits of Norwegian cuisine, elderly Pakistani immigrants prefer traditional cuisine as it provides comfort and sense of familiarity. Participants disclosed their struggles to access familiar and religiously appropriate food in the beginning. Several factors influencing their dietary acculturation and meal planning throughout were discussed including cultural and generational preferences, health concerns, and environmental factors, such as climate and food accessibility. Some initial challenges were language illiteracy, cultural differences, and limited access to halal food. They eventually acknowledged the progression in the availability of culturally and religiously appropriate foods.

Conclusion: The study highlights the complex and multifaced process of dietary acculturation among elderly Pakistani immigrants. Even if elements form the Norwegian food culture are integrated in the diet, they indicate preferences for familiar food. Health concerns are also an important for their dietary habits. These findings indicate the importance of culturally sensitive public health strategies to when addressing immigrant communities in having a healthy diet. Ensuring improved access to culturally and religiously appropriate foods among elderly Pakistani immigrants which may enhance health and wellness of this population.

Key words: Dietary acculturation; elderly immigrants; Pakistani migrants; Norway; Qualitative research.

Abstrakt

Bakgrunn:

Antall eldre pakistanske innvandrere som bor i Norge øker. Dietter er avgjørende for å opprettholde helse og velvære blant eldre. Over tid kan tradisjonell kostholdspraksis ha utviklet seg blant eldre innvandrere med pakistansk bakgrunn. Imidlertid har få studier fokusert på denne gruppen. Denne studien utforsker kostholdskultur og dens prosess etter migrering fra Pakistan til Norge. Den sentrerer rundt deres nåværende kostholdspraksis, oppfatninger og opplevelser av kostholdsjusteringer, tidlige utfordringer i en ny setting og nåværende kostholdspraksis.

Mål: Å utforske kostholdsakkulturasjonprosessen etter migrasjon og nåværende kostholdsvaner blant eldre pakistanske innvandrere i Oslo.

Metode og målgruppe: Studien benyttet kvalitativ tilnærming med semistrukturerte intervjuer. Det ble gjennomført i Oslo, Norge. 6 individuelle intervjuer og 1 par intervju ble gjennomført med 4 kvinnelige og 4 mannlige deltakere. Informanter ble valgt ut gjennom målrettet sampling prøve kombinert med snøballsampling. Intervjuene ble utført på morsmålet, "urdu- og deretter oversatt til engelsk. Tematisk analyse ble brukt som analysemetode av intervjuene Berrys akkulturasjonsmodell ble brukt for å bedre forstå deltakernes opplevelse. Studien ble godkjent av SIKT

Resultat: Funn viser at til tross for tilpasning til norsk mat og råvarer, foretrekker eldre pakistanske innvandrere fortsatt deres typiske kulturelle kosthold fordi det minner dem om komfort og fortrolighet. Mens de fleste deltakerne anga pakistansk kosthold som foretrukket kosthold, var de enige om at norsk kosthold skulle være sunnere. Deltakerne avslørte kampene sine for å oppnå kjent og religiøst passende mat. Flere faktorer som påvirker deres kostholdskultur og måltidsplanlegging ble nevnt, som generasjonspreferanseforskjeller, balanse mellom arbeid og privatliv og kjennskap til smak. Deltakerne nevnte også innledende utfordringer som språkanalfabetisme, kulturelle forskjeller og begrenset tilgang til halalmat. De anerkjente til slutt progresjonen i tilgjengeligheten av kulturelt passende ingredienser.

Konklusjon: Studien fremhever viktigheten av kulturelt sensitive folkehelsestrategier for å støtte innvandremiljøer i å tilegne seg balansert kosthold etter migrasjon. Funn tyder på å tilby målrettet ernæringsundervisning og sikre forbedret tilgang til kulturelt og religiøst passende mat blant eldre pakistanske innvandrere, noe som kan forbedre helse og velvære for denne befolkningen. Denne innsikten gir dermed verdifull retning for å fremme sunn kostholdspraksis i innvandremiljøer i Norge.

Stikkord: Kostholdsakkulturasjon; eldre innvandrere; pakistanske migranter; Norge; Kvalitativ forskning.

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List of abbreviations

NCD - Non-Communicable Diseases

UN - United Nations

WHO - World Health organization

1. Introduction

1.1 Background

The term "immigrant" describes individuals who are born in one country and then migrate to a new country for one reason or another (Satia-Abouta et al., 2002). In 2022, 281 million people were recognized as international migrants globally (Blukacz et al., 2024). Immigrants contribute a significant amount of cultural heritage to the host country, contributing to the country's beliefs, traditions, and values (Rapoport et al., 2020). Migration to developed countries is often accompanied by modifications in several aspects including changes in environment, lifestyle, dietary choices and preferences (Satia-Abouta et al., 2002). Where migration is often viewed as a means to fresh opportunities and transform future of individuals, however it may also tag along with various challenges (Terragni et al., 2014), these challenges may include access to healthcare, cultural difference, changes in physical activity and diet (Satia-Abouta et al., 2002).

The phenomenon of changing the traditional diet of an individual with the host country's is referred to as "dietary acculturation" (Satia-Abouta et al., 2002). The phenomenon covers aspects like eating choices, schedules, and eating patterns that are influenced by the host culture (Wandel et al., 2008). Dietary acculturation is a complex and multidimensional process that may lead to improving or deteriorating one's diet. It can also result in both adoption of healthy and unhealthy dietary practices (Satia-Abouta et al., 2002). In addition to diets consumed, preparations process of foods is also altered due to various factors including cost, access, and availability of traditional foods and ingredients, and time taken to prepare the meals (Johansen et al., 2010; Satia-Abouta et al., 2002).

As the life expectancy has risen, in today's century one of the major challenges faced by the world is the ageing of the world population. According to a study, by Kalache et al. (2000) one of the fastest growing populations around the world will be old people aged 80 years or over, estimated reaching 377 million in 2050 from 69 million in 2000 (Kalache & KELLER, 2000). According to WHO, individuals aging 60 and above are defined as older adults (Organization, 2002). Moreover, by 2050, the UN predicted that worldwide this group could be more than double in amount (Dominguez et al., 2006; Maxson, 2024). Similarly, in Norway elderly population is predicted to reach 2.1 million by 2060, making it 34% the total population among which the immigrant group contribute to 7% of the population (Norway, 2022). These immigrants are mostly known to be first-generation immigrants who are born outside Norway

or to foreign-born parents. Additionally, this figure is predicted to grow significantly, making it over 24% of elderly population by 2060, as a result of both aging process of existing immigrant community and continued immigration (Maxson, 2024).

Pakistanis were one of the largest groups of immigrants from the Asian countries that migrated to Norway in the 20th century (Mellin-Olsen & Wandel, 2005). Official statistics of Norway indicated that in 2003, almost 25000 Pakistani immigrants were residing in Norway (Norway, 2003). Whereas the current stats shows that almost total 40,000 Pakistani immigrants are currently residing in Norway (Affairs, 2023). Immigrants that have shifted in 2000 are now old adults and had undergone dietary acculturation because of their prolonged stay in Norway (Satia-Abouta et al., 2002). However, despite of notable number of Pakistani population residing in Norway there is limited published data on diet and health precisely on the elderly Pakistani community (Mellin-Olsen & Wandel, 2005).

Immigrants who are born and grown up in Pakistan encountered challenges after migration while adapting to new culture and environment especially in regards to their dietary patterns and habits (Råberg Kjøllestad MK, 2011). Among older adults, one of the major concerns is to meet nutritional guidance (Montgomery et al., 2014). According to a systematic literature review consumption of ethnic food is seen to have a positive impact on immigrants mental well-being as food is prominently connected to an individual's personality, religious believes, and not just cultural identity but also physical sustenance (Nasir et al., 2024). However in Norway, immigrants 'dietary acculturation involves the complex process where individuals make efforts to keep a balance between their traditional dietary habits and the new influenced dietary practices influenced by Norwegian environment and food (Terragni et al., 2014). The transition of dietary practices from traditional Pakistani to Norwegian customs is accompanied by some substantial changes, including a shift of focus from breakfast and lunch to dinner recognised as the main meal, especially on weekdays (Mellin-Olsen & Wandel, 2005). There are many factors that impact the socio-cultural adaptation among which some common factors include economic status, basic knowledge of healthy diet, literacy rate and living conditions in Norway (Wandel et al., 2005). For older adults, traditional food practices and preferences has a significant impact on how they perceive food in terms of healthy and satisfactory. For, Muslim older adults the religious factor also plays a significant role as they are sensitive towards halal and non halal food. So, their cultural and religious associations and sentiments significantly shape the dietary choices of immigrants (Aljaroudi et al., 2019). Other than these, factors like health concerns, family preferences and accessibility all aforementioned factors plays a critical role in dietary acculturation (Garnweidner et al., 2012).

Further, immigrants were also reported to struggle with practicing traditional ethnic dietary practices, especially the consumption of halal food. The limited availability of religiously appropriate food and familiar ingredients may complicate the meal preparation process and adherence to dietary preferences (Maxson et al., 2024). Studies on dietary acculturation process and among some selected immigrant groups and elderly immigrants who came from Pakistan in the late 20th century have been limited (Terragni et al., 2014 ; Kumar et al., 2006)). Understanding these cultural and religious factors is essential to comprehend the complexities of dietary acculturation and the challenges faced by elderly Pakistani immigrants in adjusting to new environments. Thus, having an in-depth knowledge of particular immigrant groups is important for developing culturally sensitive health interventions and policies aiming to improve overall health and well-being of the aging immigrant population (Farhat, 2023; Huang, 2020).

1.2. Objectives:

This study aims to explore the perceptions of diet, experience of dietary acculturation among older Pakistani living in Oslo. Furthermore, the study will highlight their perspective on healthy food related to the aging process.

Research Objectives of the study are as follows:

- To examine the perspectives and experiences of dietary changes since migration.
- To investigate the current dietary habits of elderly Pakistani immigrants in Norway.
- To study the health impacts associated with dietary changes among elderly Pakistani immigrants.

