SUPPLEMENTARY MATERIAL

‘Focus on diet quality’: A qualitative study of clinicians’ perspectives of use of the Mediterranean dietary pattern for nonalcoholic fatty liver disease

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Supplementary Table 1. Consolidated criteria for reporting qualitative research (COREQ) checklist[1] for qualitative study of individual interviews exploring implementation of the Mediterranean dietary pattern by multidisciplinary clinicians managing patients with nonalcoholic fatty liver disease

No. Item	Guide questions/description	Response	Reported and Page #
Domain 1: Research team and reflexivity			
Personal Characteristics			
1. Interviewer/ facilitator	Which author/s conducted the interview or focus group?	[blinded initials]	Methods – 5
2. Credentials	What were the researcher's credentials?	PhD, Accredited Practicing Dietitian	-
3. Occupation	What was their occupation at the time of the study?	Post-doctoral research dietitian	Discussion – 15
4. Gender	Was the researcher male or female?	Female	-
5. Experience and training	What experience or training did the researcher have?	Theoretical training from reading textbooks and articles, guidance from researchers that are experienced in qualitative research, previous writeup and depiction of qualitative thematic analysis	-
Relationship with participants			
6. Relationship established	Was a relationship established prior to study commencement?	Professional interactions had occurred for approximately of the participants, but no for the remainder.	Methods -5
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	The researcher was known to be a research dietitian, some participants working at the same hospital site as the interviewer were aware that they had research experience in the Mediterranean dietary pattern. Participants	Methods - 5 Discussion - 15

		received a participant information sheet before providing written consent.	
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	HLM is a research dietitian with expertise in Mediterranean dietary pattern – this was known by some participants and identified as a potential source of bias.	Discussion – 15
Domain 2: study design			
Theoretical framework			
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Thematic content analysis. Coding was guided by key research questions and the Theoretical Domains Framework	Methods – 4-5
Participant selection			
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Potentially eligible clinicians were initially identified by the research team, followed by recruited clinicians, initiating a snowball sampling method.	Methods – 4
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Email	Methods – 4
12. Sample size	How many participants were in the study?	Fourteen	Results – 6
13. Non-participation	How many people refused to participate or dropped out? Reasons?	Five clinicians who were eligible and invited to participate chose not to take part	Results – 6
Setting			
14. Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Workplace	Methods - 5

15. Presence of non-participants	Was anyone else present besides the participants and researchers?	No	Methods – 5
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Clinicians routinely treated patients with nonalcoholic fatty liver disease and 13/14 were female. There clinical roles were medical doctor (n = 7), medical nurse (n = 3), dietitian (n=3) and exercise physiologist (n =1). Mean time in current professional role was 12 years (range 3-33). Average time working with relevant patients was 10 years (range 0.3 – 28).	Table 1
Data collection			
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Interviews were semi-structured using schedules which differed between dietitians and non-dietetic clinicians (Supplementary Tables 2 and 3). They were each piloted and adjusted for improved readability.	Methods – 5, Supplementary Tables 2 & 3
18. Repeat interviews	Were repeat interviews carried out? If yes, how many?	No	-
19. Audio/visual recording	Did the researcher use audio or visual recording to collect the data?	Yes – the semi-structured interviews were recorded using the RODE Rec LE application (version 2.9.43) on an Ipod. The same method was used for telephone and face-to-face interviews.	Methods - 5
20. Field notes	Were field notes made during and/or after the interview or focus group?	Yes the interviewer made notes during semi-structured interviews if the interviewer mentioned something that was relevant to support subsequent questioning. These notes were not	-

		referred to when analysing data.	
21. Duration	What was the duration of the interviews or focus group?	The semi-structured interview durations ranged from (min:sec) 16:00 to 45:30. Mean interview duration was greater for dietitians (mean 37:30) than clinicians from other disciplines (mean 27:55).	Table 1
22. Data saturation	Was data saturation discussed?	No as participant numbers were based on who agreed to participate amidst all eligible clinicians.	-
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No. Participants were advised they were able to request review of their interview transcript.	-
Domain 3: analysis and findings			
Data analysis			
24. Number of data coders	How many data coders coded the data?	One investigator coded and two investigators reviewed.	Methods – 5-6
25. Description of the coding tree	Did authors provide a description of the coding tree?	Not applicable	-
26. Derivation of themes	Were themes identified in advance or derived from the data?	Themes were derived from data but were driven by key research questions and mapped to established domains of the Theoretical Domains Framework.	Methods – 5-6
27. Software	What software, if applicable, was used to manage the data?	Microsoft Excel (2016, Microsoft Corp., Redmond, WA, USA)	Methods – 5
28. Participant checking	Did participants provide feedback on the findings?	No	-
Reporting			
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Yes. Illustrative quotes are identified by clinical discipline and a randomly allocated number.	Table 2

30. Data and findings consistent	Was there consistency between the data presented and the findings?	Yes. This was confirmed by triangulation and review by a fourth investigator.	Methods – 5-6
31. Clarity of major themes	Were major themes clearly presented in the findings?	Yes	Results – 6-11, Figure 1 and Table 2
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Diverse cases are reflected in the description of themes, barriers and facilitators and the illustrative quotes.	Results – 6-11 and Table 2

[1]Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int. J. Qual. Health Care.* 2007;19:349-357.

