

Exploring Access to Primary Health Care Among Diabetic Patients
in Oman

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LIST OF APPENDICES:

APPENDIX 1	SEARCH STRATEGY FOR THE CONCEPT REVIEW OF ACCESS TO HEALTH	A-1
APPENDIX 2	AGREEMENT OF WORK WITH THE CONTACT PERSONS IN THE HEALTH CENTRES FOR THE CROSS-SECTIONAL STUDY FOR EXPLORING ACCESS TO PRIMARY HEALTH CARE AMONG DIABETES PATIENTS IN OMAN.....	A-3
APPENDIX 3	PATIENT DEMOGRAPHICS SHEET FOR THE FOCUS GROUPS.....	A-7
APPENDIX 4	PARTICIPANT INFORMATION SHEET FOR FOCUS GROUPS	A-8
APPENDIX 5	PATIENT CONSENT FORM FOR THE FOCUS GROUPS ON ACCESS TO PHC AND QUALITY OF LIFE AMONG DIABETIC PATIENTS IN OMAN.....	A-13
APPENDIX 6	FOCUS GROUPS DISCUSSION GUIDE.....	A-15
APPENDIX 7	STUDY INVITATION FORM TO THE STUDY ON ACCESS TO PRIMARY HEALTH CARE AND QUALITY OF LIFE AMONG DIABETES PATIENTS IN OMAN.....	A-16
APPENDIX 8	PARTICIPANT QUESTIONNAIRE	A-17
APPENDIX 9	DIABETES-39 SCORING INSTRUCTIONS.....	A-41
APPENDIX 10	QUESTION GUIDE FOR THE SEMI STRUCTURED INTERVIEWS.....	A-44
APPENDIX 11	SEMI STRUCTURED INTERVIEWS RECORDING FORM.....	A-45
APPENDIX 12	UNIVARIATE ANALYSIS OF ACCESS-31 AND DIABETES-39 DOMAINS	A-46
APPENDIX 13	TABLE OF WEIGHTED AND UNWEIGHTED ESTIMATES ACCESS-31.....	A-49

Appendix 1 SEARCH STRATEGY FOR THE CONCEPT REVIEW OF ACCESS TO HEALTH

Database	Search terms
PubMed	MeSH term access to health care AND assessment tool
PubMed	MeSH terms “access to health care” AND “primary health care” and assess
PubMed	MeSH terms “access to health care” AND “primary health care” and assessment
PubMed	MeSH terms “access to health care” AND “primary health care” and measure
PubMed	MeSH terms “access to health care” AND “primary health care” and measured
PubMed	MeSH terms “access to health care” AND “primary health care” and measurement
PubMed	MeSH terms “access to health care” AND “primary health care” and tool
PubMed	MeSH terms “access to health care” AND “primary health care” and index
PubMed	MeSH terms “access to health care” AND “primary health care” and indicator
PubMed	MeSH terms “access to health care” AND “primary health care” and indices
PubMed	MeSH terms “access to health care” AND “primary health care” and questionnaire
CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and assessment tool

CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and assess
CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and assessment
CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and measure
CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and measured
CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and measurement
CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and tool
CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and index
CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and indicator
CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and indices
CINAHL	Major subject heading “health services accessibility” AND subject heading “primary health care” and questionnaire

Appendix 2 Agreement of work with the contact persons in the health centres for the cross-sectional study for exploring access to primary health care among diabetes patients in Oman.

Exploring Access to Health Care and Quality of Life among Type 2 Diabetes

Patients in Oman

Agreement of Work

The Survey on access to primary health care among Diabetic patients in Oman is carried out in collaboration between the Ministry of Health, Oman and the University of Oxford. It is funded by the Anglo-Omani Society and the University of Oxford.

The data collection for the survey will take place between August – November 2018. This is an agreement between the First party (the study team), represented here by Ms Deena Al Asfoor, and the second Party, represented here by Mr/Mrs _____ by which the second party will conduct the agreed upon tasks listed below according to the terms and conditions agreed upon.

The survey will target 1800 participants. In 14 health centers in Oman. In each health center a focal point will be responsible for data collection. The study team will provide the sample, and the information needed to contact the participants. A link will be sent to the focal point to fill up patient information data and willingness to participate. Following that, a link will be sent to each individual patient directly by the study team. Once the participant had filled their form, the focal point job is done.

Scope of work:

The Health Center focal point is responsible for:

1. Contact and recruit the survey candidates as assigned by the first party.
2. Fill up the recruitment form online for each participant.

3. Follow up with the candidates to ensure that each person understands the purpose of the survey and complete it.
4. In the case that the survey participant is not able to fill up the form electronically, the focal point will ask them to visit the health center and assist them with filling the form.
5. The second party will ensure that all data are authentic and will not interfere with the answers and will not answer the questions on behalf of the candidate.

Output:

It is expected that each identified participant will complete the form. In each health center included in the survey 132 participants are selected.

Time Frame:

The timetable for the survey will be shared with the focal point. From the time the survey starts in each health center, it is expected that all participants are contacted and recruited within 3 weeks.

Payment: Upon completion of the recruitment and data collection. The focal point will be paid 132 OR by the study team or 1.00 OR per recruited person.