2. Literature Review

This literature review critically examines and explore the acculturation process and dietary changes of Pakistani older immigrants living in Norway. As discussed in the introduction, not much research has been conducted on the dietary experience of elderly Pakistani immigrants in Norway. This literature review will analyze the dietary acculturation process in the light of Berry's acculturation model. The review of existing literature and analysis of relevant studies is provided with special focus on studies that investigate the dietary experiences of Pakistani Immigrants. However, research indicated that elderly people may face challenges different from young people as they are considerably more traditionalist and demonstrate different

complications such as limited social contacts, illiteracy level and limited access to appropriate medical care (Thyli et al., 2014)

2.1 Theoretical framework: Dietary acculturation

Acculturation is a development through which a person who migrates to another country adapts to the host culture (Berry, 2017). The process of acculturation leads to change or alteration of cultural practices including dietary choices and the way of consuming food among individuals (Satia, 2010). Specifically, the concept of dietary acculturation refers to the process of adaptation of the immigrants' diet to the diet of the host country while retaining some features of the native diet (Lesser et al., 2014; Satia-Abouta et al., 2002; Terragni et al., 2014). Several factors, therefore, influence immigrants' adjustment to new food environment and maintenance of traditional dietary culture: these includes the length of stay in host country, access and availability of familiar foods, socioeconomic status, nutrition literacy and social connections (Lillekroken, 2024). The social and environmental factors influence considerably the nutritional well-being and health of individuals as most adjustments in diet are typically inclusion of refined and processed foods, sugars, and trans fats eventually leading to more Western diet (Satia, 2010). Such change in dietary practices and lifestyles may consequently cause in the development of some medical conditions, such as T2DM and cardiovascular diseases specifically among South Asian immigrants (Farhat, 2023). However, a scoping review claims that the advancement of dietary process can be even more challenging among older immigrants as this group is more likely to be influenced by their past food memory in their current food choices (Govindaraju, 2022). To enhance our understanding of these concepts, we have utilized a theoretical framework by berry's model of acculturation that provided us the lens for the study.

Berry's Acculturation model is widely cited to explain the process of acculturation. His model outlines four different strategies for acculturation that include integration, assimilation, separation, and marginalization (Berry, 2017). He explains integration as a process where an individual merges in a new culture without forgetting his own cultural or religious roots. Assimilation on the other hand refers to completely altering according to the new culture and forgetting home root culture. Separation indicates the person who undergoes acculturation totally rejecting the host culture and performing own ethnic values, culture and embracing traditional practices. Marginalization however, involves the rejection of both the host and the home culture with s prominent lack of interest in maintain cultural identity (Berry, 1997). For

the current study, this model provides a theoretical framework to study and identify that what strategies were adopted by Pakistani old immigrants in their acculturation process. Integration may occur when they integrated Norwegian foods and dietary practices with their traditional food practices. They incorporate host culture traditions and practices but also stayed true to their root culture and food practices. The integration can be impacted by factors like availability of certain ingredients and association with social and cultural aspects of food. Individuals that adopt assimilation consume the host country's local food solely whereas individuals practicing separations tends to consume their traditional home cuisines and national foods. However, marginalization strategy is usually concerning for people as they adopt the habit of eating individually.

Dietary changes lead by acculturation are often accompanied by an effect on health outcomes. A study conducted by (Lillekroken et al., 2024) investigated the food habits and preferences among elderly Pakistani immigrants. However, the findings highlight that where some immigrants adjust to the food culture of host country, many elderly immigrants prefer maintaining ethnic traditional diets. Moreover, dietary changes following migration may affects the health status of immigrants and elevates the probability of developing diverse medical conditions (Wandel et al., 2008). Studies conducted on immigrants have shown that most of the health problems like increased risk of obesity, type 2 diabetes and cardiovascular diseases resulting from dietary acculturation (Satia-Abouta et al., 2002). Thus, there is a need to make public health interventions to tackle the dietary change experienced by immigrants. Previous studies indicate the importance of culturally competent health interventions that are well voiced to address the needs of various ethnic group (Kumar et al., 2006).

2.2 The Role of Weather in Dietary Acculturation

The weather of the host country also plays an influencing part in acculturation process of the immigrants including their dietary behaviors (Osei-Kwasi et al., 2016). In Norway, almost half of the immigrant population is from countries that have considerably warm weather and more sunlight. According to a study, when these migrants are exposed to Nordic or extreme weathers, prevalence of weather effecting immigrants is high (Saheer et al., 2013). As the process of acculturation involves adapting to new environment and culture, in terms of adapting new food culture, the local climate plays noticeable role in the availability of certain foods causing limited access and availability of fresh foods, effecting meal planning and bending to seasonal variations (Berggreen-Clausen et al., 2022). Moreover, a scoping review states that immigrants

who shifted to colder regions they have to deal with extreme cold weather, and the access to fresh food and production of certain food items may be limited in winter months (Sanou et al., 2014). As a result, immigrants often shift to the local and climate available food, which is usually frozen, high in calories and is unlike their traditional diets (Osei-Kwasi et al., 2016).

Similarly, in Norway, the extreme climate affected the food availability and consequently influenced eating habits of immigrants making it challenging for immigrants to access familiar traditional fresh ingredients and food items (Terragni et al., 2014). This change in food consumption and patterns can impact the overall wellbeing of individuals indicating the significance of weather and climate in dietary acculturation.

2.3 Dietary Practices Among Pakistani Immigrants in Norway

2.3.1 Retention of Traditional Dietary Practices

A study on South Asian immigrants in Oslo, Norway reveals that among immigrants including Pakistani immigrants a shift is seen in dietary practices. Findings highlight that several factors influence dietary acculturation and result in adaptation to host country's cuisine. For example, in Pakistani immigrants' case, immigrants are reported to consume more meat, fish and potatoes, together with the inclination of consumption of staple foods like lentils (Mellin-Olsen & Wandel, 2005). However, another study found that since food cultures are handed down from generation to generation, it is critical in Muslim immigrants' efforts to practice their ethnic food habits while integrating with host cultures to maintain their cultural identity (Aljaroudi et al., 2019). This retention is often rooted in cultural and religious beliefs linked with food habits. Similarly, research by (Maxson et al., 2024) explored a trend, particularly in older immigrants from Pakistan and other Muslim countries, where they maintain their cultural identity by practicing traditional food habits. However, it has been noted that immigrants need support adapting to Norwegian food and easy access to halal food (Maxson et al., 2024).

Pakistani food is generally considered spicy and with blended grains, vegetables, and meat. Even after their immigration, the community still prefers their traditional food and their specific taste. Many Pakistani families in Norway still include their native home food items in their meals, such as curries, biryani, kebabs, and chapati. These dishes are essential to their cultural association (Mellin-Olsen & Wandel, 2005). Religious principles are often guided by the haram and halal concept (Halawa, 2018). For Muslims, consuming haram food or intake of haram ingredients is strictly prohibited; therefore, the Muslim community is passionate in this matter. Consuming halal food is critical for their identity (Halawa, 2018). Their sensitivity

to religiously guided food intake highlights the importance of food as a cultural symbol (Garnweidner et al., 2012). Wandel et al. (2005) also examined that, for several South Asian immigrants, including Pakistanis, food practices are not just a way of maintaining cultural integrity but a vital and significant one in the migration phase (Wandel et al., 2005). However, despite the challenges of accessing halal food, Muslims keep their religious integrity and practice eating culturally and religiously accepted food items (Garnweidner et al., 2012).

2.3.2 Dietary changes and adaptations

The adaptation and integration process of Pakistani people in Norwegian culture especially in the patterns of food consumptions undergo various stages mainly because the availability and accessibility of food in Norway (Johansen et al., 2010). Mellin-Olsen & Wandel (2005) debated that although the Pakistani immigrants practice their traditional food pattern, they also embraced the Norwegian food, thus making them halfway between the two. This pattern includes the inclusion of bread, dairy products, and processed foods in routines and readily availability in supermarkets. Wandel et al. (2008) have pointed out that economic factors are among the most dominant factors influencing the shift in the diet of Asians. In addition, many Pakistani families in Norway have both parent bodies, and therefore, home-cooked meals are preferred over fast foods, which are generally healthier (Mellin-Olsen & Wandel, 2005). In the study (Holmboe-Ottesen & Wandel, 2012), acculturation was established to be a significant determinant of the diet pattern of South Asian immigrants, including Pakistanis. It was revealed that as the immigrants acculturate to the host society, they shift their diets and combine the diet of the host society, hence adjusting the traditional diet. These variations can have positive or negative impacts on health depending on the type of modifications that are made to the diet (Berggreen-Clausen et al., 2022).

Terragni et al. (2014) discussed that in process of dietary transition, immigrants especially women, face more challenges as they are not willing to give up their traditional home cooked meals but are forced to adopt the diets of host country because of several factors including availability of some ingredients. This internal conflict of women resulted in a diet that is blend of their traditional practices and westernized ingredients. Holmboe-Ottesen and Wandel have underscored in the study that elderly immigrants from Pakistan usually face difficulty in accustoming new food or meals. They are habitual of whole grain meals which in Norway they have to replace with refined and processed grain. This change in diet alter their traditional caloric and nutrients intake and their taste also evolved to the new quality of food (Holmboe-Ottesen & Wandel, 2012). Thus, this change is due to the accessibility and access of getting

such foods in Norway as well as the effect of the host culture on the food consumed. Studies indicated that this shift is usually easy for young people as they quickly adopt new cuisines and tastes while elderly people usually resist to change especially change in their diet and taste (Holmboe-Ottesen & Wandel, 2012).

Another prominent dietary change reported among Pakistani immigrants in Norway is the dairy intake (Holvik et al., 2005). Traditional dairy items of Pakistan are usually fresh like fresh milk, curd and ghee (Mellin-Olsen & Wandel, 2005). However, in Norway, the dairy products are highly processed such as fortified milk, cheese etc. (Mellin-Olsen & Wandel, 2005; Meyer et al., 2002). These products are not usually easily accepted by Pakistani immigrants which make the dietary acculturation process even more difficult (Wandel et al., 2008). Additionally, the Pakistani diet involves the use of wheat, oil, meat, and spice. The use of milk and curd is also very common. The use of fresh vegetables, meat and consumption of fresh fruits is also common. In contrast, the Norwegian diet focuses more on carbohydrates, raw vegetables, and salads (Helland-Kigen, 2013). These changes can be challenging for elderly Asian immigrants as they experience a shift from a high to low-fiber rich diet and lesser intake of familiar vegetables (Holmboe-Ottesen & Wandel, 2012).

2.3.3 Health Implications of Dietary Acculturation

The dietary change of Pakistani immigrants in Norway has a prominent impact on their health. Research indicated that the traditional Pakistani diet comprises fresh vegetables, fruits, fresh dairy products, and high-protein meals. However, the Norwegian diet is mainly comprised of processed food, which is rich in salt and sugar, which has resulted in several non-communicable health issues like diabetes, obesity, and cardiovascular diseases (Khalid et al., 2018). Kumar et al. (2006) discussed that this shift to a Westernized diet with low nutritional density and high calories had resulted in a high risk of poor health conditions in Norway.

Wandel et al. (2008) also discussed the health impact of dietary change on Pakistani immigrants in Norway. The shift from fresh fruits and vegetables to frozen foods has a significant negative impact on their health. However, some dietary habits, such as a high intake of dairy products, have a positive impact on their health, and they usually don't undergo Vitamin C or Vitamin E deficiency. Also, as Norway is an extremely cold country, immigrants usually struggle with vitamin D and often get their vitamin intake from food items rather than from the sun.

