International Board of Lifestyle Medicine / Australasian Society of Lifestyle Medicine Board Certification & Diploma — Case Study

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CASE DESCRIPTION

51-year-old Maori lady presented to the practice for lifestyle modification. Diabetic control with metformin and gliclazide is not maintaining blood sugar levels (BSLs) within an acceptable range and is under consideration for insulin therapy, as readings tend to be 12-22mmol/L. A recent ED presentation with gastritis was treated with intravenous omeprazole and antacids; discharged home with increased omeprazole dose and antacids. Usually constipated, moving bowels every 2-3 days. Home stressors, as husband was recently diagnosed with lung cancer and is undergoing chemo-radiotherapy, while elderly father with advanced dementia lives with them and is becoming unmanageable (aggression, wandering, leaving appliances on), therefore she is struggling with the decision regarding residential care. Diet consists mainly of white rice, processed meats; she dislikes fruits/vegetables, generally only 1 portion/day; always adds salt to food, as "it tastes bland". She enjoys coffee and chocolate. Ex-smoker with a 10-pack-year history. Sleeps <7h/night, which is poor quality, and drinks caffeinated tea shortly before bed, while often staying on phone until late at night. Minimal physical activity – only walks around facility where she works as caregiver, 6-hour shifts (4 days/wk). Outside work, has lost contact with friends. Siblings live elsewhere, visiting infrequently.

Past Medical History:

1. Type 2 diabetes mellitus
2. Essential hypertension
3. Gastro-oesophageal reflux disease (GORD) & gastritis

Medications:

Metformin 1g TDS	Atorvastatin 40mg OD	Acidex 15mL PRN
Gliclazide 80mg OD	Aspirin 75mg OD	
Cilazapril 5mg OD	Omeprazole 20mg BD	

Biometrics:

	Weight	*Height*	*Waist circ.*	*BMI*	*BP*	*Resting HR*
Pre-LM	92kg	160cm	83cm	35.94	152/90	95bpm

Investigations:

Fasting bloods	Hb 128, CRP 8.7 (low-level elevation)
	ALT 41 (chronically raised), other LFTs/renal/electrolytes normal

	Fasting plasma glucose 13.1mmol/L, HbA1C 12.5% TC 7.4, LDL-C 5.2, HDL-C 1.0, triglycerides 2.3 (mmol/L)

LM Diagnoses:

1. Obesity – BMI >30
2. High stress levels
3. Poor diabetic control
4. Poor sleep hygiene
5. Physical inactivity
6. Social isolation and poor support
7. Poor diet
8. Hypercholesterolaemia
9. Chronic meta-inflammation (metabolic syndrome)

LM INTERVENTION

Nutrition	➢ Suggest adding 4 fruit/vegetables portions/day to reach recommended[1] – improve BSLs, potentially reverse DM[2] [stage = contemplation] ➢ Motivational interviewing; addressed attitudes towards fruits/ vegetables – suggested adding spices/making stew; will consider ➢ Discussed swapping refined carbohydrates (e.g. white rice) for whole-grain to improve dietary fibre for regular motions and better diabetic control[1] – has looked at supermarket alternatives [stage = preparation] ➢ Action plan to use brown rice/wholegrain bread/pasta (3 months), reduce salt; confidence 9/10; high importance ➢ Given complex dietary needs for T2DM, for dietician referral
Physical activity	➢ Discussed target of physical activity guidelines of 150 minutes/week of moderate intensity exercise with 2 resistance sessions/week[3] ➢ Interested in aerobic activity – agreed to 2 walks/week at brisk pace for 20mins, on Tuesday/Thursday after work with daughter (post-partum) ➢ She is also planning to buy a pedometer to track her progress ➢ Referral to exercise physiologist for further specialist input
Stress	➢ **A**[4] — The stressors are: (1) unwell husband; (2) father with dementia ➢ **C**[4] — (1) Develop "escapes"; keen on meditation – recommended Calm App for guided meditations; exercise plan for somatic (physical)

	escapes. (2) Decide about care facility; acknowledged difficulty but advised may improve stress and benefit HTN/GORD symptoms ➢ **E**[4] — Evaluate at 3-month appt re. above (consider CBT referral)
Sleep	➢ Has short sleep pattern, as defined by <7 hours sleep per night[5] ➢ Describes occasional daytime fatigue and difficulty getting up[5] ➢ Explained that better sleep promotes better BSLs, endogenous insulin sensitivity, ability to make better food choices[6,7] ➢ Develop regular sleep schedule; warming techniques prior to bed – e.g. non-caffeinated hot drinks; exercise; avoid screens before/in bed
Emotional wellbeing	➢ Act-Belong-Commit[10] advise that she can support wellbeing by staying mentally/socially/physically active – e.g. reading book before bed, community activities (sense of belonging), or play game with family ➢ Keen to make friends locally and have enjoyable hobby – always loved bridge, so will look into bridge clubs; also going to start reading again
Additional	➢ Adjuncts considered: (1) atorvastatin 80mg; (2) 2nd antihypertensive; (3) insulin; if changes implemented, may be avoided ➢ F/U via 3-month face-to-face; calls at monthly intervals for motivation

FOLLOW-UP

1-MONTH CALL — Patient selected rest home – father in process of moving. Hard decision but realised that they can give him appropriate care and can now focus on husband's/own wellbeing. Initiated 2 walks/week; lapsed but back on track and working with exercise physiologist to build up. I applauded her, as it can be difficult to re-start. Well supported by EP and husband has been coming on walks. Due to see dietician next week.