Supplementary Table 2. Semi-structured Interview Schedule for Dietitians

Purpose of information / questions	Question/s, including *potential prompts only if needed* or statements
Clarifying relevant dietitian role	My understanding is that you currently work within [insert] health service and you treat patients with Nonalcoholic fatty liver disease (or NAFLD) is that correct? Is this work within a specific clinic or clinics? Does this role also include seeing patients on the ward? Or other settings? Do you work with these patients individually and/or in a group education setting? Is this part of a multidisciplinary clinic or an individual dietetics service? - *Could you explain what the multidisciplinary clinic/service includes?* How many years have you been practicing as a dietitian? How long do you estimate you have been working with patients with NAFLD (including at other services)? How long do you estimate you have been working at this health service?
Self-identified most common nutrition interventions and rationale	I realise that dietetics care can be individualised, but Could you describe what are generally your highest priorities to address in relation to diet or nutrition with NAFLD patients? - *Any particular foods / nutrients a key focus?* - *What education materials would you commonly recommend or provide?* What do you think are the main reasons why these are priorities in your practice or education with these patients? *[Prompt back with the specific interventions referred to]*
Role of other health professionals	Can you tell me about how other health professionals treating these patients within your clinic/service have a role in their nutrition-related care? - *Can you describe how those roles might influence the care you provide to these patients?* - *And what about how those roles might influence on patients?*

Segue to Mediterranean diet pattern Understanding/awareness of Mediterranean diet pattern and relevant evidence	There has been recent discussion about the Mediterranean diet pattern for prevention and management of chronic disease [and if they identified recommending this to patients earlier refer to that]. Could you describe to me [or expand on] what your understanding of the Mediterranean diet pattern is? - *How would you compare the principles of the Mediterranean diet pattern to the Australian dietary guidelines?* What is your understanding of evidence surrounding the Mediterranean diet pattern? - *On clinical outcomes?* - *Within clinical/practice guidelines?*
Alignment of current practice with Mediterranean diet pattern and why/why not	[If previously made reference to counselling on this, refer back to those components] Based on your understanding of the Mediterranean diet pattern, do you recommend this diet to NAFLD patients? - *What does this typically include?* - *Why/Why not?* - *Are there parts you recommend more than others?* *A key lifestyle behaviour that is part of the Mediterranean diet pattern is regular physical activity. There has also been recent discussion about the role of physical activity for prevention and management of chronic disease. *Do you currently incorporate advice regarding physical activity with NAFLD patients? - *What does this typically include?* - *Do you provide or refer to any resources?* - *Why/Why not?*
Prior/intended education or training Useful professional development	Can you tell me about any education, training or professional development activities you have done in relation to the Mediterranean diet pattern? - *What were key learnings?* - *Did this impact your practice with these patients? Why/why not?* - *Is there training or information you plan or intend to access?* Can you suggest any further education, training or resources around Mediterranean diet pattern that would be useful for you or other dietitians' working with NAFLD patients?

	- *Can you suggest any that would help improve your or other dietitians' confidence or ability in recommending the principles of the Mediterranean diet pattern with these patients?* - *In what format?*
Barriers and facilitators	What do you think might be the biggest barriers to the Mediterranean diet pattern being part of routine care for your patients with NAFLD? - *Do you recommend the Mediterranean diet pattern as much as you'd like to? Why / why not?* - *What about factors related to your work environment?* - *What about barriers for other dietitians working with NAFLD patients?* What do you think does (or would) make it easier for you to talk about the Mediterranean diet pattern with these patients? - *What about factors related to your work environment?* - *What might make it easier for other dietitians working with NAFLD patients?*
Comments or questions	Are there any other points you would like to add in relation to what we have discussed today? Do you have any questions?

*Responses to questions related to physical activity were not part of the current analysis or results.

Supplementary Table 3. Semi-structured Interview Schedule for Clinicians of Other Disciplines

Purpose of information / questions	Question/s, including *potential prompts only if needed* or statements
Clarifying relevant clinical role	My understanding is that your clinical role is [insert] within/at [insert] health service and you are working with patients with Nonalcoholic fatty liver disease (or NAFLD), is this correct? Do you have any other key clinical roles? How many years have you been practicing as a [insert]? How many years have you been working with patients with NAFLD (including at other services)? How many years have you been working at this health service?
Role of nutrition	Can you describe to me what you believe to be the role of nutrition for patients with NAFLD?
Awareness and understanding of nutrition services	Can you tell me about any nutrition-related care available to your patients with NAFLD? - *Who provides this care?* - *What is your understanding of which patients can access this care?*
Role in nutrition care	Can you describe to me if you have any role in relation to nutrition with these patients? - *Do you assess your patients' diets? How?* - *What advice and/or resources do you provide to these patients? OR What do you do if a patient asks you about their diet?* - *[if note they refer] What are your reasons for referring to [insert care]? OR Do you refer patients to a dietitian or for nutrition advice? And why?* How do you think these patients see your role in relation to their diet?
Understanding of the Mediterranean diet pattern and evidence	There has been recent discussion about the Mediterranean diet pattern for prevention and management of chronic disease [if they identified recommending this to patients earlier refer to that] Could you describe to me your understanding of the Mediterranean diet pattern? - *Could you describe any key foods or nutrients?*

