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Perspectives and Experiences of Family Support in Self-Care among Patients with Type 2 Diabetes Mellitus: A Qualitative Study

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Keywords*type 2 diabetes mellitus; older adults; family support; self-care; qualitative research; phenomenology.***ABSTRACT**

Background: Type 2 diabetes mellitus (T2DM) is a prevalent chronic lifestyle disease among older adults and requires sustained self-care behaviors for optimal outcomes. Family support influences adherence to diet, medications and clinic visits, yet older persons' own perspectives on such support in low-resource settings remain underexplored.

Objective: To explore the perspectives and lived experiences of older adults with T2DM regarding family support in their diabetes self-care.

Methods: A qualitative study using a descriptive phenomenological, exploratory design was conducted among older adults attending a diabetic clinic in a tertiary care hospital. Purposive consecutive sampling was used to recruit participants aged 65 years or above, diagnosed with T2DM for more than one year and on treatment. Data were collected through one-to-one, semi-structured, in-depth interviews conducted in Malayalam, audio-recorded and supplemented with field notes. The interview guide was developed from literature and McLeroy's social ecological model and pre-tested in two participants. Transcripts were analyzed using thematic analysis to identify key themes related to family support in self-care. Ethical approval was obtained from the institutional ethics committee and written informed consent was taken.

Results: Thirteen participants (8 females, 5 males) with a diabetes duration of 15–25 years described multiple dimensions of family support. Major themes included: understanding of the disease; family support in daily activities; medication assistance; food preparation and diet adherence; financial assistance; access to healthcare facilities; attention and emotional support at home; support for travelling; support during hypoglycemia; guidance and decision-making; and support in managing stress and maintaining self-care. While many participants reported strong instrumental and emotional support, single or widowed participants frequently experienced limited support and greater difficulty in glycemic control.

Conclusion: Older adults with T2DM perceive family support as central to sustaining diabetes self-care, particularly in daily activities, medication adherence, diet, financial management and emotional well-being. Nurses and other healthcare professionals should systematically assess family involvement and design family-centered interventions to strengthen supportive roles and address gaps, especially among those living alone.

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1. INTRODUCTION:

Diabetes mellitus is a chronic life style disease affecting individuals globally. Pathogenesis of diabetes is complex and the clinical picture is also varying. Diabetes is a public health issue affecting functional capacity, quality of life. Unhealthy diet, genetic predisposition, sedentary life style, obesity and aging are the contributing factors of Type 2 diabetes.¹ By 2030, 7.7% of the global population in the age group of 20-79 will be affected by diabetes.² Management of diabetes equally include self-care, medical care and pharmaceutical care. Self-management involves personal care, healthy eating, physical activity, self-monitoring of blood glucose, adherence to medications and family support. Family support in terms of finance, care, food preparation, help in daily chores results Improvement in treatment outcome with reduction in complications. The proportion of people living with life style disorders are high due to increase in life expectancy and healthcare interventions.³ Age related disability and disease may hinder persons from doing things their own and require family support for self-management.^{4,5}

Objectives

To explore family support in the management of type 2 diabetes mellitus and perceptions, emotions and behaviors in older persons living with diabetes.

2. METHODOLOGY:**Research design**

This study done by Qualitative research by descriptive phenomenological exploratory approach to explore the understanding of participants perception and experiences about the support from their family. Interview sessions were conducted by a single interviewer with a semi structured questionnaire. For preparing interview questions McLeory social ecological model and various literatures used. Questions were open ended to reinforce the participants.

Study setting

Interview sessions were conducted at the diabetic clinic of a tertiary care hospital

Inclusion criteria: inclusion criteria were 65 years or above diagnosed to have diabetes, have acquired information, can speak about their experience and on treatment. Those who have direct experience and willing to be interviewed are included.

Contents of the Interview

A semi-structured interview guide (appendix) was developed after a literature review (references) and discussion with experts. A pretest interview conducted with two participants to ensure the interview guide covers all the relevant domains of family support. The two persons were not included in the final analysis.

Analysis

All interviews were audio taped in Malayalam language. Data collected from 10 patients diagnosed to have Type 2 diabetes on treatment for above one year. Participants selected by purposive consecutive sampling. Data collection done by one-to-one interviews with open ended prompting questions and field notes. To collect in depth data about the participants subjective experience a semi structured interview guide with principal questions and enabled probing was used. study conducted after getting institutional research and ethics committee approval.