In Norway, Pakistani immigrants are reported to have more fatty and sugary diets, and their fiber intake decreases. These habits result in the possibility of metabolic diseases in Pakistani immigrants (Holmboe-Ottesen & Wandel, 2012). Research indicated that the fat content of the

Norwegian diet of Pakistani immigrants is way more significant than the fat intake they get from their traditional diet. The new dietary patterns result in a low intake of fiber and a high intake of saturated fats (Mellin-Olsen & Wandel, 2005). This alteration may affect physical and mental health of individuals as changing diet may create a perception of distinctiveness compared to others (Aljaroudi et al., 2019).

The impact of culture on the diet of Pakistani immigrants in Norway must be addressed. Although establishment and the easy availability of many international ingredients have made the current situation quite comforting compared to the late 80s and early 90s. Oslo, that has a large immigrant population, has many local stores that offer halal food items. However, these conveniences are not evenly distributed in other areas of Norway (Garnweidner et al., 2012). Countries that receive a large number of immigrants should be considerate of the dietary preferences of religiously and culturally sensitive immigrants. Terragni et al. (2014) pointed out that the access and availability of halal food is the main challenge in the dietary acculturation of Muslim communities. The unavailability of traditional food items forces immigrants to adapt to new food styles and tastes that are usually disapproved by their culture. Women feel more pressure in such cultures because they are usually responsible for preparing meals for the family (Terragni et al., 2014). Moreover, the primary sources of traditional food in foreign locations are community networks and grocery stores. Immigrants can not only access their desired traditional food items but also serve as a place where immigrants can interact with their fellow community members (Parzer & Astleithner, 2018).

The changes in diets are not simply a concern of the nutritional quality of the food but also the timing of the meals (Mellin-Olsen & Wandel, 2005). There is also a difference in the eating patterns of Pakistani and Norwegian people. Pakistani diet patterns mainly revolve around three big meals, and the concept of snacks in between is rare. However, snacking and small meals is a common practice in Norway (Mellin-Olsen & Wandel, 2005; Wandel et al., 2005). However, among elderly Pakistani immigrants, traditional eating routines provide security and comfort by reminding them who they are and where they have come from and differentiating them from the host country (Lillekroken, 2024). Moreover, at times when older immigrants experience stress, they tend to embrace comfort and ethnicity by practicing traditional eating habits. The effects of such changes in diets can be overwhelming to the elderly immigrants living in Norway as well (Berggreen-Clausen et al., 2022). Further, immigrants, when adopting new food items and ingredients in their diet, their bodies usually do not respond positively to the dietary change. They sometimes fall sick and are susceptible to malnutrition and chronic diseases (Kristiansen, 2016). Furthermore, the length of time a person spends in the host

country is one of the most important predictors of the degree of dietary acculturation. For many years, the Norwegian residents in the country may have altered their diet considerably, while the newcomers' individuals may still consume traditional foods (Sverre et al., 2014)

3. Methodology

3.1 Research Design

Research methods can be defined as the processes or techniques that are used by researchers in order to study a specific research topic, question, or problem in a scientific manner (Creswell, 2017). This study will use a qualitative research method. Qualitative research investigates topics in detail by understanding people's perceptions, experiences, and interpretations of phenomena (Creswell & Poth, 2016). This approach focuses on the enhancement of contextual data that are useful for comprehension of the fundamental rationales, choices, and procedures in human actions and social cause-and-effect relationships. Some of the data collection techniques are interviews, focus group discussions, observation, and documentation review (Creswell & Poth, 2018). Qualitative research has an inherent flexibility that allows the researchers to quickly adapt to new information that may affect the result of the study (Creswell & Poth, 2018). Basic concepts of qualitative research are useful in applied fields like anthropology, sociology, psychology, or education that stem from a holistic approach (Renjith et al., 2021). As in this study, we wanted to get the perspectives of the immigrant thus, the use of a qualitative research methodology seemed most fitting. Qualitative interviews have been employed.

3.2 Research Sampling Process

3.2.1 Sampling Approach

Purposive sampling was used in this study. Purposive sampling is defined as "consciously selecting the participants with regard to characteristics that are pertinent to the research question" (Patton, 2014). Purposive sampling targets people with certain characteristics pertinent to the study topic. In addition to that, to increase the number of participants, snowball sampling was incorporated later to re-contact the hard-to-reach population (Patton, 2014). Homogeneous sampling focuses on the common attributes of the candidates and investigates their resemblance to the subject under consideration. In this research, we have purposively sampled a homogenous group of elderly Pakistani immigrants living in Oslo.

The selection criteria were that the participants must be 60 years of age and older, born in Pakistan, and living in Oslo, Norway. Some of the male and female immigrants from Pakistan who were interviewed had different life experiences before migrating: cultural preferences and urban settings. Both gender participants were included in the study because male immigrants were the first to migrate to Norway for work-related reasons, while female participants were deemed more responsible for setting up the households and preparing meals for the family. Therefore, a homogeneous approach was used to gather detailed views and stories of an immigrant's recruitment of participants.

3.3 Data Collection Tool

The traditional form of data collection in the field of qualitative research is individual interviews. A face-to-face interview with a participant is called an individual interview. These are utilized to know the participant's experience, attitude, and opinions (Roulston & Choi, 2018). According to (Brinkmann & Kvale, 2012), an interview is a "professional talk" that is more than just a discussion of opinions but a complex way of gaining important information about a particular subject matter. For interviews, a semi-structured interview guide was developed in consideration to Berry's model of acculturation (Berry, 1997). In this research, we initially purposively sampled a homogenous group of elderly Pakistani immigrants living in Oslo however later shifting to snowball technique. Moreover, the semi structured interviews facilitated the researcher to dig deeper in the perceptions, challenges and challenges of acculturation process. Further, cross questioning and discussion in interview will help the researcher to insight of the emotions and viewpoints of immigrants' (Kvale, 2009).

3.3.1 Development of Semi-structure Interview Guide

A semi-structured interview is a research instrument where the participants are free to give their responses in an unstructured manner to elicit their feelings, experiences, and views.

The areas covered in the interview were attitudes to healthy eating, problems faced in obtaining appropriate foods, and changes in the dietary patterns in the new culture.

The researcher prepared this interview guide in its simplest form in Urdu and in simple writing to explain the information to the target group. At the end of the study, two participants were used for pilot testing in order to ensure that the interview questions were clear, comprehensive, and culturally sensitive. In addition, modifications were made to the interview guide after the pilot study, and the final interview guide was used in the data collection. The modifications

and changes were mainly in simplification of questions and addition of sentences or words that keep the participants on track and avoid unnecessary data.

3.4 Data Collection

For the data collection process, the researcher started with utilizing personal networks, including reaching target population in local mosques, that served as a key community point for Pakistani immigrants. The researcher contacted participants directly and informed about the research to the target group, allowing them to participate voluntarily. Moreover, efforts were extended by making a Facebook post was also made in a group with Pakistani immigrants living in Norway to target Pakistani immigrants. However, the researcher also equipped snowballing method to reach potential participants, aiming to expand recruitment group. Regarding the interview scheduling, the time was selected in advance according to the participant's convenience and preferences. a. In cases where face-to-face interviews were not feasible for technical reasons, including transport problems or respondent preference, telephone interviews were conducted instead of face-to-face interviews to ensure data capture. The Interview were conducted by the main researcher of the study, a master student from Pakistan. Every subject was given a brief overview of the study and the areas of concern in the interview to be conducted. This included ensuring that they received some form of communication from researcher about the study, its purpose, procedures, privacy, and participants' rights. Participants were given an opportunity to talk, ask questions, and clear misunderstandings before they could voluntarily show their interest in the study. The data collection was conducted between late December 2023 and February 2024. The interviews were, on average, 40 minutes in length. In all the individual interviews, the digital audio recording application 'Diktafon.' was used to record the voices of the participants. Documents were then uploaded and allowed by translation and transcription

3.5 Translation and Transcription

All the interviews were conducted in Urdu. The first step was transcription that involves converting spoken language or an audio file into written text to analyze some events (Halcomb & Davidson, 2006). In this step, the researcher made copies of all the tapes so that all the transcripts that were obtained from the interviews were secure. The second step was translation, which is the process of translating written material from one language to another. Several methods of transcribing and translating the interviews can be used in the research. These

methods include the use of automatic transcription software, manual transcription, or help from a professional translator (Halcomb & Davidson, 2006). In this study, the researcher employed an audio transcription method in which the researcher listened to the recorded audio and took a verbatim note of the conversation. In this study, interviews were taken in the native Urdu language and then translated into English by the researcher. The translations were also reviewed by another colleague who is fluent in both English and Urdu languages. All the translations were carefully reviewed to ensure data accuracy

3.6 Data Analysis

Transcripts of all interviews were imported into NVivo (MacOS 14.6.1) for analysis. Different categories of qualitative data analysis techniques exist, for example content analysis, thematic analysis, and narrative analysis (Braun & Clarke, 2023). Thematic analysis was applied to this study to understand human experience on deeper level (Braun & Clarke, 2023). The analysis was conducted by the student, with discussion about terms and codes with the supervisors and other colleagues. And, by utilizing Brown and Clark thematic analysis steps involving:

The first step was data familiarization. This is done by thoroughly reading and rereading each participant's interview by the researcher that was collected during interviews and were in the form of transcripts. This stage is crucial for understanding the data and identification of interesting points and patterns whereas it does not include coding (Braun & Clarke, 2023). After data familiarization, the researcher begins with initial coding. This involves assigning specific labels to the data that seems relevant in term of addressing aim of the study. This initial coding is based on several factors like repetition of words or phrases. In this phase, the coding is mainly descriptive, and the researcher identifies as many codes as possible. Leading to developing initial codes, the researcher then assembled codes in broader themes. Codes that have same meanings or relate to each other were grouped together. At this stage the patterns were more visible which helped the researcher to narrow the codes in themes that reflect relevant insights. In this stage all the irrelevant and repeated data was eliminated. After that, in this stage, the researcher then organizes and defines codes into themes. Themes are broader than codes (Braun & Clarke, 2023). Themes are based on addressing research questions and provide insight and answers. Once the themes were developed, they were reviewed to make sure that they represent the data that answers the research questions. Themes should be consistent, reflect significant insight into the data, and provide a comprehensive overview and has been presented (Braun & Clarke, 2023). After that they were properly named in relation with answering the research questions. The following stage involves interpreting data to

discover more in-depth meanings and extract insights. Interpretation implies understanding the relationships between the topics and suggesting possible explanations or correlations (Braun & Clarke, 2023). It also concerns extending an analytical scope to a broader perspective. Lastly, during the last step the themes were explained in detail citing every important detail from the interviews to make the findings relevant. The findings are supported with participants quotes extracted from the original transcript. Moreover, the findings were written in clear and precise form for better understanding and are narrated and supported by quotes extracted from the transcriptions to offer a more insightful perspective and assist in illustrating the practical interpretations; this way, the readers can more easily apply them.