	- *Could you describe any lifestyle behaviours?* - *What is your understanding of evidence for this diet?* - *Where/how did you learn about this?* If your patients with NAFLD followed the Mediterranean diet pattern what impact do you think this would have?
Barriers and facilitators	What do you think might be the biggest barriers to the Mediterranean diet pattern being part of routine care for these patients? - *[if answers focus on patients] And any other barriers that you can think of that are related to clinicians or health services OR* - *[if answers focus clinicians/service] And any other barriers that you can think of that are related to patients?* [if not already discussed] From what you do know of the dietitians [other noted clinicians] you refer your patients to, do you think they are recommending a Mediterranean diet pattern? What do you think would help (or has helped) to make the Mediterranean diet pattern part of routine care for these patients? - *Can you suggest any tools or resources that you think would be helpful for clinicians?* - *Or, for patients in implementing the dietary pattern?*
*Role of physical activity	A principle of the broader Mediterranean lifestyle is also regular physical activity. Can you describe what role you believe physical activity has for patients with NAFLD? Can you tell me about any exercise-related care available to these patients? - *Who provides this care?* - *What is your understanding of which patients can access this care?* - *Are there aspects of these services you are unsure of or would like to know more about?* Can you describe to me what you see as your role in relation to physical activity for these patients? - *Do you assess their physical activity levels? How?*

	- *What advice and/or resources do you provide to these patients? OR What do you do if a patient asks you about physical activity?* - *[if note they refer] What are your reasons for referring to [insert care]? OR Do you refer patients to an exercise specialist? And why?*
Comments or questions	Are there any other points you would like to add? Do you have any questions?

*Responses to questions related to physical activity were not part of the current analysis or results.

Supplementary Table 4. Theoretical Domains Framework[1]

Domain	**Definition[2]**	**Constructs**
1. Knowledge	An awareness of the existence of something	Knowledge (including knowledge of condition /scientific rationale) Procedural knowledge Knowledge of task environment
2. Skills	An ability or proficiency acquired through practice	Skills Skills development Competence Ability Interpersonal skills Practice Skill assessment
3. Social/ Professional Role and Identity	A coherent set of behaviours and displayed personal qualities of an individual in a social or work setting	Professional identity Professional role Social identity Identity Professional boundaries Professional confidence Group identity Leadership Organisational commitment
4. Beliefs about Capabilities	Acceptance of the truth, reality, or validity about an ability, talent, or facility that a person can put to constructive use	Self-confidence Perceived competence Self-efficacy Perceived behavioural control Beliefs Self-esteem Empowerment Professional confidence
5. Optimism	The confidence that things will happen for the best or that desired goals will be attained	Optimism Pessimism Unrealistic optimism Identity
6. Beliefs about Consequences	Acceptance of the truth, reality, or validity about outcomes of a behaviour in a given situation	Beliefs Outcome expectancies Characteristics of outcome expectancies Anticipated regret Consequents
7. Reinforcement	Increasing the probability of a response by arranging a dependent relationship, or contingency, between the response and a given stimulus	Rewards Incentives Punishment Consequents

		Reinforcement Contingencies Sanctions
8. Intentions	A conscious decision to perform a behaviour or a resolve to act in a certain way	Stability of intentions Stages of change model Transtheoretical model and stages of change
9. Goals	Mental representations of outcomes or end states that an individual wants to achieve	Goals Goal priority Goal / target setting Goals (autonomous / controlled) Action planning Implementation intention
10. Memory, Attention and Decision Processes	The ability to retain information, focus selectively on aspects of the environment and choose between two or more alternatives	Memory Attention Attention control Decision making Cognitive overload / tiredness
11. Environmental Context and Resources	Any circumstance of a person's situation or environment that discourages or encourages the development of skills and abilities, independence, social competence, and adaptive behaviour	Environmental stressors Resources / material resources Organisational culture /climate Salient events / critical incidents Person x environment interaction Barriers and facilitators
12. Social influences	Those interpersonal processes that can cause individuals to change their thoughts, feelings, or behaviours	Social pressure Social norms Group conformity Social comparisons Group norms Social support Power Intergroup conflict Alienation Group identity Modelling
13. Emotion	A complex reaction pattern, involving experiential, behavioural, and physiological elements, by which the individual attempts to deal with a personally significant matter or event	Fear Anxiety Affect Stress Depression Positive / negative affect Burn-out
14. Behavioural Regulation	Anything aimed at managing or changing objectively observed or measured actions	Self-monitoring Breaking habit Action planning

[1]Original source:
Cane J, O'Connor D, Michie S. Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation science*. 2012. Volume 7, Issue 1: p. 37.

[2]Definitions are based on definitions from the American Psychological Associations' Dictionary of Psychology