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3. RESULTS & DISCUSSION

In this study we were able to identify many support areas from the family like daily activity assistance, food preparation, medication support, financial support, guidance, problem solving, dealing with stress.

Informants' characteristics

Participants in this study were 12 type 2 Dm patients with the following inclusion and exclusion criteria. Out Patients of both gender above the age of 65 diagnosed to have Type 2 DM using oral antidiabetic medications or insulin with HbA1C level above or equal to 7 to 10 were included.

Patients having other diseases such as heart diseases, cancer, renal failure, hepatic failure and

human immune deficiency virus positive patients, Patients who are on therapy with steroids,

immunosuppressants were excluded.

cod	Age n years	Gender	Duration of Illness in years	Socio economic status	Marital status	occupation
P01	73	male	25	UM	married	farmer
P02	76	male	25	LM	single	Shop
P03	67	female	15	U	married	pensioner
P04	65	male	24	UM	married	farmer
P05	65	female	15	LM	married	Hom maker
P06	65	female	25	UL	married	Hom maker
P07	80	female	20	UL	single	homemaker
P08	74	female	20	L	single	Hom maker
P09	74	male	24	UM	married	retired
P10	68	female	18	UL	married	Hom maker
P11	68	female	20	L	Unmarried	Hom maker
P12	67	female	18	UL	married	homemaker
P13	70	female	20	U	married	homemaker

Patient demographics:

All participant were at 65 years or above of ag. All diagnosed to have diabetes more than 15 years at the age of 50, contributing their long period experience, in the condition or issue studied. there were 15 participants enrolled as pr inclusion and exclusion criteria. Socioeconomic status is marked based on Kuppusswamis scale. From the demographic details we can conclude that diabetes can affect anyone regardless of education, ag, social status or occupation. Th selected sample is relatively homogenous in terms of ag and social status, with varying duration of illness which can contributes to the diversity of experiences and perspectives.

Understanding about the disease:

Most of the participants are having limited understanding about the disease. May be because of lack of awareness about the factors that precipitates Type 2 DM in susceptible individuals prompted them vulnerable to this condition.

“Diabetes is a condition that kills one slowly” (P05, 65 years, female)

“Diabetes is an incurable chronic condition, and I don’t know much about the disease, how it occurs or happens.” (P08, 74 years old female)

“Type 2 diabetes is a condition that results from high intake of foods containing carbohydrates and sugar”. (P09, 74 years old male)

Most of them diagnosed late after a complication, and after the diagnosis thy are taking medications correctly. Diabetes is a condition that has no prompting symptoms for people opt go to their physician, unless there is a compelling difficulty. Th co morbidities or difficulties arises late

“I have been diagnosed to have diabetes more than

15 years, and “I think I had that long before and people are saying there is a hereditary aspect but don’t know much about that”. (P10) and I think diabetes is sugar in blood due to high intake of rice which is my favorite food”. (P10, 68 years old female)

Single lady is asked the same question replied that” I think I don’t have diabetes earlier but now I have that for the past 15 to 20 years and I am using insulin for the past 9 years, for me diabetes is a control in diet and reduced sugar intake and take medicines regularly” (P11 68 years old female)

“I don’t know much about the disease but I know medicines should be taken as advised and diet should be controlled, that I will follow correctly”. (P04, 65 male)

Though they are diagnosed late they know the importance of dietary management

“I love to eat rice and curd all times but I know that will increase my blood glucose and eventually damage my internal organs, so I will refrain from eating too much”. I don’t know much about diabetes and its complications, (P7,80 years, female).

P12 is a 65 yar old lady diagnosed to have diabetes 15 years before, “diabetes is a condition due to sugar and creates pain and tiredness which needs lifelong medication use, I don’t know how it happened, but I used to take lot of rice and large amount of tea with sugar”

Understanding about the disease, factors contributing to the disease, life style modification are found to be low. Most of the participants are having better understanding about the need for adherence and they are taking medicines regularly.

Earlier I don't know about diabetes, diagnosed to have diabetes before 20 years, and that time I was very tired, now I know that this results in insulin deficiency (P13,70).