The example of how the analysis is conducted is shown in the table below:

Table 1: Data Analysis table

Quotes from Participants	Codes Sub Themes	Sub Themes	Main Themes
<p>"I picked something, but my husband put it back because I didn't know that not all ingredients are halal, and I couldn't read Norwegian at that time."</p> <p>"Many people face difficulty in health care because of language, and they also don't know that there is a facility for translators. Initially, I also didn't know about that. Most of the time I didn't understand what doctors said to me unless my husband explained me, so I get disturbed by this." (participant 3).</p>	<p>Difficulties in Expressing</p> <p>Dietary Preferences</p> <p>Challenges locating specific items</p> <p>Difficulty adjusting to Norwegian cuisine</p> <p>Absence of fresh meat and limited spice options in Norway</p>	<p>Shopping habits and food preferences</p> <p>Adaptation to Norwegian food and cuisine</p> <p>Language barrier</p> <p>Access to familiar food</p> <p>Active lifestyle</p>	<p>Experience of two cultures cuisines</p>
<p>"Yes, as of now I am diabetic, so I like to take tea, but I don't take sugar in my tea anymore. Because I think it's better to control your diet than to take a lot of medicines and insulin injections." (Participant 1)</p> <p>"No, I don't use less oil in Pakistan, but now with age and because of health issues, I use less oil, take less sugar, and I am careful about my health." (Participant 7)</p>	<p>Recognition of Potential Health Benefits of Lighter Meals and Reduced Fat Consumption</p> <p>Environmental and Cultural Factors: Perception of Pakistani Food as Visually Appealing but Potentially Unhealthy</p>	<p>Adapting to Health Conditions with Age</p> <p>Cultural and genetic factors in health</p>	<p>Perception of a healthy diet</p>

<p>“No, I cook with the traditional style. Sometimes it takes the whole day to cook food, like marinating, etc.” (Participant 5)</p> <p>"They (my kids and grandkids) like junk food mostly, and they complain if I don't make modern or junk food at home. They like to eat out a lot of junk food like kebabs, pizza, burgers, and chocolates. We also keep a lot of juices." (Participant 2)</p>	<p>Mixed opinion regarding the healthiness of Pakistani vs. Norwegian diets</p> <p>Preference for Pakistani food due to traditional ingredients like Desi Ghee</p>	<p>Food preferences</p> <p>Adaptation to the Norwegian diet</p>	<p>Preferences to traditional food</p>
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3.7 Ethical Considerations

Before actual research the researcher submitted and approved the research proposal to Norwegian Centre for Research Data (NSD- now SIKT) institute, and ethical clearance was sought. Participants were informed beforehand and proper consent was taken from the research participants (see appendix) and ensure that they were informed of their right as research subject. They agree to participate in the study without any pressure and was informed that they can leave or stop participating whenever they want. Additionally, participants were informed about the interviews to be audio recorded using a sound recorder After consent, interviews were conducted by mutually scheduling a meeting. The Ethical approval from SIKT and the consent paper presented to the participants are available in attachment A and B.

4. Results

This chapter presents the results of the study, which aimed to explore dietary acculturation among Pakistani immigrants in Oslo. The findings are organized around the major themes identified during thematic analysis, including

4.1 Demographic Characteristics

The mean age of participants of the study is 67.0 years with equal number of genders.

Table 2. Background characteristics of the participants (n=7)

<u>Interviews</u>	<u>Gender</u>	<u>Age</u>	<u>Year of Arrival</u>
1	Female	63	1980
2	Female	65	1987
3	Female	62	1986
4	Female	70	1996
5	Female ¹	50	1984
6	Male	69	1973
7	Male	80	1972
8	Male	60	2000

4.2 Overview of findings

4.2 Arrival in Norway

Pakistani immigrants tend to experience migration process on a richer level as they come from considerably warmer, religiously and culturally different country to the west. Having a contrasting home culture, early Pakistani immigrants directed initial challenges by adjusting to Norwegian culture and simultaneously maintaining religious and cultural practices. Upon open ended questioning, participants also revealed that they experienced several challenges upon their arrived in Norway. Some of the predominant challenges expressed during the interviews

¹ Participant 5 (female) and Participant 6 (male) were interviewed together as a couple.

were their efforts to blend in with different cuisines, Norwegian language illiteracy and their efforts to communicate with locals at work, markets, and healthcare providers. Moreover, during conversation topics like unfamiliarity of Norwegian foods and ingredients along with limited or no access to culturally and religiously appropriate foods were disclosed. Participants recall their limited food choices upon arrival to Norway due to various reasons such as narrow access and availability of familiar food. This left them with very selective food choices as a participant describes it:

“At that time there were few Muslims. And there was no concept of halal food here. So, we were very conscious about our food. Thus, initially we didn’t eat meat or any other thing which we had doubt on, and we mostly ate just bread, vegetables and fruits.” (Participant 2)

4.2.1 Language Barriers

Immigrants from Pakistan acknowledged the importance of language literacy in the host country yet they mentioned how they faced significant language barriers upon arriving in Norway. As most immigrants came as “guest workers” and without a common language, they faced severe challenges in various aspects of daily life especially interacting with local communities.

“When we came from Pakistan we didn’t even properly speak or understand English” (Participant 2)

“Most of the communication was through broken English as we don’t know Norwegian well.” (participant 3)

Where, during work communication was important and to cope with this challenge participants disclosed their efforts to maintain communication with locals by utilizing nonverbal cues and sign languages.

“Language is a door to any society; we couldn’t even properly speak English, and we mostly had to use sign language in order to communicate.” (Participant 6)

“Initially, it was a struggle, and we used to communicate mostly through signs with other people.”(Participant 6)

Immigrants employed various strategies to overcome language barriers and integrate into Norwegian society. Participants mentioned that they understood the significance of language in Norway and thus the learning of language started a long way. Learning from colleagues, friends, or through formal education played crucial roles in improving language skills. Moreover, they mentioned progress in language when interacting with locals.

"I learned most of the language from one of my colleagues at work. She used to talk a lot with me. We were friends. Initially, I couldn't understand much, but with time, I learned many new words." (Participant 3)

"I also used to sell knitted gloves and sweaters. This social interaction improves my language to some extent" (Participant 4)

Learning language requires practice and comfortable environment. To which a participant mentioned that due to their frequent visits to home country, Pakistan, hindrance to their language proficiency was developed. That bring efforts in expressing oneself fluently in host country language.

"I used to go to school; I did learn a bit. However, as we keep visiting Pakistan and returning, I had little grip on the language, but still, I can understand whatever they say. However, I am not that good at speaking and writing Norwegian." (Participant 1)

Several Pakistani immigrants practice culturally made gender roles. Thus, a participant mentioned that due to domestic responsibilities, some immigrants found it challenging to dedicate time to language learning. Prioritizing family care over personal development hindered language acquisition efforts for some individuals, reflecting immigrants' complexities in balancing integration with familial obligations.

"Language is one of the most important factors. Initially, I tried to learn the language, but then my son got married, and then his wife got pregnant, so I had to stay home to care for his wife and kids and thus could not continue learning." (Participant 4)

Limited language literacy affected their experiences of accessing certain foods specially religiously appropriate items. They mentioned that since they could not read or convey their

message properly regarding certain food items. This creates a challenge in establishing if something was truly religiously appropriate. Language barriers and unfamiliar customs can make it challenging to shop independently. Similarly, participants mentioned their early challenges with getting grocery or even snack.

“It was very difficult for me. Once I pick something, but then my husband put it back because I didn’t know that not all ingredients are halal, and I couldn’t read Norwegian at that time. I like soup. But they have mix animals flavors, so I don’t know much. So, I couldn’t do shopping alone.” (Participant 6)

“Initially I had many problems, my husband guided me what to buy what to not because I don’t know which product has gelatin.” (Participant 4)

“Candies and chocolates might contain some things that we don’t eat so I used to ask the shopkeeper about that – so he can read the label and tell me” (Participant 1)

“So, when I came to Norway and i could not read Norwegian, I once picked something from a store, and then my partner took it from me and put that back. I didn’t know that not ingredients are halal. (participant 3)

4.2.2. Access to familiar food

The other common issue faced by Pakistani immigrants, particularly during the early years of their life in Norway, was the narrow access to familiar food and in particular halal food. The interview findings give us a peek into how informants shop for groceries in Norway in the beginning and how it evolved over the time.

Initially, when there were not many Pakistanis living in Norway, there was a scarcity of ethnic shops. Participants remembered to know only few local stores that provide their desired traditional ingredients which were also very far away from their residencies. They discussed that these stores were really important for them at that time as they also served the purpose of community hubs.

"At the time of our arrival, we get to know about a shop from our friends and family. It was only one; Siddique shop (grønland) that was near the city center, and suitable for purchasing traditional or Pakistani items or spices."(Participant 5)

"It was very difficult in the beginning. because there were many less options in the shops. and we didn't even know where we can buy goods from. then when we got to know new people and we make friends then they guided us" (Participant 1)

Whereas, interestingly for some participants, accessing ethnic ingredients and foods was not that big of a challenge as their partners or other family members came before and were already aware of the ethnic shops available making it convenient for them to shop

"No, I didn't face many difficulties in this regard, as my husband took me to (grønland) there was Siddique shop there where we can find all the Pakistani spices. Few things were hard to get." (Participant 4)

"My husband and in-laws did know about the ingredients. There was place grønland where there were Pakistani shops for spices, meat and other food items." (Participant 6)

Maintaining two different cultures and traditions was a bit of a challenge as the access to religiously appropriate food was significantly limited. During the observation by the researcher, expressions such as frustrating and irritation were noted as participants mentioned their initial efforts in accessing halal food items. However, participants also expressed acknowledgement to the existence and importance of ethnic grocery shops and the gap they try to fill in.

"No, it was not easy; it never was. Even finding halal meat is still a huge deal because not every shop has this facility, and if you want to buy halal meat and other eatable things specific for Muslims, you have to go to very specific shops as well, like Grønland." (Participant 2)

To mitigate these challenges, some immigrants mentioned that they relied on their partners and social connections initially, especially family members who have been in Norway longer or are familiar with different ingredients and language at that time. Participant discussed how their spouse and acquaintance assisted them while certain purchases.

“Initially, I had many problems; my husband guided me on what to buy and what to not because I did not know which product had gelatin” (Participant 2)

“Also, when I came early in the very start, I didn't know about much of the shops. So, we had to personally go to city center or ask our friends who had cars to bring spices for us when they go to city center.” (Participant 1)

Participants also explained a significant effort in locating halal meat, particularly regarding slaughtering. Despite encountering initially challenges in finding desired meat, a participant mentioned resorting to personally slaughtering animals according to Islamic practices facilitated by a slaughterhouse.

“No, accessing halal meat was not that easy. However, where my son-in-law works, there was a slaughterhouse nearby. So, he went there and slaughtered the animals in the Islamic way by ourselves.” (Participant 3)

Participants disclosed that with the passage of time things have progressed significantly in Oslo, the culture of Norway has become quite inclusive. They mentioned readily accessible ethnic shops in Norway and some local stores also started to have separate corners for diverse cultural food items. Despite the difficulties, there are also signs of progress. More shops are starting to provide different cultural tastes, showing that Norway is becoming more inclusive.