I the undersigned, agree to the terms and conditions above

Signatures

For the first party	The second party
	Name of Health Center
Deena Al Asfoor	Name:
Date	Date:

مذكرة تفاهم لجمع بيانات دراسة مدى سهولة الحصول على الرعاية الصحية الأولية وجودة الحياة لمرضى
السكري في سلطنة عمان

تقوم وزارة الصحة بالتعاون مع جامعة أكسفورد وبتمويل من اللجنة البريطانية العمانية وجامعة أكسفورد بإجراء
دراسة وطنية عن مدى سهولة الحصول على الرعاية الصحية الأولية وجودة الحياة عند مرضى السكري في سلطنة عمان.

وسوف يتم جمع البيانات في الفترة ما بين أغسطس ونوفمبر 2018. وهذه اتفاقية بين

الطرف الأول (فريق الدراسة) وتمثلها الفاضلة دينا بنت حمزة العصفور

والطرف الثاني: الفاضل / الفاضلة: _____

وقد وافق الطرف الثاني على القيام بالمهام المذكورة أدناه حسب الشروط المتفق عليها.

وتستهدف الدراسة 1800 مشارك في 14 مركز صحي في جميع أنحاء السلطنة. وسيقوم الطرف الثاني بجمع

البيانات في المركز الصحي المسؤول عنه.

يقوم فريق العمل باختيار العينة وموافاة الطرف الثاني بقائمة المرضى الذي يتعين عليه الاتصال بهم. سيتم
إرسال رابط الكتروني يقوم الطرف الثاني من خلاله بتعبئة استمارة تحمل بيانات المريض وموافقته على المشاركة في
البحث. وبعد الحصول على موافقة المريض في حالة إذا كان مستعدا لتعبئة الاستمارة الكترونيا من خلال هاتفه المحمول
فانه سيتم إرسال رابط استمارة الدراسة إلى المريض من قبل فريق البحث مباشرة. أما إذا كان غير قادر على ذلك فسيتم
دعوته للحضور للمركز الصحي لتعبئة الاستمارة.

مجال العمل: يقوم الطرف الثاني (الشخص المسؤول عن الدراسة في المركز الصحي) بما يلي:

1. التواصل مع المرضى المرشحين من خلال القائمة التي يوفرها فريق البحث.
2. تعبئة استمارة الترشيح الكترونيا.
3. المتابعة مع المرشحين للتأكد من أن كل فهم كل مريض لهدف الدراسة وأن يقوم بتعبئتها.
4. في حالة عدم قدرة المريض على تعبئة الاستمارة من خلال هاتفه المحمول دعوة المريض إلى المركز الصحي
ومساعدته على تعبئتها.
5. سيتأكد الطرف الثاني من مصداقية البيانات وسوف لن يقوم بالإجابة عن الأسئلة بالنيابة عن المريض.

المخرجات:

من المتوقع أن يتم تعبئة الاستمارة من قبل 132 مشارك في كل مركز صحي. الشخص المسؤول عليه ضمان ترشيح المشاركين، شرح الدراسة لهم وتشجيعهم على تعبئة الاستمارة.

الفترة الزمنية:

سيتم موافاة الشخص المسؤول عن الدراسة في المركز الصحي (الطرف الثاني) بتاريخ بدء الدراسة. ومن المتوقع أن يتم الاتصال بجميع المرشحين و تعبئة 132 استمارة خلال ثلاثة أسابيع من بداية جمع البيانات في المركز.

المدفوعات:

عند اكتمال جمع البيانات سيتم دفع 132 ريال عماني أو ريال عماني واحد عن كل استمارة مكتملة. أنا الموقع أدناه أوافق على العمل وفق الشروط المبينة أعلاه:

الطرف الأول	الطرف الثاني
	اسم المركز الصحي:
دينا العصفور	الاسم
التاريخ	التاريخ

Appendix 3 Patient demographics sheet for the focus groups

Health Centre 1: Group 1: Males, Single, Age 20-50; Group 2: Female, married, > 50.

Health Centre 2: Group 3: Males, married, age >50, Group 4: Female, single, age 20-50.

No	Name	Tel Number	ID (in the register)	Diabetes	Gender	Marital Status	Age	Date and time of call	Response	Group assignment
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										

Appendix 4 Participant information sheet for focus groups

OxTREC Ethics Approval Reference: [548-17]

1. *What is the purpose of this study?*

Access to primary health care is a crucial factor in the health of individuals. Individuals with adequate access to primary health care may be less likely to develop complications and could have better quality of life. We are conducting this study to seek your opinion about a questionnaire to measure access to primary health care and quality of life for diabetic patients in Oman. This study is funded by the Ministry of Health, The research Council, and the University of Oxford.

2. *Why have I been invited to take part?*

You have been invited because you are Type II adult Diabetic patients and registered in the Diabetes registry of the primary health care centre in Oman. Female and male adult patients are included. Pregnant women are excluded.

3. *Do I have to take part?*

No. You can ask questions about the study before deciding whether to participate. If you do agree to participate, you may withdraw from the study at any time, without giving a reason and without penalty, by advising the researchers of this decision. The information that you provided us will be discarded; and will not be used. You will not be mentioned in any report or publication related to the study.