Family support in daily assistance

Participants are getting family support for their daily activities. All the male participants living with partner are getting good support.

"Me and wife are alone at home, we will help each other, I need to drink water occasionally, I can do that own my own but water will be ready in the table all times. my wife will help me in washing my cloths, and I will do cutting vegetables, and I am very happy with whatever my wife is doing for me" (P1, 73 years male).

Those male informants even if their partner is no more getting support from other family members The same opinion expressed by (P2,76 years male) "my daughter in law will take care of me, she will cook food for me as per diabetic diet plan".

P9, 74 years male is getting full family support for managing diabetes, especially wife is taking care. "I am diagnosed to have diabetes for more than 20years, my wife cooks food for me and she will give me diet restricted with oils, fats and sugar". is getting full family support for managing diabetes, especially wife is taking care.

The female participants are getting help in daily activities if thy ask for help.

P3,67 years female observed that" I will do majority of our household works, if I ask for help my husband will do".

As per P5, 65 years female, my husband is also diabetic, I will do the daily family chores on my own".

P7,80 years female agreed that a person should get family support for managing diabetes when age advances, and I am getting that from my family.

P8 is a female patient in the age of 75 years and staying alone at home, after the demise of her husband 34 years before, she used to go for, but diabetes was a hindrance to her to do work.

"There is nobody to take care of me at home, I am not getting any support from family members and all time my diabetes remains uncontrolled" (P8, 75).

Som female participants are getting good family support.

According to P 10 68 years female, I am veery tired and my husband is giving full support, assist me to hospital, and buying medicines for me. In my daily routine my daughter in law is there to help, daughters also do the heavy works for me.

P11 is an unmarried lady living with her brother and "I am not getting any support from my brother, doing things on my own".

Majority of the male participants are getting good family support for food preparation, diet control, regular activity from the family.

For buying my medication I am getting enough support from family, my husband always accompanies m to go to routine check-up (P13 70).

Medication assistance

Adherence to medications in life style diseases and chronic diseases are highly influenced by family support. Family members can remind to take medicines timely, can help to open the containers if there is dexterity problems. Identification of medicines and timings are important if there is polypharmacy which is common in life style disorders. Most participants take medication own their own including insulin injection. Age and polypharmacy are a problem in reduced medication adherence and forgetfulness in old age. Many informants are taking their medication regularly "I can take drugs and insulin injection own, "Up to this time no need for help, I know the injection technique and will do it alone, (P01, 73 years male) P2 "all my family members are working so I am taking medicines own my own including instillation of eye drops" (P02, 76 years male). Som patents are having very good adherence to medications and lifestyle changs.

"I have been diagnosed to have diabetes for the past 30 years and from that day I am taking medicines regularly, will visit healthcare facility and my HbA1C is below 7 all the time." (P07 80 years female).

If there is and family members are supporting in medication adherence too,

"Sometimes I will forget to take medicines, but my son will ask me every day" (P06 65 years female).

P9 74 years male, is taking all medicines regularly on his own. "My family members will enquire about medication timings" P9 added.

Those who are single or living alone at home seem to be mentally and physically weak, though they are taking medicines regularly their blood sugar remains uncontrolled.

Patient 8 is a single lady living alone at home, "Now I am running 76 and I used to take my medicines on my own and never forget to take my medications, including my thyroid medications, but my blood sugar level is uncontrolled" (P08 74 years female).

Many studies identified forgetfulness as a reason for no adherence. (Jaam M, Ansari M)^{6,7}

P 10 "I will sometimes forget to take medicines or sometimes will take double dose; she had hypoglycemic episodes due to doubling of dose. "So, my husband will ask me whether I take my medicines and he will count my medicines to ensure that I didn't take more. During my earlier period of treatment my son used to take medicines for me because of my forgetfulness, now I will do that" (P10, 68 years female).

My family members always buy medicines for me but nobody is asking whether I take medicines or not, and but till now I am taking my medicines regularly, without any missing of doses, P13 70

Support from relatives

Many of the older adults are staying alone at home with their partners, as per P1 relatives will visit them occasionally and makes them happy. P 11. for P12 family members and relatives support in the selection of food items that can control blood sugar.