“Now there are many shops so there is not much issue now to buy the desired food items. Now even kiwi has an Asian ingredients section in their shops maybe because more people demand these things.” (Participant 7)

“However, now Muslim community has made arrangements regarding halal food. Now most of the meat packaging have written on them that whether its halal or not.” (Participant 3).

“Recently, there is a new shop opened here nearby, and they sell halal meat so it's much easier to shop now.” (participant 1)

“In the beginning there was nothing in the store but now we can buy many species, and our typical fruits like Pakistani mango from Kiwi and especially from Rema 1000. From last 2 years there have been many changes as they have started to sell different lentils and oil and maybe in coming years there will be even more options for us to buy (participant 6)

For many individuals, grocery shopping encompasses a combination of everyday basic ingredients and ethnic ingredients that remind them of home and aids practicing traditional dietary habits. Participants mentioned that while supermarkets like Kiwi and Rema1000 are convenient for regular needs, participants often had to visit smaller shops in their neighborhoods for authentic Pakistani items.

“When we want to buy normal grocery items like milk, yogurt, eggs and bread, we usually buy it from Kiwi and Rema, but when we want to buy some traditional items, we have to go to typical shops like Turkish or Pakistan shops.” (Participant 1)

4.3 Current dietary habit

4.3.1. Adaptation to Norwegian Ingredients and Cuisine:

Talking about the changes in their diets, participants mentioned a gradual adaptation to Norwegian ingredients and cuisines. Such as frequent incorporation of certain foods in diets fish and various vegetables. However, they mentioned use of traditional Pakistani spices and cooking methods to mitigate the unfamiliar taste and smell of certain fish.

“In Norway as I have started eating olives, Kiwi, salad and seafood such as salmon and shrimps. In Pakistan I don't remember that we eat that many fish. Like we do eat fish, but not as much as we eat in Norway. So, I think it's quite healthy food that we practice” (Participant 5)

“We started eating a lot of fish after we came to Norway, especially salmon and tuna. Tuna fish smells very strong, but I cook it with my traditional spices. I try my best to reduce its very specific tuna fish smell as much as possible, and I try to make it edible, and all the fish I make, in the Pakistani way only. I like Pakistani food but also Norwegian food.” (Participant 6)

Participants reported to modify their dietary habits over their stay in Norway. Especially with age related health concerns they found Norwegian eating style and ingredients healthier. For instance, lighter breakfast options, reduced oil consumption, and increased intake of vegetables and lean proteins were gradually added in their daily meal routine.

“Our diet pattern has changed no doubt as we take light meals now which I personally believe was a good change. It’s easy and time efficient. We take less fat containing foods now as before.” (Participant 2)

“I use less oil, take less sugar, and be careful about my health.” (Participant 7)

“I started eating less food rather than eating more food. Now I don't eat that much sweet or sugary items as I used to, I don't even like to eat much meat and try to eat more vegetables in my diet”. (Participant 1)

“I try to use less sunflower oil, and we all try to eat as healthy as possible, and all of my kids go to gym training center” (participant 5)

4.3.2. Food preferences among family

Interestingly, even if there has been an adaptation towards Norwegian food during these years, still, for many, food preferences are linked to traditional food, even if it may be more time-consuming. Some elderly participants exhibit an inclination towards traditional ethnic eating and cooking habits.

“No, I cook with the traditional style. Sometimes it takes the whole day to cook food like marinating, etc.” (Participant 7)

“We mostly eat Pakistani food here. My wife cooks Pakistani food. Very often we eat Norwegian food like fish or boiled potato. But I like Pakistani food. Sometimes they grill chicken and made rice that is my favorite.” (Participant 3)

“Mostly we eat and prefer Pakistani food” (Participant 2)

Although older generations tend to adhere to traditional Pakistani cuisine, younger family members exhibit a preference for junk food and modern conveniences. They enjoy eating out

and consuming fast food like kebabs, pizzas, burgers, and chocolates. However, despite the efforts made to promote healthier eating habits such as fruit consumption, the allure of junk food remains strong, reflecting generational dietary shifts.

"They (my kids and grandkids) like junk food mostly, and they complain if I don't make modern or junk food at home. They like to eat out a lot of junk food like kebab, pizza, burger and chocolate. We also keep a lot of juices." (Participant 2)

"When we are in Norway, we have to switch our menus because of our kids because if I make chapati every day they complain about cooking chapati every day, so I have to make different things like pasta, noodles and etc." (Participant 7)

"Mostly we eat Pakistani food, but we also make pasta as kids like it or sometimes salmon fish. And when Grandkids or their friends come, they also like biryani, spinach etc. So, it's a mix now". (Participant 4)

Overall, the findings illustrate the complex interplay between cultural heritage, dietary adaptation, and health considerations among Pakistani immigrants in Norway. While maintaining a connection to their culinary roots, immigrants navigated dietary changes influenced by health needs, availability of ingredients, and generational preferences, reflecting a dynamic process of cultural negotiation and adaptation in a new cultural context.

4.4. Health concerns with age

4.4.1. Adapting to Health Conditions with Age:

Aging presents various changes in the health and health concerns for participants, including bone pain and exhaustion. As a result, participants have had to adapt their daily routines to accommodate these physical limitations.

Participant 1: "I don't spend much time on traditional cooking now because, as you know, I have grown old. I have pain in my bones, so I cannot stand for very long hours, so I must cook in time to stand properly."

Regarding their perception about Norwegian food, mixed responses were obtained. Most participants expressed that Norwegian food is better than Pakistani food and cooking traditions in terms of nutrient quality and health benefits.

“I think it's healthier in Norway because the food is very clean and hygienic, and the lifestyle is a bit active here. Unfortunately, now the quality of things is very low in Pakistan” (Participant 7)

“Healthy food and active lifestyle. In Norway, everything is very clean and undergoes good quality control. Also, the pollution is very less in Norway.” (Participant 1)

“Norwegian food and ways are better; in our Pakistani cooking method we usually destroy many vitamins and minerals.” (Participant 3)

Whereas some participants believed that Pakistani cuisine is healthier and fresher.

“Of course, our food is rich with nutrition and love, haha. it is healthy. I use bone broth in my food which is one of the best foods to eat.” (Participant 7)

“I believe Pakistani food is better healthy, we use desi ghee in it, we also have desi ghee in Norway.” (Participant 4)

Some participants shared a critical thought on home cuisines with relation to health benefits and environments as:

“I Think Pakistani food is good according to that region, climate and environment and their activities. But it doesn't go well here.” (Participant 5)

“If you talk about looks, I think Pakistani food looks nice but now as I have grown older, I have come to realize that as pretty it was as unhealthy it was. I think that it would have been better for our health that we eat both in the combination of like one day we eat Pakistani high food and the other day we eat the light food” (Participant 7)

In terms of preference, participants generally expressed a preference for Pakistani cuisine, mentioning the flavor, richness, and familiarity. Pakistani meals, including traditional breakfasts and curries, remained staples in their diet.

“We know that Norwegian food is healthy, but we still prefer Pakistani.” (Participant 3)

“We eat mostly Pakistani food” (Participant 5)

“No, we usually eat Pakistani food here. My wife cooks Pakistani food. Very often we eat Norwegian food like fish or boiled potato. But I like Pakistani food. Sometimes they grill chicken and made rice (Participant 1)

Participants also reported modifying their dietary habits in response to adjusted lifestyles. They mentioned shifting focus from heavy to lighter breakfast and having more focus on dinners as the meal to eat together.

“Now I like lighter, for example I take egg, tea or sometimes cornflakes in breakfast whereas we usually have Pakistani food in dinner” (Participant 6)

“In breakfast we usually eat normal foods like me and my kids like to take milk, bread, eggs or tea. But In lunch we take chapati and cooked vegetables Whereas In dinner I usually made some effort for dinner because everyone is present. Mostly, I cook biryani or typical Pakistani food.” (Participant 5)

Moreover, they mentioned their increased intake of vegetables and lean proteins were common adjustments made for overall wellbeing.

“I started eating a lot of fruits and vegetables” (Participant 6)

4.4.2. Health-Conscious Dietary Changes:

Participants agree with the fact that genetic and cultural factors affect their health condition in a new country. They acknowledged the presence and prevalence of genetic diseases like hypertension, diabetes and other bone related issues. However, all of them acknowledge that their lifestyle and diet play a significant role in shaping their health conditions. Not only they take their medicines properly but almost all of them are well aware of their health concerns and have designed their diets to control their conditions

"Yes, as of now, I am diabetic, so I like to take tea, but I don't take sugar in my tea anymore. Because I think it's better to control your diet than to take a lot of medicines and insulin injections."(Participant 1)

"No, I didn't use less oil in Pakistan, but now, with age and because of health issues, I use less oil, take less sugar, and be careful about my health." (Participant 7)

Participants recognize the influence of cultural and genetic factors on their health conditions, such as diabetes and hypertension. While acknowledging the genetic predisposition, they emphasize the importance of dietary management and cooperation with healthcare professionals to lead healthy lives despite dealing with medical conditions, they expressed as:

"Yes, I do have diabetes, um, everyone in my family has diabetes. I like to take tea, now I don't take sugar in my tea anymore. Because I think it's better to control your diet than to take a lot of medicines and insulin injections. I don't know what's the reason for hypertension because we don't eat that much salt in our diet so maybe I think it's in our genes. And yeah, I think we have stopped eating a lot of sugar and cakes and chocolates " (Participant 7)

"Yes, of course, as your surroundings and culture impact your behavior. The lifestyle in Pakistan is not very healthy there. However, here, if you are diagnosed with diabetes, you can live a healthy, unaffected life if you cooperate with your health care professional and manage your diet." (Participant 6)

"We eat fish a lot and we also try to avoid white flour and other sweets and soda because of diabetes." (Participant 2)

4.4.3 Embracing Active Lifestyles and Positive Thinking:

The participants mentioned various health challenges that they face because of ageing. They believe and positivity and active lifestyle can help them to improve their overall wellbeing. Their responses reflected that majority opted proactive health management strategies, including exercise, selfcare, controlled diet and personal agency in navigating their health-related issues. They reflect resilience and determination to overcome their age-related health obstacles. It also underscores the participants' resilience and determination to lead fulfilling lives despite the obstacles posed by aging and chronic health conditions.

“In Norway, the lifestyle is way better, however I think with time we have developed understanding that we need to keep our diet clean, and we also engage in physical activities like walk etc.” (Participant 2)

“I train, and everyone must do for an active lifestyle. You should think positively and avoid thinking negatively. Rest is all in Allah's Hand.” (Participant 5)

The findings reflect that the elderly Pakistani immigrants have positive approach toward their health and wellbeing. They are willing to make efforts and make modifications in their dietary habits it improves their overall health. This clearly indicates they are well aware of their health concerns with age and are willing to make efforts to improve it.