4. *What will happen to me if I take part in the study?*

If you agree to be part of this study, you will be asked to participate in a group discussion for one hour in the health centre. The discussion will be recorded, and notes will

be taken. Your names will not be mentioned in any publication or report. You will be asked some demographic questions (age, gender, employment, marital status, income, education) and you will be asked to participate in the discussion at the agreed time.

The data collected will be used to understand the factors that influence access to primary health care, and the suitability of a questionnaire on access and quality of life for use in Oman.

5. *Are there any potential risks in taking part?*

There are no potential risks for taking part in this study. You will not be asked to give any biological or other samples; There are not specific requirements; we are going to seek your opinion about the questions we ask. If you are uncomfortable with the questions, you have the right to decline to answer any question(s), and/or withdraw from the project at any stage without any disadvantage to yourself or the health care you receive.

6. *Are there any benefits in taking part?*

There will be no direct benefit to you; however, the study will help policy makers understand how access to primary health care can be improved for Omanis. It will also help to understand the impact of adequate access to primary health care on illness and complications of diabetes and quality of life.

7. *Expenses and payments*

There will be no payment for taking part in this study.

8. *What happens to the data provided?*

Your responses will be anonymised

Upon completion of data collection all coded responses will be downloaded and saved to an external hard drive for analyses. Once downloaded the online data will be retained for three years from the date of completion of the project and will be destroyed after that.

The data is secured in a cloud storage facility that is protected by a secure password and is accessible by the study investigators only. Copies of informed consent forms will be stored by the principle investigator in a closed cabinet as well, and will be destroyed after three years from the date of project completion.

9. *Will the research be published?*

The research will be published as a report for the government and in scientific journals and as a DPhil dissertation in the University of Oxford.

The University of Oxford is committed to the dissemination of its research for the benefit of society and the economy and, in support of this commitment, has established an online archive of research materials. This archive includes digital copies of student theses successfully submitted as part of a University of Oxford postgraduate degree programme. Holding the archive online gives easy access for researchers to the full text of freely available theses, thereby increasing the likely impact and use of that research.

If you agree to participate in this study, the research will be written up as a thesis. On successful submission of the thesis, it will be deposited both in print and online in the

University archives, to facilitate its use in future research. The thesis will be published open access.

10. *Who is organising and funding the research?*

This study is organized by the University of Oxford and the Ministry of Health in Oman

11. *Who has reviewed this study?*

This study was approved by the Research Ethics Committee of the Ministry of Health in Oman. It has also been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee (Reference number 548-17).

12. *Who do I contact if I have a concern about the study or I wish to complain?*

If you have a concern about any aspect of this study, please speak to Deena Al Asfoor, Ministry of Health [24604082] or their supervisor, Dr Yahya Al Farsi, Sultan Qaboos University [24143430], who will do their best to answer your query. The researcher should acknowledge your concern within 10 working days and give you an indication of how they intend to deal with it. If you remain unhappy or wish to make a formal complaint, please contact the Research Department in the Ministry of Health, or relevant chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter in a reasonably expeditious manner:

Centre of Research and Studies, Ministry of Health, Oman

Tel No: 22357280

E mail: admin@mohcsr.gov.om

Chair, **Medical Sciences Inter-Divisional Research Ethics Committee**; Email: ethics@medsci.ox.ac.uk; Address: Research Services, University of Oxford, Wellington Square, Oxford OX1 2JD

13. Further Information and Contact Details

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

Deena Al Asfoor

Nuffield Department of Population Health, University of Oxford

Expert, Ministry of Health, Oman

Tel: 24604081

Email: deena.alasfoor@me.com

Appendix 5 Patient Consent form for the focus groups on access to PHC and quality of life among Diabetic patients in Oman

**Evaluation of a questionnaire to measure access to health care
and quality of life in diabetes patients**

Patient Consent form

Purpose of Study: To validate a questionnaire of quality of life and access to primary health care for Diabetic patients in Oman.

*Please initial
each box*

- 1 I confirm that I have read and understand the information sheet version_____dated _____ for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
- 2 I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without any adverse consequences or academic penalty.
- 3 I understand that research data collected during the study may be looked at by designated individuals from the University of Oxford where it is relevant to my taking part in this study. I give permission for these individuals to access my data.
- 4 I understand that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee.
- 5 I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project.
- 6 I understand how this research will be written up and published.

- 7 I understand how to raise a concern or make a complaint. ☐
- 8 I consent to being audio recorded ☐
- 9 I understand how audio recordings will be used in research outputs ☐
- 10 I agree to take part in the study. ☐

Name of Participant Date Signature

Name of person taking consent Date Signature

Appendix 6 Focus groups discussion guide

Qualitative Validation of Access-29 and HRQOL Diabetes-39 in Omani Diabetic patients

Could you please sign the consent form?

Could you please fill up the socio-demographic questionnaire?

Can you please read the handouts given to you?

Engagement questions:

How long have you been diabetic?

How do you define Access to PHC in your own words?

