X-PERT Health Position Statement: Very Low Energy Diets for the Remission of Type 2 Diabetes

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Executive Summary

- High quality evidence shows that a very low energy diet (VLED) can be safe and effective for enabling the remission of Type 2 diabetes
- Individuals who wish to try a VLED for this purpose should be supported in doing so by an adequately trained healthcare professional
- One size does not fit all, so individuals should also be supported to:
    - experiment with other methods that may allow Type 2 diabetes remission, such as a very low carbohydrate dietary approach
    - adopt and adapt a lifestyle approach that is suitable for them to maximise the chance of any health benefits being maintained
- Although the duration someone has had Type 2 diabetes for may affect their chances of achieving remission this should not be used as a reason to discourage someone from attempting to achieve remission
- Every opportunity should be taken to promote positive messages to patients about the possibility of placing Type 2 diabetes, which until recently was considered to be an inevitably progressive condition, into remission

Introduction

The ability of a very low energy diet (VLED) to lead to the remission of Type 2 diabetes has been demonstrated by the Diabetes UK funded DiRECT study, with follow up results published in March 2019 demonstrating that 36% of participants were in remission after two years[1]. Based on these results, and the publicity they have received, X-PERT Health feel it is important to set out our position on this subject.

What is remission of Type 2 diabetes?

Although a formal definition has not been universally agreed most proposals are similar. A recent joint position statement from the Association of British Clinical Diabetologists (ABCD) and the Primary Care Diabetes Society (PCDS) recommends that remission be diagnosed when fasting plasma glucose is less than 7mmol/l and/or HbA1c is less than 48mmol/mol on two occasions separated by at least six months, with complete cessation of all glucose lowering therapies[2]. This definition reflects the common components of most proposed definitions. In the UK remission of Type 2 diabetes can be recorded with the Read code C10P.

Very low energy diets

The aforementioned DiRECT study is the highest profile, and highest quality, evidence for the remission of Type 2 diabetes. In this study participants followed a total meal replacement protocol for a period of 3 to 5 months, with soups and shakes being used to replace food. These products provided approximately 800kcal per day, and were formulated to be nutritionally complete. This was followed by a 2 to 8 week food reintroduction phase.

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Although meal replacement products were used in this study it is also possible to follow a VLED using real foods, and this may be preferable for some people.

Weight loss was an important predictor of Type 2 diabetes remission in this study, with remission rates increasing in a stepwise manner as weight loss increased (remission was achieved in 5% of participants who lost less than 5kg, 29% who lost 5-10kg, 60% who lost 10-15kg and 70% who lost more than 15kg)[1]. When sufficient weight is lost this leads to a reduction in the amount of fat stored in the liver and pancreas, which allows the functioning of these organs to improve. Of particular importance is the return of the first phase insulin response, facilitated by fat loss from the pancreatic beta cells, which is essential if remission is to be achieved[3]. As well as the benefits of fat loss, the VLED also allows the pancreatic beta cells to have a "rest" for a period of time as they are not having to produce and release as much insulin. This may also be important in allowing Type 2 diabetes remission to be achieved.

Evidence suggests that the duration someone has had Type 2 diabetes for may affect whether remission is possible, though both experimental[4] and anecdotal evidence support that remission can be achieved in individuals who have had Type 2 diabetes for 15 years or more; including in individuals taking insulin to manage their condition.

Short-term meal replacement approaches may have an advantage over food based approaches, as a period without consuming foods may enable any negative aspects of an individual's relationship with food to be reduced or reset. Further research is required to support this however.

Additional considerations

To ensure the safety of patients, any attempt to put Type 2 diabetes into remission should be supported by adequately trained healthcare professionals. The DiRECT study was carried out in a primary care setting, and additional training was provided to enable healthcare professionals to facilitate this. Additional training of healthcare professionals will also be required to enable this approach to be offered more widely in the future. Public Health England have announced a pilot scheme, which will help to clarify some of the unanswered questions regarding the practicalities of a large scale roll out.

The maintenance of any observed health improvements appears to be dependent on the maintenance of any weight loss, thus it is essential individuals receive continued support to adopt a lifestyle that they are able to adhere to long term.

Evidence shows that a VLED using the DiRECT protocol is a cost-effective intervention[5], though this is not surprising when the long-term costs associated with Type 2 diabetes are considered. This further supports the suitability of this intervention within a public health setting.

Other methods for achieving remission of Type 2 diabetes

As stated before, weight loss appears to be the most important predictor of Type 2 diabetes remission. It is therefore possible that any method which can lead to sufficient maintained weight loss can result in remission.

A very low carbohydrate diet is another approach that has been shown to be effective for the achievement of Type 2 diabetes remission[6, 7]. Evidence from the DiRECT study suggests that some people may not respond to weight loss alone, with the return of beta cell function not occurring for some individuals despite comparable weight loss, and liver and pancreas fat reductions, to those who did achieve remission of Type 2 diabetes[3]. For these individuals the restriction of carbohydrate may still allow the return of normal blood glucose levels, and thus the remission of Type 2 diabetes. There is also evidence that Type 2 diabetes remission can be achieved following bariatric surgery[8], and this may be a suitable option for some patients.

X-PERT Health Position

The position of X-PERT Health is that, following the publication of the two year DiRECT results, the evidence is now sufficient that Type 2 diabetes can be safely, effectively, and sustainably put into remission by following a VLED. Individuals who wish to experiment with a VLED, whether they wish to do so using meal replacement soups and shakes or using real foods, should therefore be supported in doing so.

Evidence from DiRECT suggests that maintained weight loss is the primary driver of Type 2 diabetes remission. Thus, in line with our "one size does not fit all" approach, individuals should be supported in making any lifestyle changes that might facilitate sufficient weight loss and/or maintenance of any weight loss (subject to their being an evidence base supporting the safety and efficacy of the approach in question).

Although evidence suggests individuals who have had Type 2 diabetes for a longer duration may be less likely to see a return of beta cell function, and so Type 2 diabetes remission, this should not be used to discourage individuals from attempting to achieve remission.

Although there is evidence that bariatric surgery may enable remission of Type 2 diabetes for some patients the position of X-PERT Health is that lifestyle changes should be promoted over surgical or pharmaceutical interventions as the first option for health improvement, wherever this is possible.

Until recently Type 2 diabetes was considered to be a progressive condition, but new evidence demonstrates that this does not need to be the case. It is important that healthcare professionals harness and promote the positive messages this new evidence allows.

References

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