4.4.4 Change in Weather and Dietary changes

The participants also discuss the impact of weather on their diet and health. As the participants belonged to a warm country the shift to extreme weather not only impacted their dietary intake but also limited their physical activity. As upon asking if participants have implemented any modifications to their diets to cope with Norwegian culture and lifestyle, a participant expressed as:

“Yes, I think it was very important since the winter is very hard here, so you need to eat a very healthy diet in order to survive such strong weather” (participant 5)

Further, as there is very limited sunlight exposure in Norway because of extreme cold weather, so participants expressed their concern regarding Vitamin D deficiency. They mentioned altering or adapting their diet with food items that are rich in Vitamin D.

“So, our shift to these food items mostly is to meet our needs of vitamin D. But if you are not careful about your food according to the weather it can have a bad impact on your health. Pakistan is a warm country and Norway's weather is extremely cold. We do not get proper sunlight here so we have to be careful that our diet should have proper vitamin D. We can get vitamin D through fish, milk, yogurt, vegetables and fruits.” (Participant 3)

In winters it's very difficult in Norway to stay sane even. I practice drinking more milk in Norway because of my bone health and as I told you that in winter it gets really dark here and your vitamin D and C level can go really down. So, in order to keep that up, I take a multi vitamins and also, I'll try to take milk as much as possible. (Participant 7)

5. Discussion

5.1 Discussion of results

This chapter presents the study findings of the perceptions and experiences of dietary acculturation among elderly Pakistani immigrants. The study applied Berry's model of acculturation due to its relevance in understanding the influence of cultural adaptation on health behaviors especially among immigrant communities (Satia, 2010). Moreover, the aim to explore the adjustments immigrants made in their dietary practices when they experienced a shift of cuisine from traditional to host country. Dietary changes usually get influenced by factors such as income, access, and availability of familiar food, as well as cultural differences. The study was conducted to understand the perceptions and experiences of dietary acculturation among elderly Pakistani immigrants living in Oslo. The study examined how dietary practices have altered since their migration and some factors that may have influenced these changes. The results show insights into the early challenges and adaptations made by Pakistani immigrants that align with the previous studies on immigrants and dietary acculturation (Mellin-Olsen & Wandel, 2005; Wandel et al., 2005). Furthermore, the study indicates that Pakistani immigrants tend to maintain their cultural dietary practices with a blend of integration, such as modifications in cooking practices, shortening the time spent on traditional culinary practices, reflecting their efforts to manage discomfort and maintain independence. Participants mentioned the change in meal patterns in Norway as it has become more individualistic and the big prominence of dinners and weekend meals being the only time families eat together. This is in line with findings from previous studies (Garnweidner et al., 2012; Mellin-Olsen & Wandel, 2005). According to a study, Pakistani Immigrants (the largest third-world immigrants) were least likely to have non-traditional meals for dinner (Wandel et al., 2005).

While these findings highlight dietary acculturation, they also discovered the presence of generational differences among dietary practices. Norwegian-born or younger generations were more inclined to blend both host and home country cuisines. This has also been observed in a similar study (Mellin-Olsen & Wandel, 2005), where children preferred chicken over

Pakistani food, and one of the prominent factors in changing the menu was their children's preferences.

The current study indicated that the process of acculturation has affected the dietary habits of elderly Pakistani Immigrants in Norway. The impact is not significant, but it does affect certain aspects of their life. Studies indicated that after immigration to Norway, people gradually adjusted to the new food culture, food items, and dietary practices. Food items such as salmon, fish, and vegetables become a regular part of their diets (Garnweidner et al., 2012). Pakistani elderly immigrants were also found to incorporate Norwegian cooking methods in their traditional cooking practices. Mintz & Du Bois (2002), in their research, also indicated that the integration of host cuisines and cooking styles is a prominent aspect of cultural exchange and the migratory process. As the immigrants taste new ingredients and are introduced to new cooking methods, they gradually shift to new patterns of eating and cooking (Terragni et al., 2014). Further, Terragni and Roos (2018) discussed that food adaptation also happens through social interactions like networking, meeting with friends from the host country, and sharing meals beyond cultural differences. The immigrants are also reported to replace their traditional ingredients with the substitute native ingredients, alter their recipes, and participate in assimilation of both the country they come from and where they immigrated (Garnweidner et al., 2012). (Mellin-Olsen & Wandel, 2005) states that immigrant women usually develop their own new recipes based on the availability of ingredients.

One prominent factor that impacted the early adjustment of diets was the language barrier. The experience of elderly immigrants in accommodating to the new language and cuisine, in the beginning, was the critical element of this process that has an impact on many areas of life and their cultural integration. (Hayfron, 2001) discusses that proficiency in language is essential for daily use and essential for immigrants who belong to a community and a society, as it significantly influences their identity and cultural understanding. Participants highlighted the importance of Norwegian language literacy as they disclosed their early challenges of language illiteracy and efforts to access healthcare facilities efficiently. This concept has been supported by (Esser, 2006), who also argued that the development of a new language and the exchange of a new cuisine by immigrants result in many social outcomes, including integration and cultural exchange in the host country. Being able to speak the language is an important tool to get immigrants integrated into society as it consents to more social interactions, improved health communication, and participation in community events and celebrations, which ultimately make them feel that they have become a part of the community and (Mantwill & Schulz, 2017). Additionally, according to a study by (Tuomainen, 2009), cultural diversity is

strengthened and enriched by exchanging and sharing culinary traditions and practices, giving rise to intercultural dialogue and understanding in plural societies.

The change in climate was also a factor that impacted the Pakistani immigrant's lifestyle and dietary habits (Rieger et al., 2021). Pakistan is a warm country with a warm and dry climate for most of the year. On the contrary, the climate of Norway is extremely cold. This extreme cold weather limits people's activities and alters their food intake. The work of Hjellset & Ihlebæk (2020) indicated that women especially are affected by climate change as it directly impacts their health, primarily the issues of bones because of lack of vitamin D deficiency. The climate shock of shifting from a warm country to an extremely cold country also impacts them psychologically. Moreover, Immigrants may experience climate change, adaptation, and relocation issues, particularly when they come from countries with climates very different from those of their host country (Shor & Roelfs, 2019). Meteorological factors such as temperature, humidity, sunlight, etc., are not the same in terms of their effect on people's health, and they may affect respiratory health, infectious disease transmission, and mental health (Lindert et al., 2008).

The findings also indicated that the elderly immigrant's health perceptions are based on their cultural beliefs, availability of certain food items, and access to halal food. Although participants reported that they consider Norwegian food healthy, they still prefer their traditional Pakistani foods and cooking styles because they are good for their health. The work of Berggreen-Clausen et al. (2022) also supports these findings. In their research, they discussed that immigrants from developing or underdeveloped countries prefer eating fresh food and healthy traditional food items. This choice is affected by factors like access, cost, and availability. However, despite their preference, they are sometimes limited or forced to opt for different or unhealthy food options because of the convenient alternatives or family taste preferences. The way immigrants adjust to the host country's culture significantly influences how they view food and health as they adjust to the cultural and environmental changes that migration brings (Satia, 2009).

Terragni and Roos (2018) discussed that this process of adaptation and acculturation for immigrants is constant and evolves continuously. People constantly take up new eating habits or develop a taste for ingredients that used to be unfamiliar to them. Satia-Abouta et al. (2002) argue that immigrant acculturation is a critical factor that contributes to the health impact of immigrants. The shift in high-processed and high-sugar food definitely impacts health outcomes, especially for older people. The intake of Western food is associated with incidences of chronic diseases (Satia, 2009). Immigrants also face challenges in balancing the nutritional

transition while shifting from their traditional cultural diets to new dietary habits. This cultural dietary assimilation has a negative effect on people who are culturally health-sensitive. This emphasizes the need for dietary counseling and health promotion for people who immigrate to a new land. However, for Muslim immigrants, the major concern is the availability and access to Halal food, which is also reflected in study findings. The majority of Muslims are conscious about eating food according to Islamic rules and regulations (Thomas & Selimovic, 2015). Paul and Amina (2015) also discussed how Muslim immigrants often find it difficult to easily access Halal food, which leads to issues like difficulty in practicing religion, uncertainty about food authenticity, and cultural preservation. However, despite the challenges revealed by study participants after immigrating to Norway, the overall experience and perception of elderly Pakistani immigrants about their dietary acculturation was positive. The challenges, like the availability of traditional food items and access to halal food, have been reduced because of the easy availability of culturally diverse food items. Further, currently, in Norway, the Pakistani community has grown significantly; therefore, community and emotional support for elderly people has also increased. These factors lead to resilience, satisfaction, and optimism among immigrants and make their journey of navigating through the settling process in a new country

5.2 Discussion of Methodology

The study employed a qualitative approach to explore the perceptions and experiences of elderly Pakistani immigrants. This methodological choice was deemed as appropriate as it facilitated a deeper understanding of participants' perspectives, traditions, and their relationship with food.

Trustworthiness is a concept often used to refer to the overall quality and thoroughness of qualitative research. It is an umbrella term and to evaluate trustworthiness of findings including credibility, transferability, dependability and confirmability (Korstjens & Moser, 2017). Credibility in research refers to the confidence readers can have in the accuracy or truthfulness of the study's findings (Noble & Smith, 2015). In this study the researcher aimed at reaching credibility in several ways: the researcher demonstrated persistent engagement and careful observation during the individual interviews, allowing for a thorough and in-depth understanding of their beliefs. The data transcription and coding process were documented detailed and précised to provide an accurate and comprehensive representations of collected responses. Moreover, repetitively reviewing of the data during processes like transcription,

translation and thematic analysis was practiced preserving fidelity of the participant's narratives.

In qualitative research, the term 'dependability' parallel reliability and refers to the consistency and stability of the research study (Noble & Smith, 2015). Whereas conformability is the degree to which alike studies can support the similar finding of the research (Korstjens & Moser, 2017). To achieve this a detailed description of the research design, data collection methods, and data analysis procedures have been provided. Moreover, adjustments were made to the interview guide after conducting pilot interviews and interviewing skills progressed actively. The transcription and translation of the audio recorded interviews from Urdu to English was done by the researcher itself. After proofreading the transcripts, they were transferred to NVivo to continue data analysis process.

Transferability is a level to which research findings can be applied to different settings (Korstjens & Moser, 2017). To achieve transferability in this study, an in-depth description of individual interviews among elderly Pakistani immigrants were provided in the study comprising location of study conducted, study setting, sample size, sampling techniques, interview procedures and topics, and demographic characteristics.