What do you think of access to healthcare in Oman?

Do you think the questions in this domain are representative of _____"domain"_____?

Do you think the questions in this domain are applicable to Oman?

Do you think the questions in this domain are culturally acceptable?

Do you think these questions are relevant to the topic of access to primary health care?

Can you suggest any other questions that are missed?

Are there any questions that you think are not needed?

Do you think these questions could be answered by all diabetic patients (feasible)?

Do you think the questions can be easily understood?

Can you comment on the phrasing, order of the questions?

Exit question: Do you have any other comments, suggestions on the topic?

Appendix 7 Study invitation form to the study on access to primary health care and quality of life among diabetes patients in Oman

This form is for screening and recruitment of the participants in the survey on access to PHC and quality of life among Diabetes patients. This form should be filled by the focal point nurse responsible for recruitment of participants. Only use this form when you are contacting the participant.

1. Name of focal point *
2. Date * DD/MM/YYYY
3. Focal Point Number
4. Governorate *
5. Health Centre *
6. Name *
7. Patient ID (HC Number)
8. Survey Patient Number *
9. Patient Phone Number
10. Was able to reach the patient Yes No

If you could not reach the participant explain why (If No, the form closes here).

11. Patient agreed to be contacted for the survey Yes No (If No, the form closes here).

12. Participant is able to respond to the questionnaire through an INTERNET link
Yes No

13. If the patient cannot answer the form on the mobile link, the patient can come to the HC to fill up the form Yes No (If No, the form closes here).

14. Date of visit to the health centre
DD/MM/YYYY

Appendix 8 Participant questionnaire

Exploring Access to Primary Health Care Among Type 2 Diabetic Patients in Oman.

Section 1. Information about the study

1. What is the purpose of this study?

Access to primary health care is a crucial factor in the health of individuals. Individuals with adequate access to primary health care may be less likely to develop complications and could have better quality of life. We are conducting this study to measure access to primary health care and quality of life for diabetic patients in Oman.

2. Why have I been invited to take part?

You have been invited because you are Type 2 adult Diabetic patients and registered in the Diabetes registry of the primary health care centre in Oman. Female and male adult patients are included. Pregnant women are excluded.

3. Do I have to take part?

No. You can ask questions about the study before deciding whether to participate. If you do agree to participate, you may withdraw from the study at any time, without giving a reason and without penalty, by advising the researchers of this decision. The information that you provided us will be discarded; and will not be used. You will not be mentioned in any report or publication related to the study.

4. What will happen to me if I take part in the study?

If you agree to be part of this study, you will be asked to fill up an online questionnaire related to your age, gender, income, employment, marital status, and education. In addition, the questionnaire will include questions about access to primary health care and quality of life. The researchers will also obtain HBA_{1c} results from your medical records.

The data collected will be used to understand the factors that influence access to primary health care and quality of life, and how it is related to diabetes control.

5. Are there any potential risks in taking part?

There are no potential risks for taking part in this study. You will not be asked to give any biological or other samples;

If you are uncomfortable with the questions, you have the right to decline to answer any question(s), and/or withdraw from the project at any stage without any disadvantage to yourself or the health care you receive.

6. Are there any benefits in taking part?

There will be no direct benefit to you; however, the study will help policy makers understand how access to primary health care can be improved for Omanis. It will also help to understand the impact of adequate access to primary health care on illness and complications of diabetes and quality of life.

7. Expenses and payments

There will be no payment for taking part in this study.

8. What happens to the data provided?

Online Questionnaire Data:

After collection of all data, the HbA1c data will be entered into each person's data file according to patient number. After that, all personal information will be replaced by unique identification numbers and responses will be anonymised. Only the research team will have access to the original data. The data files will be password protected in the cloud system of Oxford University. The data file on the online platform will be password protected, and once the survey is completed the files will be exported and deleted from the platform servers.

HbA1c Data:

The HbA1c files will be stored in a secured cabinet for three years after the date of the completion of the project. The data files will be password protected in the cloud system of

Oxford University. The data file on the online platform will be password protected, and once the survey is completed the files will be exported and deleted from the platform servers.

Upon completion of data collection all coded responses will be downloaded and saved to an external hard drive for analyses. Once downloaded the online data will be retained for three years from the date of completion of the project and will be destroyed after that.

9. Will the research be published?

The research will be published as a report for the government and in scientific journals and as a DPhil dissertation in the University of Oxford. The participants will not be identified in any publications arising from the research.

The University of Oxford is committed to the dissemination of its research for the benefit of society and the economy and, in support of this commitment, has established an online archive of research materials. This archive includes digital copies of student theses successfully submitted as part of a University of Oxford postgraduate degree programme.

Holding the archive online gives easy access for researchers to the full text of freely available theses, thereby increasing the likely impact and use of that research.

If you agree to participate in this study, the research will be written up as a thesis. On successful submission of the thesis, it will be deposited both in print and online in the University archives, to facilitate its use in future research. The thesis will be published open access.

10. Who is organising and funding the research?

This study is organized by the University of Oxford and the Ministry of Health in Oman.

This study is funded by the Ministry of Health, the Anglo Omani society and the University of Oxford.