Food preparation

there is perceived difficulty in adherence to dietary recommendations) All participants are not getting the food as per diabetic plan. Reasons identified are food preparation difficulty due to aging, stress due to financial limitations and loneliness. Participants are getting enough support for cooking food specially the males living with partners, those male participants living without wives have to compromise for the same.

P1 stated that "food will be prepared by my wife, as per my dietary modifications. (P01, 73 years, male)

"I have been diagnosed to have diabetes for the past 20 years and my wife is cooking food for me, as per the diabetic plan, even though I prefer rice to eat she will make chapatis for me" (P04, 65 years, male)

"My wife passed away twenty years before, and I won't compel other family members to make separate food for me. whatever they are preparing I will also eat that but for supper somebody will make millet porridge for me, that I have to buy from shop." (P02 76 years, male).

Most of the females are preparing food for the entire family and sometimes they will make for their requirement.

P3, 67 years, female is cooking food for the entire family but "I will prepare food items that is recommended for me by physician to an extent".

"I am not cooking at home, but preparation is not as per diabetic diet but I will manage it with adjusting the quantity, and if I asked, they will bring millets for me" P07 years, female.

P8, 74 years, female is cooking food alone, and prefer chapati than cooked rice.

P 10 is a home maker, "other family members will help me to cook food, I will make my diabetic diet, because I feel very tired, I will prepare the food for the entire day in morning itself." (P10, 68 years, female)

I am always following my diabetic diet, which is prepared by me, but my family members will buy food items for me P13 70.

Financial assistance

At present many countries are spending a lot of money for managing life style diseases. Globally diabetes affects million people, annually (Al jawati JA t al).⁸ most of participants informed that medication cost is a major problem to them. Medications are available to them free of cost but for managing the co morbidities and after effects of complications they have to pay for that. Transportation cost and accompanying persons wage loss is also a problem. People above the age of 65 are getting social security pension, which is a blessing to them for buying medicines. Some of them are getting financial assistance from their son or daughter, for those who can not afford this are skipping their doses. In contrast with dietary adherence in the case of financial assistance it is a problem to males.

"Cost of medication is a problem to me, but I will manage it with my social security pension, sometimes it will exceed the limit and then I will skip medicines, there is no other financial source for me." (P1 73 years, male).

Journal of Molecular Science

As per P02 “In 2019 I am diagnosed to have diabetes, till now I am managing my medication cost own my own”. (P02, 76 years, male), I have a small shop which I will give for rent and find money for my medicines, at present I am not willing to ask money from my family members”. P02 added.

“I am managing medication expenses with social security pension and for the rest his daughter will assist.” (P04, 65 years, female)

People who were working will get their pension and they can manage the medicine cost

For P3 “No other financial assistance is needed since I am getting my service pension” (P03, 67 years, female).

People are coming to the government hospital for getting medicines free of cost even if there are many difficulties.

P5 mentioned that “I am managing with my pension, and coming to govt hospital with my painful leg for getting the free insulin” (P05, 65 years, female).

As per P07, 80 years, female, and P08 74 years, female, cost for medicines are managed with pension.

even though they are managing medicine cost with pension and free medicines, the continuous availability is a problem, then have to depend their children or relatives.

P 10 replied that “most of my medications are getting from the free govt supply pharmacy, but it will not be available continuously, so I have to purchase from outside and I am managing the direct and indirect costs with social security pension and the rest will be provided by my son who is working and the travelling expenses to healthcare facility is met by my husband’s pension ”(P10, 68 years, female). P 11 is managing medicine cost with social security pension and financial support from friends and relatives” (P11 68, years, female).

Access to healthcare facilities

Accessing the healthcare facility is periodically very difficult in old age because of the need of help of others. Participants made the following statement

“There is difficulty in seeing, but I will access healthcare by using a cab, own my own and I want to do things as much as I can, even though my wife is ready to assist” P01.

” I will access routine checkup on my own, my family members are ready to assist but, they all are working so I will do it alone, and so far, no difficulty occurred even though there is infectious wound on my foot (P02).

For P3 “I have to travel by two buses to reach healthcare facility but I will come alone.

P05 mentioned that I will go to regular checkups, lab tests.