Finally, another important consideration for qualitative research is the reflexivity. Reflexivity assists the researcher to become self-aware and reflexive of his role and responsibility during data collection process (Nazar et al., 2022). While conducting the interviews the researcher's advantage of shared culture and language, Urdu, may have provided the trust and confidence to the participants to express themselves freely and clearly and gain in-depth insights. Whereas during analyzing the data, the researcher acknowledged shared cultural background with participants which could possibly lead to assumptions about their experiences and eventually causing bias. Thus, to minimize such elements the researcher approached each interview with an open mind, empowering participants to narrate their experiences clearly and simultaneously keeping a personal reflexive note to avoid potential bias which could have affected the data.

5.3 Strengths and limitations

In the study, dietary acculturation among elderly Pakistani immigrants in Oslo was examined through conducting individual interviews that allowed gaining a comprehensive understanding of their perceptions and experiences. A key strength of this study is its qualitative approach which enabled older Pakistani immigrants to express their early experiences with dietary acculturation and how it progresses over time. Moreover, by using thematic analysis key terms

related to dietary practices were identified that allowed extensive insight into the dietary acculturation and dietary adaptation process.

That said, the study has several limitations. The Recruitment process encountered various obstacles. One of the prominent challenges was reaching targeted group as the researcher itself was a newcomer in Norway and had a very limited social network with own countrymen. It was expected, that being of the same culture and speaking Urdu could be a facilitator and help support difficulties in recruitment that have pointed out, for instance in the study of (Maxson et al., 2024). However, this did not happen due to the reasons mentioned above. To try to increase recruitment the sampling technique where participants were initially recruited through purposive sampling was then to snowballing sampling. Thus, this resulted in slower recruitment process and required more effort. These challenges diversity and sample scope. Therefore, there might be a gap in representing a range of experiences or various dietary patterns among elderly Pakistani immigrants in Oslo. Moreover, the limited sample size could contribute to biasness and restrict the generalizability of the findings.

Further, a strengthening point for the study could be including participants from cities outside Oslo thus, providing a wider vision of dietary acculturation across Norway. For example, immigrants in rural areas may face different set of challenges that might have influenced their process of dietary acculturation including limited access to traditional ingredients, religiously appropriate food, or even lacking community support. These differences may reveal the influence of geographic location and accessibility to resources and its impact on integration of dietary practices from the host country. Additionally, by including other cities the study could have explored various barriers encountered and unique adaptive strategies adopted outside Oslo. Thus, enriching the research's findings and aiding valuable insights useful for developing culturally sensitive interventions and policies.

As the study relied solely on data collected from interviews of small number of people therefore, broader spectrum of how dietary adaptation takes place cannot be captured. The consumption patterns and eating practices can be better measured through quantitative methods by utilizing surveys. Further, one of the challenges researchers experienced was during data collections, participants talked very much also about topics that were not relevant for the study. resulting in an abundance of information presented difficulty in managing and analyzing the data. To overcome this difficulty, interviewers applied active listening techniques and gently guided the conversation back to the research topic. This approach facilitated the maintenance of the participants' narratives while ensuring alignment with the research objectives. Besides, during data collection process one participant found it challenging to remind minor details from

past, thus, was backed by their grandchild who were present in person with them and assisted the interview acting as a bridge and helping them better understand the question and complete their answer. conditions.

6. Conclusion:

This research aimed to study dietary acculturation among Pakistani immigrants who migrated to Oslo, Norway when they were young. The study highlights the importance of dietary acculturation for understanding dietary habits of elderly immigrants. The results reveal that, Pakistani immigrants' dietary habits are shaped by a complex blend of cultural preference, environmental factors and other health concerns. While, some prefer traditional Pakistani cuisine, incorporation to Norwegian products was also reported. Over their long stay in Oslo, participants reveal significant improvement on availability of familiar and halal foods allowing them to practice traditional dietary habits Health concerns play an important role in shaping dietary habits among elderly immigrants. These findings indicate the importance of culturally sensitive public health strategies to when addressing support immigrant communities in having a healthy balanced diets post-migration. Findings highlights the importance of maintaining a balance between embracing healthy alternatives and preserving cultural heritage to ensure a sustainable path for promoting the well-being of immigrants.

Moreover, initially, among Pakistani immigrants' language illiteracy, long working hours, unavailability of familiar and halal food options were one of the prominent barriers to eating healthy diet. Whereas a progression was perceived and appreciated overtime.

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8. Appendices

Appendix A Research approval from NSD

Vurdering av behandling av personopplysninger - Ref. 658351

06/11/2024, 15:08



Assessment of processing of personal data

Reference number

658351

Assessment type

Standard

Date

31.07.2023

Title

Perception of Diet and Dietary change, and Health implications among immigrants with Pakistani Background in Norway

Institution responsible for the project

OsloMet – storbyuniversitetet / Fakultet for lærerutdanning og internasjonale studier / Institutt for yrkesfaglærerutdanning

Project leader

Laura terragni

Student

Sumaiya Javaid

Project period

01.08.2023 - 31.12.2024

Categories of personal data

General

Special

Legal basis

Consent (General Data Protection Regulation art. 6 nr. 1 a)

Explicit consent (General Data Protection Regulation art. 9 nr. 2 a)

The processing of personal data is lawful, so long as it is carried out as stated in the notification form. The legal basis is valid until 31.12.2024.

[Notification Form](#)

Comment

Concerning the information sheet we presuppose you rewrite the sentence "The researcher (Sumaiya javaid), the supervisor (Laura Terragni) and all from Oslo Metropolitan university will have access to your personal data" to "Only the researcher (Sumaiya javaid), the supervisor (Laura Terragni) from Oslo Metropolitan university will have access to your personal data."

Our assessment presupposes that the project will meet the requirements of accuracy (art. 5.1 d), integrity and confidentiality (art. 5.1 f) and security (art. 32) when processing personal data.

<https://meldeskjema.sikt.no/64860a6a-b879-4f9b-95c9-f990580e8b25/vurdering>

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Appendix B Consent sheet for participants

Consent paper:

Informed consent paper for the participants

Title of the Research

A Qualitative study on perceptions of dietary acculturation and experiences of changed diet among elderly Pakistani immigrants in Oslo, Norway.

Name of Researcher

Sumaiya Javaid, Oslo Metropolitan University, Norway

Consent form

I received, read, and understood the information about the project “Perceptions of dietary acculturation and experiences of changed diet among elderly Pakistani immigrants in Oslo, Norway”. My questions and queries have been addressed by the researcher. I understand that I am free to withdraw the interview of the study at any point. I hereby contribute to this study with my consent.

I have been informed that the interviews are audio recorded for research basis and that my data will be processed until the end of the project.

Do you agree to participate in the study? YES: NO:.....

Participant signature

Date

Appendix C Interview guide

Topic: Perception of Diet and Dietary change, and Health implications among immigrants with Pakistani Background in Norway

A qualitative interview guides.

<u>Theoretical Perspective</u>	<u>Introduction Questions</u>	<u>Main Questions</u>
Dietary acculturation	<p>Life & Migration:</p> <p>How old are you? When did you came to Norway? How long have you lived in Norway? Who do you live with? Do you work? Have you noticed any changes in your dietary habits?</p>	<p>Can you explain your experience regarding the changes in your dietary habits after migration?</p> <p>Tell me what you eat and drink in a typical day, Breakfast/lunch/dinner.</p> <p>Who cooks for you? Where do you eat? Family/Alone.</p>
	<p>Language:</p> <p>What languages do you speak, read, and write?</p> <p>When you came did you knew Norwegian language? Do you know it now? Has it affected your diet choices? Was it a barrier in shopping grocery? Was it a barrier in seeking healthcare?</p>	<p>Can you tell how migration has influenced your grocery shopping experience, especially considering language illiteracy?</p> <p>How has language illiteracy, influenced your experience of health-related information and healthcare access in Norway?</p> <p>Do you think that your ability of making informed health-related decisions was affected by lack of understanding of Nordic healthcare system?</p>
	<p style="text-align: center;"><u>Dietary acculturation at the arrival in Norway</u></p>	
	<p>If we compare your diet you had in Norway after arrival to what you were having to in your home country, how would you explain it?</p> <p>How is your diet changed? How do you think it's traditional/modified or bi-cultural?</p>	<p>Has your traditional cooking techniques or recipes changed too? Have you tried or adapted to new ingredients that are more available in Norway?</p> <p>Any food item you use now, and not in home country? Who told you about that food/item? Have you modified/changed any of your traditional methods as per foods available in Norway? Example?</p>

		<p>Have you noticed any positive change in your health since moving to Norway? E.g energy levels?</p> <p>How was your experience with finding Halal food in Norway? Did you get any support/ assistance from local community/ online resources?</p>
	<p>Cultural identity: Social interactions</p> <p>Can you tell the level of interaction in outdoor activities in Norway, do you find yourself engaging with more local Norwegians, or fellow elderly Pakistani immigrants, or an equal mix of both?</p>	<p>Do you talk about food/ food products available in Norway? What do you eat at gatherings? Pakistani Ethnic food/ Norsk food.</p>
	<p><u>Current Dietary Habits</u></p>	
	<p>Who buys the Food? Grocery.</p> <p>Are there any specific stores you buy your grocery from? Who told you about that shop?</p>	<p>Is there any specific difference in what you eat in Pakistan to your diet in Norway?</p> <p>Have you incorporated any Norwegian cuisine/style or ingredients in your cooking?</p> <p>Is there any ingredient/food item that you cannot or hardly find here? And how do you manage to make your traditional meals based on ingredients available in Norway?</p> <p>During occasions, what foods (from Pakistan) are specially made/prepared? Do you make any Norwegian/ other foods as well?</p>

	<u>Lifestyle Habits and Overall Health:</u>	
	<p>What is your major health concern? Is it affected by your dietary choices? Can you explain if you have any health complication that you think maybe because of migration or changed food habits?</p>	<p>What are your expectations in life as you grow older? Regarding to health/ Food.</p> <p>Do you think that after migration, your perception of health, health management and healthy aging has changed?</p> <p>Do you prioritize certain foods/ food items due to their perceived health benefits for older adults?</p> <p>Have you changed any food practice in order to manage any health concern? Who recommended you these changes? How do you feel about your Dietary modification?</p>
		<p>Ending question:</p> <p>In regards to your experiences, Dietary changes, and Migration to Norway as a Pakistani immigrant, what suggestions or advice would you give in order to improve the experiences and services provided to first generation immigrants?</p>

	<p>آپ کے مہاجرت کے بعد غذائی عادات میں کیسی تبدیلیوں کے بارے میں آپ کا تجربہ کیا ہے؟</p> <p>آپ ایک عام دن میں کیسے کھاتے ہیں اور پیتے ہیں، صبحانہ/دوپہر/شام میں۔</p> <p>آپ کا کون ختمہ پکاتا ہے؟ آپ کہاں کھاتے ہیں؟ کیا آپ خاندان کے ساتھ ہیں یا اکیلا ہیں؟</p>	<p>حیات اور مہاجرت:</p> <p>آپ کی عمر کیا ہے؟</p> <p>آپ نے ناروے کب آنا شروع کیا؟</p> <p>آپ نے ناروے میں کتنی دیر رہی ہے؟</p> <p>آپ کس کے ساتھ رہتے ہیں؟</p> <p>کیا آپ کام کرتے ہیں؟</p> <p>کیا آپ نے اپنی غذائی عادات میں کوئی تبدیلیاں محسوس کی ہیں؟</p>