11. Who has reviewed this study?

This study was approved by the Research Ethics Committee of the Ministry of Health in Oman. It has also been reviewed by, and received ethics clearance through, the Oxford Tropical Research Ethics Committee (Reference Number: 523-18).

12. Who do I contact if I have a concern about the study or I wish to complain?

If you have a concern about any aspect of this study, please speak to Deena Al Asfoor, Ministry of Health [24604082] or their supervisor, Dr Yahya Al Farsi, Sultan Qaboos University [24143430], who will do their best to answer your query.

The researcher should acknowledge your concern within 10 working days and give you an indication of how they intend to deal with it.

If you remain unhappy or wish to make a formal complaint, please contact the Research Department in the Ministry of Health who will seek to resolve the matter in a reasonably expeditious manner:

Centre of Research and Studies, Ministry of Health, Oman Tel No: 22357280 E mail: admin@mohcsr.gov.om

13. Further Information and Contact Details

If you would like to discuss the research with someone beforehand (or if you have questions afterwards),

please contact:

Deena Al Asfoor

Nuffield Department of Population Health,

University of Oxford

Expert,

Ministry of Health, Oman

Tel: 24604081

Email: deena.alasfoor@me.com

14. Data Protection

The University of Oxford is responsible for ensuring the safe and proper use of any personal information you provide, solely for research purposes.

1. Do you have any questions?

☐ Yes

☐ No

Comments:

2. You answered "yes" to the question "do you have any questions". A member of our team will call you. Please give us your name and telephone number so that we are able to call you.

Name

Telephone number

Section 2. Informed Consent

3. I confirm that I have read and understand the information for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

Yes No

I confirm that I have read and understand the information for the above study. I have had the opportunity to consider the information, ask ☐ ☐
questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without any ☐ ☐
adverse consequences or academic penalty.

I understand that research data collected during the study may be looked at by designated individuals from the University of Oxford where it is ☐ ☐
relevant to my taking part in this study. I give permission for these individuals to access my data

I understand that this project has been reviewed by, and received ethics clearance through, The Oxford Tropical Research Ethics Committee and ☐ ☐
the Ministry of Health in Oman Ethics Committee.

I authorize the researchers to obtain HbA1c data from my medical ☐ ☐
records

I understand who will have access to personal data will have provided, how the data will be stored and what will happen to the data at the end ☐ ☐
of the project

I understand how this research will be written up and published. ☐ ☐

I understand how to raise a concern or make a complaint. ☐ ☐

4. I agree to take part in the study

☐ Yes

☐ No

Section 3. Demographic information:

5. Name

6. Date

DD/MM/YYYY

7. Patient ID (Medical Records Number).If you do not remember your patient ID number
leave this space blank

8. Name

9. Phone, contact number

10. Governorate

11. Health Centre

12. Type of Diabetes

13. Nationality

14. Who is filling this form

4. Section 2: Demographics

15. Age

16. Gender

17. Marital Status

18. Number of individuals in the household

19. Household income per month in Omani Rials

☐ 0-299 OR

☐ 300-499 OR

☐ 500-699 OR

☐ 700-999 OR

☐ 1000-1299 OR

☐ 1300-1599 OR

☐ 1600-1999 OR

☐ ≥ 2000 OR

☐ No fixed income

20. What is your education (higher degree obtained)

Section 4: Access to PHC

21. Q1: How did you commute to the health center/ facility

22. How long does it usually take you to go to the health centre?

23. In the past 12 months; did you cancel or delay a visit to the health centre because you had no transport?

☐ a) Yes

☐ b) No

24. In the past 12 months, did you cancel or delay a visit to the health centre because you could not afford transport cost?

☐ a) Yes

☐ b) No

25. Does your doctor/ or healthcare facility call to inform you about your test results?

☐ a) Yes

☐ b) No

26. Did you get advice from the health centre / practitioner about how to stay healthy?

☐ a) Yes

☐ b) No

27. Does your doctor advise you about your health concerns?

☐ a) Yes

☐ b) No

28. If you call your health facility for questions during office hours do you get an answer in the same day?

☐ a) Yes

☐ b) No

29. If you call your health facility for questions after working hours do you get answers in the same day?

☐ a) Yes

☐ b) No

30. When you call your GP, the time it takes to talk to someone

31. Do you know how to get evening, night and weekend appointments?

☐ a) Yes

☐ b) No

32. In general, do you need an appointment to visit the primary health care centre?

☐ a) Yes

☐ b) No

33. If you need to make an appointment, how long do you wait to get it?

34. In the last time you visited the health centre, how long did you wait to see a doctor?

☐ a) less than 15 minutes.

☐ b) 15-29 minutes.

☐ c) 30 -45 minutes.

☐ d) 45-60 minutes.

☐ e) More than one hour.

35. Were you referred to a specialist/ consultant doctor or a specialist within the same health facility or to a hospital during the last 12 months?

☐ a) Yes

☐ b) No

36. If yes, how long did you have to wait for the appointment with the specialist

37. If you are unable to reach the health center because of an injury or disability, do you know how to contact your GP and receive health care?

