World Diabete Day

"The Family and Diabetes"

14th November 2018

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood sugar. Hyperglycaemia, or raised blood sugar, is a common effect of uncontrolled diabetes and over time leads to serious damage to many of the body's systems, especially the nerves and blood vessels.

In 2014, 8.5% of adults aged 18 years and older had diabetes. In 2016, diabetes was the direct cause of 1.6 million deaths and in 2012 high blood glucose was the cause of another 2.2 million deaths (WHO, 2018).

Data for Cameroonian adults based on three cross-sectional surveys over a 10-year period (1994-2004) revealed an almost 10-fold increase in the prevalence of diabetes (CAMBoD, 2014). The national prevalence of diabetes was 6.6% in 2015 (Kingue, 2015). A Predisposing factors are overweight, obesity and sedentary lifestyle. More than 80% of people diagnosed with diabetes were screened and had no prior knowledge of their status. Sixty-seven percent of those who were aware of their diabetes status were on treatment and less than 30% of the cases treated were fully controlled (CAMBoD, 2014).

The Centre for the Development of Best Practices in Health as part of this celebration comes to propose summaries of Cochrane systematic reviews on the prevention and treatment of diabetes.

Journée Mondiale de lutte contre le diabète

"La famille et le Diabète"

14 Novembre 2018

Le diabète est une maladie chronique qui apparaît lorsque le pancréas ne produit pas suffisamment d'insuline ou que l'organisme n'utilise pas correctement l'insuline qu'il produit. L'insuline est une hormone qui régule la concentration de sucre dans le sang. L'hyperglycémie, ou concentration sanguine élevée de sucre, est un effet fréquent du diabète non contrôlé qui conduit avec le temps à des atteintes graves de nombreux systèmes organiques et plus particulièrement des nerfs et des vaisseaux sanguins.

En 2014, 8,5% de la population adulte (18 ans et plus) était diabétique. En 2015, le diabète a été la cause directe de 1,6 million de décès et en 2012 l'hyperglycémie avait causé 2,2 millions de décès supplémentaires (OMS, 2018).

Les données chez les adultes camerounais basé sur trois enquêtes transversales sur une période de 10 ans (1994-2004) ont révélé une augmentation de près de 10 fois la prévalence du diabète (CAMBoD, 2014). La prévalence nationale du diabète de 6,6% en 2015 (Kingue, 2015). A Les facteurs prédisposants sont le surpoids, l'obésité et la sédentarité.

Plus de 80% des personnes diagnostiquées de diabète l'ont été lors d'un dépistage et n'avaient aucune connaissance préalable de leur statut. Soixante-sept pour cent de ceux qui étaient au courant de leur statut de diabète étaient sur le traitement et moins de 30% des cas traités ont été parfaitement contrôlé (CAMBoD, 2014).

Le Centre pour le Développement des Bonnes Pratiques en santé s'inscrit dans la mouvance de cette journée mondiale et vient proposer des résumés de revues systématiques Cochrane portnat sur la prévention et la prise en charge du diabete.

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1. Screening for gestational diabetes mellitus based on different risk profiles and settings for improving maternal and infant health

What is the issue?

What are the effects of screening all women for gestational diabetes mellitus (GDM), compared with only screening those who are 'at risk'? What are the effects of screening women for GDM in different settings (such as in the community versus the hospital)? This review updates a Cochrane Review, first published in 2010, and subsequently updated in 2014.

Why is this important?

Gestational diabetes mellitus is a form of diabetes that can develop during pregnancy, and can increase the risk of complications for mothers and their babies. Women with GDM are more likely to develop pre-eclampsia (high blood pressure and protein in the urine) and require a caesarean section. For babies, potential problems include being large for gestational age (growing larger than they normally would), or having hypoglycaemia (low blood sugar) after birth. Although GDM usually resolves following birth, mothers and their babies are at risk of developing type 2 diabetes in the future.

Treating GDM can improve health outcomes. Women often do not know they have GDM. Screening to identify and treat GDM in pregnant women may therefore improve outcomes. The two main approaches are 'universal' where all women undergo screening; and 'selective' or 'risk factor'-based where only those women 'at risk' are screened. The risk factors for GDM include certain ethnicities, being older, overweight or obese, having had a previous large baby, or a family history of GDM or type 2 diabetes. It possible to screen for GDM in different settings, such as in the community (e.g. a general practice clinic) or in hospital. The ideal screening method for GDM that leads to the best health outcomes for mothers and their babies remains unclear.