2-MONTH CALL — Patient seen dietician and is working through dietary plan, incorporating more fruit/vegetables and has made swap to wholegrain. Slowly building physical activity and is using the C25K App to assist. With these changes, along with a 9pm screen curfew, she is now sleeping ~8 hours/night. Joined local bridge club and developed social circle through this. Planned for face-to-face follow-up in 1 month to re-check biometrics and progress – asked to bring BSL measurements.

3-MONTH APPOINTMENT — Patient looks well. Reviewed dietician/exercise physiologist action plans and progress – I congratulated her on success. Meditation is an important aspect of stress relief, emotional wellbeing and coping with husband's diagnosis; practices this most mornings, occasionally does yoga class with friend from bridge. BSLs greatly improved – now 6-10 range.

	Weight	*Height*	*Waist circ.*	*BMI*	*BP*	*Resting HR*
Post-LM	83kg	160cm	80cm	32.42	138/85	80bpm

Fasting bloods	Fasting PG 6.6mmol/L, HbA1C 8.3%
	TC 6.2, LDL-C 4.0, HDL-C 1.4, triglycerides 1.7 (mmol/L)

Based on above, she will not require insulin presently and may be able to reduce other medications, provided progress continues. GORD well-controlled – omeprazole reduced to 20mg OD. Despite progress, she still finds stressful situations difficult; CBT referral. Follow-up 3 months.

REFLECTIONS

This is a complex case with multiple interconnecting contributories to the presentation as a whole. The fundamental issues are largely lifestyle-based and although the patient may be on appropriate medical therapies for her respective conditions, the notion of lifestyle interventions as foundational to disease management has become lost in translation and medical therapy was seemingly opted for as first-line management, which is unfortunately often the case in modern medicine. Making small lifestyle changes have ultimately benefited this patient enormously, both in terms of the symptomatic clinical progression of her comorbidities and reducing her future risk. Throughout the consultations, in the hope of attaining sustainable lifestyle change, I utilised the methodology of the "5 A's"[11]: *assess*, *advise*, *agree*, *assist* and *arrange*. This provided a useful framework for all aspects of this patient's complex care, with multiple areas of LM to address, as well as a patient-centred and collaborative approach that enabled building a firm doctor-patient relationship, which is highly beneficial in promoting health behaviour change[13].

With each individual intervention proposed, it is essential to gauge the patient's stage of change[12]. According to stage of change, I used counselling methods appropriate to that particular stage[14]. During early stages, motivational interviewing is effective, which I employed when discussing increasing fruit and vegetables, as the patient was in the contemplation stage. Positive psychology

used throughout built self-efficacy and focused attention on achievements. In addition, I assessed the patient's level of confidence with regards to achieving the action plan and the importance placed on this health behaviour change – without high scores in both areas, it will likely be difficult to sustain long-term. Cognitive behavioural techniques, although not utilised here, can be used in later stages.

There are improvements to be made in this case, as this patient may have benefited from group visits to tackle her multiple problems, whose methods can be beneficial to both patients and practitioners. Equally, in addition to or in place of the CBT referral made, this patient could have been a candidate for MBSR, which would complement her developing meditation practice using the Calm App.

Challenges included the difficulty of addressing all issues within a time-constrained consultation, due to the complexity of the case. Leading the collaborative MDT and delegating to specialists appropriately is essential to LM; however, with the knowledge gained during this diploma, there can be blurring between specialty boundaries and knowing the limit of one's knowledge is crucial.

LM is a critical work that must be brought to the forefront of our medical acumen. It has the capacity to completely overhaul our approach to healthcare by encouraging clinicians to put down the prescription pad and treat the patient, rather than the disease. The World Health Organisation (WHO) classifies non-communicable diseases (NCDs) as a major public health challenge and predicts that these will cause 55 million deaths annually by 2030, if the current trend is allowed to continue[8]. I am passionate about the notion of addressing lifestyle before prescribing a pill; through this, we can save our struggling global healthcare systems, as they become crippled by the overwhelming weight of lifestyle-related conditions and their high healthcare costs[9]. LM is the key and as Hippocrates so aptly described: "Walking is man's best medicine" and it is time to "let food be thy medicine and medicine be thy food".

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