- ☐ a) Yes
- ☐ b) No
- ☐ c) Does not apply to me

38. In the past 12 months, did you postpone or abstain from a visit because you could not afford it?

- ☐ a) Yes
- ☐ b) No

39. In the past 12 months, was there a time you did not take a medication because you could not afford it?

- ☐ a) Yes
- ☐ b) No
- ☐ c) I don't remember.

40. Does your doctor talk to you in a language that you understand?

- ☐ a) Yes
- ☐ b) No

41. In the past, did you have difficulty understanding your doctor or healthcare professional?

- ☐ a) Yes
- ☐ b) No

42. Have you received written or other information about your illness?

☐ a) Yes

☐ b) No

43. When you are discussing your health conditions or concerns with the GP or health care provider, do you always get an area where you have privacy, a private room for example?

☐ a) Yes

☐ b) No

44. In the past 12 months, have you ever been treated with disrespect during your visit to the health center?

☐ a) Yes

☐ b) No

45. When you talk to your GP, does he explain your illness and responds to your questions in a manner that you are satisfied with?

☐ a) Yes

☐ b) No

46. In the past 12 months has a doctor talked to you about medications you take, including ones by your doctor?

☐ a) Yes

☐ b) No

47. Do you have a health center, or personal GP or doctor that you consult?

☐ a) Yes

☐ b) No

48. During the last year were you prescribed a medicine that you did not get?

☐ a) Yes

☐ b) No

49. If the doctor asks you to do a blood or other test, is it always available at the health center, or another institution?

☐ a) Yes, I took the test here or referred

☐ b) No

☐ c) I was never asked to do a blood test

50. If you need to see a dietitian, physiotherapist or other health professional; are they always available?

☐ a) Yes

☐ b) No

☐ c) I was never asked to see one

51. During the last year, have you had difficulty getting medical treatment because there was no doctor or other health professional available?

☐ a) Yes

☐ b) No

Section 4: Quality of Life

Quality of life means the extent to which you can carry your daily activities as you wish.

What impact your quality of life is what stops you from doing so. As a Diabetes patient, if your treatment causes you to neglect other activities, or reduce your active hours of the day, then this will affect your quality of life, and you can code this 4, for example. But if you are practicing your daily life normally, then your medication schedule would have not effect on

the quality of life, and you can mark 1. In the following statements, please mark the number that corresponds to how much the statement effects your quality of life

52. In the following statements, please mark the number that corresponds to how much the statement effects your quality of life

How much is your quality of life affected by Your Diabetes medication schedule

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

53. How much is your quality of life affected by Following your doctor's prescribed treatment plan for Diabetes

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

54. How much is your quality of life affected by Food restrictions required to control your Diabetes

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

55. How much is your quality of life affected by Having Diabetes

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

56. How much is your quality of life affected by Losing control of your sugar levels

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

57. How much is your quality of life affected by Testing your sugar (glucose) levels

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

58. How much is your quality of life affected by The time required to control your Diabetes

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

59. How much is your quality of life affected by Getting your Diabetes well controlled

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

60. How much is your quality of life affected by keeping a record of your sugar level

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

61. How much is your quality of life affected by The need to eat at regular intervals

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

62. How much is your quality affected by Having your schedule center around Diabetes

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

63. How much is your quality of life affected by Diabetes in general

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

64. How much is your quality of life affected by Worries about money matters

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

65. How much is your quality of life affected by Concerns about the future

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

66. How much is your life affected by Stress or pressure in your life

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

67. How much is your quality of life affecting Feeling blue or depressed affect your life

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

68. How much is your quality of life affected by The restrictions your diabetes places on your family and friends

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

69. Rate how much is your quality of life affected by Being embarrassed because you have diabetes

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

70. How much is your quality of life affected by Doing things that your family and friends don't do

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

71. How much is your quality of life affected by Being labeled as a diabetic

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

72. How much is your quality of life affected by Having Diabetes interfere with your family life

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

73. How much is your quality of life affected by Diabetes interfering with your sex life

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected	Does not apply
☐	☐	☐	☐	☐	☐	☐	☐

74. How much is your quality of life affected by Problems with sexual functioning

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected	Does not apply
☐	☐	☐	☐	☐	☐	☐	☐

75. How much is your quality of life affected by A decreased interest in sex

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected	Does not apply
☐	☐	☐	☐	☐	☐	☐	☐

76. How much is your quality of life affected by Limited energy levels

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

77. How much is your quality of life affected by Other health problems besides diabetes

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

78. How much is your quality of life affected by Feelings of weakness

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

79. How much is your quality of life affected by Restrictions on how far you can walk

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

80. How much is your quality of life affected by Exercise requirements

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

81. How much is your quality of life affected by Loss or blurring of your vision

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

82. How much is your quality of life affected by Not being able to do what you want

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

83. How much is your quality of life affected by Other illnesses besides diabetes

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	extremely affected
☐	☐	☐	☐	☐	☐	☐

84. How much does your quality of life affected by Complications from your diabetes

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

85. How much is your quality of life affected by Not being able to do housework or other jobs around the house

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

86. How much is your quality of life affected by Needing to rest often

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

87. How much is your quality of life affected by Problems in climbing steps

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

88. How much is your quality of life affected by Having trouble caring for yourself (dressing, bathing, or using the toilet)