What evidence did we find?

We searched for evidence (January 2017) and included two trials involving 4523 women and their babies. Both trials were conducted in Ireland and were at a moderate to high risk of bias. We could not combine the data from these trials because they looked at different interventions and comparisons. One compared ‘universal’ screening with ‘risk factor’-based screening for GDM. The other compared screening women at their general practitioners' clinic (primary care) versus at the hospital (secondary care).

In one trial (with information available for 3152 women), more women were diagnosed with GDM in the group of women who received ‘universal’ screening, compared with the group of women with ‘risk factor’-based screening (low-quality evidence). The trial did not report on outcomes relating to the mothers, including high blood pressure disorders of pregnancy, caesarean birth, perineal trauma, weight gain in pregnancy,

postnatal depression, and type 2 diabetes. The trial did not report outcomes relating to the babies including being born large-for-gestational age, death (before or shortly after birth), death or a serious complication, hypoglycaemia, or adiposity, type 2 diabetes, and disability in childhood or adulthood.

In the second trial (with information available for 690 women), screening at the general practitioner's clinic versus the hospital did not make a clear difference to the number of women diagnosed with GDM (low-quality evidence), high blood pressure (*l*ow-quality evidence), pre-eclampsia (low-quality evidence), or the number who had a caesarean birth (*l*ow-quality evidence). This trial did not report perineal trauma, weight gain in pregnancy, postnatal depression, or type 2 diabetes. Screening at the general practitioner's clinic versus at the hospital did not make a clear difference to the number of babies born large-for-gestational age (*l*ow-quality evidence), death (before or shortly after birth), death or a serious complication (low-quality evidence), or hypoglycaemia (very low-quality evidence). Childhood or adulthood adiposity, type 2 diabetes, and disability were not reported in the trial.

What does this mean?

There is not enough evidence to guide us on effects of screening for GDM based on different risk profiles or settings on outcomes for women and their babies. Further large, well-designed, randomised controlled trials are required to assess important short- and long-term outcomes for mothers and their babies.

Le dépistage du diabète gestationnel chez les femmes pendant la grossesse en fonction de leurs facteurs de risque, et ce dans différents contextes.

De quoi est-il question ?

Quels sont les effets du dépistage du diabète sucré gestationnel (DSG) offert à toutes les femmes par rapport au dépistage limité aux femmes « à risque » ? Quels sont les effets du dépistage du DSG offert aux femmes dans différents contextes (par exemple lorsque celui-ci est offert dans une communauté par rapport à dans un hôpital) ? Cette revue est une mise à jour d'une revue Cochrane publiée pour la première fois en 2010, puis mise à jour en 2014.

Pourquoi est-ce important ?

Le DSG est une forme de diabète pouvant survenir pendant la grossesse, et celui-ci peut augmenter le risque de complications pour les mères et leurs bébés. Les femmes ayant un DSG sont plus susceptibles de développer une pré-éclampsie (une tension artérielle élevée et des protéines dans les urines) et de nécessiter une césarienne. Pour les bébés, les potentielles complications incluent le poids de naissance élevé pour l'âge gestationnel (des bébés anormalement gros par rapport à ce qui est normalement attendu), ou les hypoglycémies (un

faible taux de sucre dans le sang) après la naissance. Bien que le DSG disparaisse généralement après l'accouchement, les mères et leurs bébés sont à risque de développer un diabète de type 2 dans le futur.

Le traitement du DSG peut améliorer le devenir de la mère et du bébé. Les femmes ignorent souvent qu'elles ont un DSG. Réaliser un dépistage pour identifier et pour traiter le DSG chez les femmes enceintes pourrait ainsi améliorer le pronostic. Les deux principales approches sont l'approche « universelle », lorsque toutes les femmes réalisent le dépistage ; et l'approche « sélective » ou « en fonction des facteurs de risque », lorsque seules les femmes « à risque » sont dépistées. Les facteurs de risque de développer un DSG incluent certaines origines ethniques, l'âge avancé, le surpoids ou l'obésité, avoir déjà eu un gros bébé, ou les antécédents familiaux de DSG ou de diabète de type 2. Il est possible de réaliser un dépistage du DSG dans différents contextes, par exemple dans la communauté (ex. dans une clinique de médecine générale) ou à l'hôpital. La méthode idéale de dépistage du DSG conduisant au meilleur pronostic pour les mères et leurs bébés reste incertaine.