P7 “I will do medical checkup once in a month and coming alone because my house is near to this hospital, I am getting good support from the clinic, but waiting in queues for long time is a physical difficulty even if somebody is there with me how can they share the difficulty of long waiting time, which sometimes refrain me from visiting hospital”.

Participant number 9 will regularly visit healthcare facilities. “I will go to hospital for regular checkups, and now I am healthy enough to visit on my own”.

P10 has to visit two hospitals monthly to manage diabetes and related co morbidities, “I am not getting all my prescribed medicines from a single point, and I will buy it from two or three pharmacies. If I am very tired, I will come to hospital by taxi, otherwise bus and all the time my daughter will come with me to hospital every month. My family members are always helping me to go to hospital; there is always somebody accompanies me” P13 70 years

Attention at home

P1, I am having disturbed sleep at night but my wife will always take care of me, (P01)

for P2 “I believe still I am able to take care of myself”(P02).

According to P3 my husband will buy medicines from pharmacy once my medications are over(P03).

P4 mentioned that my two daughters will always take care of my health and diabetic care.

P5 mentioned that my two boys don’t know to give attention to me or they are unable to do so because of family responsibilities, but I know they are loving, they are unable to think that my mother is suffering a lot of stress.

As per P7 family members will enquire about disease status and medication adherence. As per P8

after the accidental death of my husband, I became diabetic, my relatives supporting me mentally and financially very well managing diabetes. P 10 met with an accident from road, after that I am very afraid to go anywhere alone so my husband will always assist me. "Till now I am healthy and comfortable, my daughters, son and husband always take care of me." P13 70

Support for travelling

P2 "I am travelling short distances and to healthcare facility own my own". For P7 Travelling is limited to healthcare visits, visiting nearby relatives and religious places, because no one is there to assist me in travelling. I prefer travelling in groups with my relatives P7 added. P9 is willing to travel but "travelling for long distance needs support so I will refrain from that". "I like to travel but for the past 10 years I won't go anywhere even for a family function, since I am tired and unable to walk because of severe knee joint pain," P8 replied. P 10 is not going anywhere because "I am not able to walk because of leg pain, I can place a single step without my chappal, so I won't go anywhere, I am satisfied with the support offering by my family members, and I don't want to put them in more trouble with my travelling". P11 is cancer patient undergone surgery, so as per advice not going outside or in crowd. According to P12 travelling is a difficult task though she like it because "I have to seek help from others, so I will refrain from travelling. I always wish to travel and feel happy on that, my family members always support me to travel, and I prefer travelling with in the state and out of the state P13 70

Support in hypoglycemia episodes

Most of the informants are experiencing hypoglycemia episodes, they are aware of that and managing it themselves.

"I experience hypoglycemia during noon time, because I am taking insulin and one other tablet for diabetes, then I will take one sugar candy, to overcome that, (P07, 80 years, female).

"During my hypoglycemia episodes my wife will give water, sugar or fruit juices, (P09,74 years, male) replied.

According to (P08, 74 years, female) "never I faced a hypoglycemic episode since mine is too high all time even though I am taking medications as directed",

P 10,68 years, female, experiencing hypoglycemic episodes in normal dose and double dosing due to

forgetfulness. I feel palpitation and a kind of shivering at almost 11 AM and will put some sugar or candy in mouth.

P 11,68 years, female is always having hypoglycemic episodes.

"Once in a while I experience hypoglycemia and I will take sugar candies", P12, 68 years, female.

"I am facing hypoglycemia episode during day time rarely, but at mid night many days I am having that, my family members aware about this, so they will keep something for me to at night" P13 70

Some of the Guidance

P3 observed that "I will stop my medicines for two three days when it seems normal upon monitoring, then my husband will remind me of not stopping medicines without advice"

Decision making

Decision making is not a problem for me because my husband always take care of me,

My daughter will always give me necessary guidance for doing things P13 70

Managing stress

My family members will support me in doing gardening, yoga and daily walking as per P2.

I am having too much stress, but I will manage it by rearing cattle, pets and my husband support me. For P4 always prefer to be tension and stress free, according to me" contentment is the best stress reliever" I prefer to be satisfied with small small things.