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

89. How much is your quality of life affected by Restless sleep

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

90. How much is your quality of life affected by Walking more slowly than others

Not affected at all	Negligible effect	Very low effect	Low effect	Moderately affected	Highly affected	Extremely affected
☐	☐	☐	☐	☐	☐	☐

91. Please mark the your ratings of your overall quality of life:

Lowest quality of life	Very low quality of life	Low quality of life	Medium quality of life	Good quality of life	Very good quality of life	Best quality of life
☐	☐	☐	☐	☐	☐	☐

92. Please mark the number that indicate how severe your diabetes is

Not severe all	Very low at severity	Low severity	Moderate	Somewhat severe	Severe	Extremely severe
☐	☐	☐	☐	☐	☐	☐

Appendix 9 Diabetes-39 scoring instructions

If more than 4 items are missing (excluding missing items in sexual functioning, some respondents will refuse or be unable to answer these questions and thus the special treatment of this sensitive scale) the questionnaire should be excluded from the analysis.

No values should be presented for scales when a certain number of items are missing and the scales thus not scored

Diabetes control – 3 items

Anxiety and worry – 1 item

Social burden – 1 item

Sexual functioning – 0 items

Energy and mobility – 3 items

In cases where proxy values are appropriate (for example missing items on the Diabetes control) the mean of the other items in that scale should be used as a proxy value for the two missing items. (i.e. the mean of the remaining 10 items in diabetes control should be used as the value for each of the 2 missing items in this 12-item scale).

Scoring is a summated rating, generally the items are scored to the 0.5 interval. It is best to record the number to be entered in the right hand margin, and thus the value you've interpreted the respondents mark to be clearly evident, and thus reproducible should the data be questioned

The raw score of each scale is calculated by adding the responses for individual items.

The possible ranges for raw scale scores are:

Diabetes control 6-90

Anxiety and worry 2-30

Social burden 2.5-37.5

Sexual functioning 1.5-22.5

Energy and mobility 7.5- 112.5

Raw scale scores are transformed to a 0-100 scale using a linear transformation.

Diabetes control [Raw scale score – 60/(90-6)]*100

Anxiety and Worry [Raw scale score -2)/ (30-2)]*100

Social Burden [Raw scale score – 2.5)/(37.5-2.5)]*100

Sexual functioning [Raw scale score – 1.5)/(22.5-1.5)]*100

Energy and Mobility [Raw scale score – 7.5)/(112.5-7.5)]*100

Missing data for the Diabetes-39

Treatment of missing data on the Diabetes-39 population will be as follows:

If in total more than 4 items are missing (excluding missing items sexual function scale and independent of the scale) the questionnaire will be excluded from the analysis.

No values will be presented for scales when a certain number of items are missing:

Diabetes control missing If > 3 items missing.

Anxiety and worry missing if > 1 item missing

Social burden missing if > 1 item missing

Sexual functioning missing if > 0 items missing

Energy and mobility missing if > 3 items missing

In cases where a lower number of items in a scale are missing will they be replaced by the mean score of the patient for that scale.

Transformation of scale scores to standard scale scores

To facilitate comparison of scale scores in the validity and reliability research, each of the six scale scores is transformed to a zero to 100 scale. A single algorithm for making this transformation is followed

The algorithm is

$$TSS = [(RSS-LPSS)/PSSR] * 100$$

Where TSS = Transformed scale score

RSS = Raw scale score

LPSS= Lowest possible scale score

PSSR= Possible scale score range

Using a raw scale of 10 on three item “sexual functioning”, an example of this transformation procedure follows:

$$LPSS = 3(3items * 1=3)$$

$$HPSS= 21 (3items*7= 21)$$

$$PSSR = HPSS-LPSS = 21-3 =18$$

Therefore,

$$TSS=[(10-3)*100\%=38.88\%$$

Appendix 10 Question guide for the semi structured interviews

Exploring access to primary health care among Diabetes 2 patients in Oman

Interview Guide for semi structured interviews, and exploring experience with diabetes in Oman

3/16/18

1. Introduction and consent form signature (available in the study protocol).
2. Question
 - a) What does diabetes mean to you?
 - b) Do you feel that you have control on diabetes?
 - c) Do you feel that you have enough information about diabetes?
 - d) Where do you think diabetes came from? how did you get it?

Interview questions:

For each question, the respondents will be asked the question, and probing based on grounded theory will be done as follows:

1. What does the terms (if any), mean to you?
2. How do you remember?
3. Why did you answer the question as such? how did you arrive at the answer?

Appendix 11 Semi structured interviews recording form

National Study on Access to Primary Health Care in Oman	
Cognitive interview recording form	
Interviewer name: _____	Date: / --/ 2-017
Interviewee ID _____	Start time: ____ AM/ PM
Gender: Male / Female	Stop time: ____
Interview recorded: YES / NO	Location:
Notes: • Record any factors that influence the interview: background noise, etc • Note any non-verbal communication about the interviewee (distracted, stressed, etc).	