Quelles données avons-nous trouvées ?

Nous avons recherché des preuves (janvier 2017) et nous avons inclus deux essais cliniques portant sur 4523 femmes et leurs bébés. Les deux essais ont été réalisés en Irlande et ceux-ci présentaient un risque de biais modéré à élevé. Nous n'avons pas pu combiner les données issues de ces essais car ceux-ci ont examiné des interventions et des comparaisons différentes. Une étude a comparé le dépistage "universel" du DSG au dépistage "en fonction des facteurs de risques". L'autre essai a comparé le dépistage offert aux femmes chez leurs médecins généralistes (dans des cliniques de soins primaires) par rapport au dépistage offert à l'hôpital (soins secondaires).

Dans l'un des essais (présentant des informations pour 3152 femmes), plus de femmes ont reçu un diagnostic de DSG dans le groupe des femmes ayant reçu un dépistage "universel", en comparaison avec le groupe de femmes ayant reçu un dépistage "en fonction de leurs facteurs de risque" (preuves de faible qualité). L'essai n'a pas rendu compte des complications maternelles, dont les maladies hypertensives en grossesse, l'accouchement par césarienne, les traumatismes périnéaux, la prise de poids pendant la grossesse, la dépression postnatale, et le diabète de type 2. L'essai n'a pas rendu compte des résultats concernant les bébés tels que le nombre de bébés nés de poids de naissance élevé pour l'âge gestationnel, les décès (avant ou peu après la naissance), les décès ou les complications graves, les hypoglycémies, l'adiposité, le diabète de type 2, et l'invalidité dans l'enfance ou à l'âge adulte.

Dans le deuxième essai (présentant des informations pour 690 femmes), le dépistage offert à la clinique du médecin traitant par rapport au dépistage offert à l'hôpital n'a pas montré une différence claire du nombre de femmes ayant reçu un diagnostic de DSG (preuves de faible qualité), de pression artérielle élevée (preuves de faible qualité), de pré-éclampsie (preuves de faible qualité), ou au niveau du nombre de femmes ayant eu un accouchement par césarienne (preuves de faible qualité). Cet essai n'a pas rapporté les traumatismes périnéaux, la prise de poids pendant la grossesse, la dépression postnatale, ou le diabète de type 2. Le dépistage offert

chez le médecin traitant par rapport à celui offert à l'hôpital n'a pas montré une différence claire du nombre de bébés avec un poids de naissance élevé pour l'âge gestationnel (preuves de faible qualité), des décès (avant ou peu après la naissance), des décès ou des complications graves (preuves de faible qualité), ou des hypoglycémies (preuves de très faible qualité). L'adiposité à l'enfance ou à l'âge adulte, le diabète de type 2, et l'incapacité n'ont pas été rapportés dans l'essai.

Qu'est-ce que cela signifie ?

Il n'existe pas suffisamment de preuves pour établir les effets du dépistage du DSG sur la base de différents profils de risque ou dans différents contextes sur le pronostic maternofoetal. Davantage d'essais contrôlés randomisés bien conçus et à large échelle sont nécessaires pour évaluer les résultats importants à court et à long terme pour les mères et leurs bébés.

Citation: Tieu J, McPhee AJ, Crowther CA, Middleton P, Shepherd E. Screening for gestational diabetes mellitus based on different risk profiles and settings for improving maternal and infant health. Cochrane Database of Systematic Reviews 2017, Issue 8. Art. No.: CD007222. DOI: 10.1002/14651858.CD007222.pub4.
https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD007222.pub4/epdf/standard

2. Different methods and settings for glucose monitoring for gestational diabetes during pregnancy

What is the issue?

Gestational diabetes mellitus (GDM) is a glucose intolerance leading to high concentrations of glucose (sugar) in the blood (hyperglycaemia) that begins or is first recognised during pregnancy. Monitoring of blood glucose levels is an important way to maintain control of sugar concentrations in the blood. There are several different methods for monitoring blood glucose which can be carried out in different settings (e.g. at home or hospital), however it is not clear which is best for limiting health complications for women and their babies.

Why is this important?