As per P5 "diabetic patients should be stress free all times, I know that stress will increase blood sugar, but for me I cannot stay like that, my stressful life and financial crisis precipitated diabetes in me.

P7 replied that "I have no tension, I am always tension free in this age of 80, and I always interact with people, and will do exercise and yoga".

P8 replied that I am under high stress after the demise of my husband, regarding the family matters, I will think about that always, but sometimes I will forget and relieved.

As far as I am concerned, I am free from stress and have a strength to manage stress" P9 added. As per the words of P10, she is emotionally very much upset and" I always want somebody is there to take care of me, in daily life" for me stress is in its high

level and all the time I am worried even in this age of 76”.

“I feel emotionally stressed in many times, I don’t know the reason, and without any prompting incidents I will feel angry with my family members, but they will understand me”, P 10 replied. P 11, My father died earlier in my childhood and I am the elder one of my family, so I had to look after my siblings, always underwent lot of stress and now I am coping with stress and all” “as pr P12, “I am always under tension of unknown reason”

“I am having stress most of the time, for unknown reason, my family members are always behaving m very nicely to make me comfortable” P13 70
Self-care

Most of the participants takes necessary care in avoiding infection. P7 “I will bath regularly and before bed time I will wash my feet in luke warm water.” I don’t know much about diabetic foot ulcer, but I always try to keep my foot clean and wear mask all the time while outside my house.” P10 informed.

LIMITATION:

Relatively small sample size limits generalizability of the findings to an extent.

CONCLUSION:

This qualitative study highlights that family support plays a central and multidimensional role in the self-care management of older adults living with Type 2 Diabetes Mellitus (T2DM). Participants perceived family involvement not merely as assistance, but as an essential component of their daily survival and disease control. Support was reflected in practical domains such as food preparation, medication reminders, financial assistance, accompaniment to healthcare facilities, and management of hypoglycemic episodes. Equally important was the emotional reassurance, encouragement, and stress management provided by family members, which significantly influenced adherence behaviors and psychological well-being. The findings also reveal disparities in support systems. Participants who were married or living with family reported stronger adherence and better coping mechanisms, whereas those who were single, widowed, or living alone experienced greater emotional distress, inconsistent glycemic control, and challenges in maintaining dietary and treatment regimens. Limited disease awareness

among participants further emphasizes the need for structured education involving both patients and their families. Overall, family support emerges as a powerful facilitator of sustained self-care in older adults with T2DM. Healthcare professionals, particularly nurses and primary care providers, should adopt a family-centered approach when designing diabetes management interventions. Strengthening family engagement, enhancing diabetes literacy, and identifying socially isolated individuals may improve long-term treatment outcomes and quality of life among elderly individuals living with diabetes.

List of Abbreviations

T2DM – Type 2 Diabetes Mellitus
HbA1c – Glycated Hemoglobin
IEC – Institutional Ethics Committee
KUHS – Kerala University of Health Sciences
DM – Diabetes Mellitus

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AUTHOR CONTRIBUTIONS:

Manju C S: Conceptualization, study design, supervision, data interpretation, manuscript drafting and final approval. **Anny Mathew:** Development of interview guide, data analysis, thematic interpretation, manuscript editing. **Chandini R:** Data collection, transcription, field notes documentation. **Muhammed Fairoos A:** Literature review, methodological support, manuscript formatting and revision. **Arul K:** Critical review, intellectual content validation, final manuscript approval. All authors have read and approved the final version of the manuscript.

ETHICAL CONSIDERATIONS:

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Ethical approval was obtained from the Institutional Ethics Committee of Government Medical College, Kozhikode (Affiliated to Kerala University of Health Sciences). Written informed consent was obtained from all participants prior to data collection. Participants were assured of confidentiality, anonymity, and the right to

withdraw from the study at any stage without any consequences. Audio recordings and transcripts were securely stored and used strictly for research purposes.

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CONFLICT OF INTEREST:

The authors declare that there are no conflicts of interest regarding the publication of this paper.

DATA AVAILABILITY STATEMENT:

The qualitative data generated and analyzed during the current study are not publicly available due to confidentiality agreements and protection of participant identity but are available from the corresponding author upon reasonable request.

CONSENT FOR PUBLICATION:

All participants provided informed consent for the anonymized use of their responses for academic publication purposes.

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