	<p>مہاجرت کے اثرات پر بتائیں، خصوصاً زبانی انپڑھانی کے پیشے سے</p> <p>زبانی انپڑھانی کا اثر بتائیں، خصوصاً آپ کی خریداری کے تجربے پر</p> <p>زبانی انپڑھانی کی کس طرح صحت سے متعلق معلومات اور ناروے میں صحت کی دیکھ بھال تک رسائی پر اثر ڈالی ہے؟</p> <p>کیا آپ کو لگتا ہے کہ نارڈک صحتیہ نظام کو نہ سمجھنے کے باعث سے آپ کی علماء سے متعلق صحت سے متعلق فیصلے کرنے کی صلاحیت پر اثر ہوا</p>	<p>آپ کون سی زبانیں بولتے ہیں، پڑھتے ہیں، اور لکھتے ہیں؟</p> <p>جب آپ ناروے آئے، کیا آپ کو ناروے جین زبان آتی تھی؟</p> <p>کیا آپ اب اسے جانتے ہیں؟</p> <p>کیا اس نے آپ کے خوراک کے انتخابات پر اثر ڈالا ہے؟</p> <p>کیا یہ خریداری کے لئے رکاوٹ بنی؟</p> <p>کیا یہ صحت کی دیکھ بھال حاصل کرنے میں رکاوٹ بنی</p>
		<p><u>ناروے میں آنے کے بعد خوراک کی تبدیلی</u></p>
	<p>کیا آپ کے روایتی پکوان بنانے کے طریقے یا تراکیب میں بھی کوئی تبدیلی آئی ہے؟ کیا آپ نے ناروے میں دستیاب زیادہ دستیاب اجزاء استعمال کرنے کی کوشش کی ہے؟</p> <p>آپ کوئی ایسا کھاتے کا اشیاء استعمال کرتے ہیں، جو آپ کے وطنی ملک میں نہیں تھا؟</p> <p>کس نے آپ کو اس خوراک/اشیاء کے بارے میں بتایا؟</p> <p>کیا آپ نے اپنی روایتی تراکیب میں ناروے میں دستیاب اشیاء کے مطابق ترمیم/تبدیل کی ہیں؟ کوئی مثال؟</p> <p>ناروے منتقل ہونے کے بعد آپ نے کوئی مثبت صحتی تبدیلی محسوس کی ہے؟ مثلاً، طاقت کی سطحوں میں؟</p> <p>ناروے میں حلال کھانے کی تلاش میں آپ کا تجربہ کیسا رہا؟</p> <p>کیا آپ کو مقامی کمیونٹی یا آن لائن وسائل سے کوئی مدد/معاونت ملی؟</p>	<p>اگر ہم آپ کی آمد کے بعد ناروے میں آپ کی خوراک کو آپ کے وطنی ملک میں جب آپ کھاتے تھے، اس سے کیسے موازنہ کریں، آپ اسے کس طرح بیان کریں گے؟</p> <p>آپ کی خوراک میں کیسی تبدیلی آئی ہے؟</p> <p>آپ کو کیسا لگتا ہے کہ یہ ذاتی ہے، ترمیم شدہ ہے یا دو فرہنگی؟</p>
	<p>کیا آپ ناروے میں غذا / غذائی مصنوعات کے بارے میں بات کرتے ہیں؟</p> <p>کیا یہ آپ کے خریداری کے انتخابات پر اثر ڈالتا ہے؟</p> <p>ملاقاتوں میں آپ کی غذائیت کیا ہے؟ علاقائی غذا / ناروے کی غذا</p>	<p><u>ثقافتی پہچان سماجی تعلقات</u></p> <p>آپ کو ناروے میں اوٹڈور سرگرمیوں میں کتنا تعلق محسوس ہوتا ہے؟ آپ خود کو زیادہ مقامی ناروے جنس لوگوں کے ساتھ مشغول پاتے ہیں، یا بڑھے ہوئے پاکستانی مہاجرین کے ساتھ، یا دونوں کا برابر مجموعی؟</p> <p>کیا آپ کوئی ایسے خاص / مختلف کھانے یاد ہیں جو آپ نے اپنی خوراک میں شامل کیا؟</p>

<p>آپ کی مہاجرت کے بعد غذائی انتخابات میں کیسی تبدیلیاں آئی ہیں؟</p> <p>پاکستان میں آپ کی خوراک میں ناروے کے بنائے خوراک کی خاص فرق کیا ہے؟</p> <p>آپ نے اپنی پکوانی میں ناروے کی روایات/طرز یا اجزاء شامل کی ہیں؟</p> <p>کیا کوئی ایسا اجزاء/خوراک ہے جو آپ ناروے میں نہیں پاتے یا بہت کم ملتا ہے؟ اور آپ نے ناروے میں دستیاب اجزاء پر مبنی اپنی روایتی خوراک بنانے کے لئے کس طرح کوشش کی ہے؟</p> <p>مواقعات کے دوران، کسی خاص خوراک (پاکستان) تیار کی جاتی ہے؟</p> <p>کیا آپ ناروے/دوسرے ممالک کی بھی کوئی غذائیں تیار کرتے ہیں؟</p>	<p>آپ ایک عام دن میں کیسا کھاتے ہیں؟ دوپہر / شام میں کون خوراک خریدتا ہے؟ گروسری کی خریداری</p> <p>کیا آپ کسی خاص دکان سے خریداری کرتے ہیں؟ کون آپ کو اس دکان کے بارے میں بتایا؟</p>	<p>زندگی کی عادات اور مجموعی صحت</p>
<p>زندگی میں بڑھتے ہوئے آپ کی توقعات کیا ہیں؟ صحت / خوراک کے حوالے سے۔</p> <p>کیا آپ کو لگتا ہے کہ مہاجرت کے بعد آپ کی صحت، صحت کا منظر نامہ اور صحت کے عہدوں کا تصور تبدیل ہو گیا ہے؟</p> <p>کیا آپ عظیم افراد کے لئے ان کی محسوس صحتی فوائد کے باعث سے مخصوص خوراک / خوراکی اشیاء کو ترجیح دیتے ہیں؟</p> <p>کیا آپ نے کسی صحتی مسئلے کا انتظام کرنے کے لئے کسی خوراک عمل تبدیل کیا ہے؟</p> <p>کون نے آپ کو یہ تبدیلیاں سفارش کیں؟</p> <p>آپ خوراکی ترمیم کے بارے میں کیسا محسوس کرتے ہیں</p>	<p>آپ کا اہم ترین صحت کا مسئلہ کیا ہے؟</p> <p>آپ کے خوراکی انتخابات اس پر اثر ڈالتے ہیں؟</p> <p>کیا آپ کوئی ایسی صحت کی کمیابی کا شکار ہیں جو آپ کو لگتا ہے کہ مہاجرت یا تبدیل شدہ خوراکی عادات کی بنا پر ہے؟</p>	<p>زندگی کی عادات اور مجموعی صحت</p>
<p>آخری سوال:</p> <p>آپ کی تجربات، خوراکی تبدیلیاں اور ناروے کی طرف مہاجرت کے حوالے سے، پاکستانی مہاجرین کے لئے تجربات اور خدمات میں بہتری حاصل کرنے کے لئے آپ کیا سلامتی یا مشورے دیں گے؟</p>	<p>آخری سوال:</p> <p>آپ کی تجربات، خوراکی تبدیلیاں اور ناروے کی طرف مہاجرت کے حوالے سے، پاکستانی مہاجرین کے لئے تجربات اور خدمات میں بہتری حاصل کرنے کے لئے آپ کیا سلامتی یا مشورے دیں گے؟</p>	<p>آخری سوال:</p> <p>آپ کی تجربات، خوراکی تبدیلیاں اور ناروے کی طرف مہاجرت کے حوالے سے، پاکستانی مہاجرین کے لئے تجربات اور خدمات میں بہتری حاصل کرنے کے لئے آپ کیا سلامتی یا مشورے دیں گے؟</p>

Appendix E: Sample of Themes, sub themes and Codes

Themes	Sub themes	Codes
<p>Overall food experience and perception</p>	<p>Cultural adaptation Nutritional comparison</p>	<p>Challenges and Adjustments in Food Experience:</p> <p>Difficulty Adjusting to Norwegian Cuisine Absence of Fresh Meat and Limited Spice Options in Norway Shift Towards Lighter Meals and Incorporation of More Nuts into Diets</p> <p>Perceptions of Healthiness:</p> <p>Mixed Perceptions Regarding the Healthiness of Pakistani vs. Norwegian Diets Preference for Pakistani Food Due to Traditional Ingredients like Desi Ghee Recognition of Potential Health Benefits of Lighter Meals and Reduced Fat Consumption</p> <p>Environmental and Cultural Factors:</p> <p>Influence of Weather on Food Choices and Mental Health Perception of Cleanliness and Hygiene in Norwegian Food Environment Changing Lifestyle and Dietary Patterns in Pakistan Comparison of Food Appearance and Health Impact:</p>

		<p>Perception of Pakistani Food as Visually Appealing but Potentially Unhealthy</p> <p>Recognition of Healthier Dietary Options in Norwegian Food Culture</p> <p>Impact of Dietary Changes on Health Outcomes:</p> <p>Effectiveness of Dietary Management for Conditions like Diabetes</p> <p>Adaptation to Healthier Eating Habits in Response to Lifestyle Change</p>
Dietary Habits	Food habits Food transformation	Cultural Food Preferences:
		<p>Affinity for Traditional Pakistani Cuisine</p> <p>Preference for Pakistani Dishes at Gatherings</p> <p>Modifications for Health Concerns</p> <p>Challenges in Sourcing Ingredients:</p> <p>Initial Difficulty in Finding Familiar Spices and Ingredients</p> <p>Improved Access to Halal Meat and Pakistani Spices Over Time</p> <p>Perceptions of Food Quality and Nutrition:</p> <p>Views on the Healthiness of Pakistani vs. Norwegian Food</p> <p>Perception of Nutrient Quality in Different Cuisines</p>

		<p>Dietary Modifications for Health Reasons:</p> <p>Adjustments for Health Conditions such as Diabetes, High Blood Pressure, and Obesity</p> <p>Increased Consumption of Fish and Lean Proteins</p> <p>Reduction in Oil Consumption and Lighter Breakfast Options</p> <p>Generational Food Preferences and Adaptations:</p> <p>Influence of Western Food Culture on Younger Generations</p> <p>Efforts to Introduce Pakistani Cuisine to Younger Family Members</p> <p>Adaptation to Norwegian Dietary Norms alongside Pakistani Staples</p> <p>Cultural Attachment to Pakistani Cuisine.</p>
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