Women with GDM are more likely to develop pre-eclampsia (a dangerous condition characterised by high blood pressure) during pregnancy, and to have the birth induced, suffer trauma to the perineum during birth, or to give birth by caesarean section. Their babies are more likely to be large for their gestational age at birth, develop low blood sugar (hypoglycaemia), and suffer from complications leading to death. Both the women and their babies are more likely to develop long-term health complications, including type 2 diabetes.

What evidence did we find?

We searched the medical literature in September 2016 and included 11 randomised controlled trials (RCTs) involving 1272 women with GDM and their babies. Three trials were supported by commercial partners.

We included five different comparisons:

1) telemedicine (transmission of glucose concentrations from home to healthcare professionals for review) versus standard care (face-to-face review in a clinic/hospital) (five RCTs);

2) self-monitoring of glucose (at home) versus periodic monitoring of glucose (less frequently at face-to-face visits) (two RCTs);

3) use of a continuous glucose monitoring system (CCMS) versus less frequent self-monitoring of glucose (two RCTs);

4) modem technology (transmitting glucose concentrations directly from glucose meters to healthcare professionals) versus telephone transmission of glucose concentrations (one RCT);

5) postprandial (after meal) versus preprandial (before meal) monitoring of glucose (one RCT).

Telemedicine versus standard care for glucose monitoring (five RCTs): there were no clear differences between women in the telemedicine and standard care groups for pre-eclampsia or hypertension, caesarean section or induction of labour; or for their babies being born large-for-gestational age, developing a serious morbidity, or having hypoglycaemia. There were no deaths in the two RCTs that reported on deaths of babies.

Self-monitoring versus periodic glucose monitoring (two RCTs): there were no clear differences between women in the self-monitoring and periodic glucose monitoring groups for pre-eclampsia or caesarean section; or for their babies dying, being born large-for-gestational age, or developing hypoglycaemia.

CGMS versus self-monitoring of glucose (two RCTs): there was no clear difference between women in the CGMS and self-monitoring groups for caesarean section; or for babies being born large-for-gestational age, or developing hypoglycaemia. There were no deaths of babies in the two RCTs.

Modem versus telephone transmission for glucose monitoring (one RCT): this RCT reported none of the outcomes we considered most important.

Postprandial versus preprandial glucose monitoring (one RCT): there were no clear differences between women in the postprandial and preprandial glucose monitoring groups for pre-eclampsia, caesarean section or perineal trauma; or for babies developing hypoglycaemia. Babies born to women in the postprandial glucose monitoring group were less likely to be born large-for-gestational age than babies in the preprandial group.

The quality of the evidence for the above findings was low or very low. None of the 11 RCTs reported on postnatal depression, postnatal weight retention, return to pre-

pregnancy weight, or development of type 2 diabetes for the women; or disability, adiposity or development of type 2 diabetes for the babies as children or adults.

What does this mean?

Blood glucose monitoring is an important strategy for managing GDM, however it remains unclear what methods are best. Conclusive evidence from RCTs is not yet available to guide practice, although a range of methods has been investigated. Few RCTs have compared the same or similar interventions, RCTs have been small and have reported limited findings. Further large, well-designed, RCTs are required to assess the effects of different methods and settings for blood glucose monitoring for women with GDM in order to improve outcomes for women and their babies in the short and long term.

Différents environnements et méthodes pour le contrôle de la glycémie chez les femmes atteintes de diabète gestationnel pendant la grossesse

Quelle est la question ?

Le diabète sucré gestationnel (DSG) est une intolérance au glucose (sucre) conduisant à des concentrations élevées de glucose dans le sang (hyperglycémie) et se manifestant pour la première fois pendant la grossesse. La surveillance de la glycémie est un moyen efficace pour réguler la concentration de sucre dans le sang. Il existe plusieurs méthodes différentes de surveillance de la glycémie, qui peuvent être employées dans différents lieux (par exemple, à domicile ou à l'hôpital). La méthode la plus à même de limiter les complications de santé pour les futures mères et leurs enfants n'est cependant pas clairement établie.

Pourquoi est-ce important ?

Les femmes atteintes de DSG sont plus susceptibles de développer une pré-éclampsie (une maladie dangereuse caractérisée par une tension artérielle élevée) pendant la grossesse, de nécessiter un déclenchement de l'accouchement, de souffrir de traumatismes du périnée pendant l'accouchement ou d'accoucher par césarienne. Leurs bébés sont plus susceptibles d'avoir un poids de naissance élevé pour leur âge gestationnel, de développer une hypoglycémie (faible taux de sucre dans le sang) et de souffrir de complications potentiellement mortelles. Les mères et leurs bébés sont plus susceptibles de développer des complications à long terme, notamment un diabète de type 2.