Appendix 12 Univariate analysis of Access-31 and Diabetes-39 domains

Table A12-1: Univariate analysis of Diabetes control domain against Access-31 domains.

Independent variable	Models 1-6: Dependent variable “Diabetes control”					
	N	Standardized Coefficient	t	95% CI		P-value
				Lower	Upper	
Geographical accessibility	809	0.128	3.66	2.205	7.32	<0.001
Access to information	809	0.078	2.23	0.222	3.475	0.026
Organisational access	494	-0.117	-2.62	-4.656	-0.669	0.009
Affordability	781	0.128	3.61	4.92	16.617	<0.001
Cultural acceptability	809	0.134	3.84	1.931	5.923	<0.001
Availability of services and medicines	613	0.15	2.758	2.009	6.408	<0.001

Table A12-2: Univariate analysis of anxiety and worry domain against Access-31 domains.

Independent variable	Models 7-12: Dependent variable “anxiety and worry”					
	N	Standardized Coefficient	t	95% CI		P-value
				Lower	Upper	
Geographical accessibility	808	0.253	3.66	2.205	7.32	<0.001
Access to information	808	0.098	2.23	0.222	3.475	0.026
Organisational access	493	-0.052	-2.62	-4.656	-0.669	0.009
Affordability	780	0.244	3.61	4.92	16.617	<0.001
Cultural acceptability	808	0.236	3.84	1.931	5.923	<0.001
Availability of services and medicines	612	0.231	2.758	2.009	6.408	<0.001

Table A12-3: Univariate analysis of social burden domain against Access-31 domains.

Independent variable	Models 13-18: Dependent variable “social burden”					
	N	Standardized Coefficient	t	95% CI		P-value
				Lower	Upper	
Geographical accessibility	808	0.172	3.66	2.205	7.32	<0.001
Access to information	808	0.125	2.23	0.222	3.475	0.026
Organisational access	493	-0.046	-2.62	-4.656	-0.669	0.009
Affordability	780	0.185	3.61	4.92	16.617	<0.001
Cultural acceptability	808	0.244	3.84	1.931	5.923	<0.001
Availability of services and medicines	612	0.2	2.758	2.009	6.408	<0.001

Table A12-4: Univariate analysis of sexual functioning domain against Access-31 domains.

Independent variable	Models 13-18: Dependent variable “sexual functioning”					
	N	Standardized Coefficient	t	95% CI		P-value
				Lower	Upper	
Geographical accessibility	578	0.056	1.357	-1.149	6.248	0.175
Access to information	578	0.158	4.517	2.935	7.452	<0.001
Organisational access	327	0.075	1.348	-0.964	5.162	0.178
Affordability	560	0.052	1.22	-2.95	12.618	0.223
Cultural acceptability	578	0.044	1.046	-1.343	4.404	0.296
Availability of services and medicines	430	0	-0.002	-3.137	3.132	0.999

Table A12-5: Univariate analysis of energy and mobility domain against Access-31 domains.

Independent variable	Models 13-18: Dependent variable “energy and mobility”					
	N	Standardized Coefficient	t	95% CI		P-value
				Lower	Upper	
Geographical accessibility	803	0.188	5.426	4.726	10.08	<0.001
Access to information	803	0.146	4.17	1.926	5.351	<0.001
Organisational access	491	-0.033	-0.721	-2.901	1.344	0.471
Affordability	775	0.093	2.605	2.011	14.299	0.009
Cultural acceptability	803	0.166	4.733	3.034	7.272	<0.001
Availability of services and medicines	610	0.155	3.871	2.313	7.075	<0.001

Appendix 13 Table of weighted and unweighted estimates Access-31

Domain	Answer	Non-weighted		Weighted	
		N	%	N	%
GA	0	588	71.7	1271	68.4
	1	182	22.2	416	22.4
	2	37	4.5	119	6.4
	3	13	1.6	51	2.7
AI	0	138	16.8	348	18.7
	1	269	32.8	556	29.9
	2	286	34.9	576	31.0
	3	1.6	12.9	294	15.8
	4	15	1.8	57	3.1
	5	6	0.7	26	1.4
OA	0	193	23.5	356	19.2
	1	155	18.9	347	18.7
	2	96	11.7	225	12.1
	3	49	6.0	109	5.9
	4	5	0.6	7	0.4
Aff	0	751	91.6	1636	88.1
	1	30	3.7	104	5.6
	2	9	1.1	28	1.5
CA	0	527	64.3	1041	56.1
	1	211	25.7	553	29.8
	2	63	7.7	196	10.6
	3	7	0.9	29	1.6
	4	8	1.0	23	1.2
	5	1	0.1	1	0.1
	6	2	0.2	8	0.4
SMA	0	324	39.5	557	30.0
	1	212	25.9	476	25.6
	2	61	7.4	163	8.8
	3	21	2.6	78	4.2
	4	2	0.2	7	0.4

Domain	Answer	Non-weighted		Weighted	
		N	%	N	%
	5	1	0.1	5	0.3
Total access	0	33	4.0	46	2.5
	1	169	20.6	294	15.8
	2	152	18.5	303	16.3
	3	43	5.2	122	6.6