Quelles données avons -nous trouvées ?

Nous avons effectué des recherches dans la littérature médicale en septembre 2016 et inclus 11 essais contrôlés randomisés (ECR) portant sur 1272 femmes atteintes de DSG et leurs bébés. Trois essais étaient financés par des partenaires commerciaux.

Nous avons inclus cinq comparaisons différentes :

1) télémédecine (transmission des valeurs de glycémie du domicile aux professionnels de santé) et soins standard (examen des données en face à face au cabinet/à l'hôpital) (cinq ECR) ;
2) autosurveillance de la glycémie (à domicile) et surveillance périodique de la glycémie (moins fréquemment, lors des visites en face à face) (deux ECR) ;
3) utilisation d'un système de surveillance continue de la glycémie (SCG) et autosurveillance moins fréquente (deux ECR) ;
4) transmission des valeurs de glycémie par modem (directement du glycomètre au professionnel de santé) et par téléphone (un ECR) ;
5) surveillance de la glycémie postprandiale (après les repas) et préprandiale (avant les repas) (un ECR).

Comparaison de la télémédecine et des soins standard pour la surveillance de la glycémie (cinq ECR) : *aucune différence claire entre les groupes télémédecine et soins standard pour la pré-éclampsie ou l'hypertension, les césariennes ou le déclenchement du travail ou, pour les bébés, un poids de naissance élevé, le développement de morbidités graves ou les hypoglycémies. Il n'y a eu aucun décès dans les deux ECR qui rendaient compte de la mortalité des nourrissons.*

Comparaison de l'autosurveillance et de la surveillance périodique de la glycémie (deux ECR) : *aucune différence claire entre les groupes d'autosurveillance et de contrôle périodique en termes de pré-éclampsie ou de césariennes ou, pour les enfants, de mortalité, de poids de naissance élevé ou d'hypoglycémie.*

Comparaison de la SCG et de l'autosurveillance de la glycémie (deux ECR) : *aucune différence claire entre les groupes de SCG et d'autosurveillance pour les césariennes ni pour le poids de naissance élevé et l'hypoglycémie des enfants. Il n'y a eu aucun décès de nourrissons dans ces deux ECR.*

Comparaison de la transmission des données de glycémie par modem ou téléphone (un ECR) : *cet ECR n'a rapporté aucun des critères de jugement que nous considérions comme les plus importants.*

Comparaison de la surveillance de la glycémie post- et préprandiale (un ECR) : *aucune différence claire entre les femmes des groupes de surveillance postprandiale et préprandiale pour la pré-éclampsie, les césariennes ou les traumatismes périnéaux, ni pour les hypoglycémies des enfants. Les bébés nés des femmes du groupe de surveillance de la glycémie postprandiale étaient moins susceptibles d'avoir un poids de naissance élevé que ceux du groupe de surveillance préprandiale.*

La qualité des données pour les résultats susmentionnés était mauvaise ou très mauvaise. Aucun des 11 ECR n'a rendu compte de la dépression postnatale, de la rétention pondérale postnatale, du retour au poids d'avant la grossesse ou du développement d'un diabète de type 2 chez les femmes, ni des handicaps, de l'obésité ou du développement d'un diabète de type 2 chez les enfants et jusqu'à l'âge adulte.

Qu'est-ce que cela signifie ?

La surveillance de la glycémie est une stratégie importante pour la prise en charge du DSG, mais nous n'avons pas déterminé avec certitude quelles sont les meilleures méthodes. Il n'existe pas encore de preuves concluantes issues d'ECR pour orienter la pratique, bien que tout un éventail de méthodes aient été étudiées. Peu d'ECR ont comparé les mêmes interventions ou des interventions similaires, les ECR étaient de petite taille et ont rapporté des résultats limités. D'autres ECR bien conçus et à grande échelle sont nécessaires pour évaluer les effets de différentes méthodes et différents environnements de surveillance de la glycémie chez les femmes atteintes de DSG afin d'améliorer les résultats à court et à long terme pour celles-ci et leurs enfants.

Citation: Raman P, Shepherd E, Dowswell T, Middleton P, Crowther CA. Different methods and settings for glucose monitoring for gestational diabetes during pregnancy. Cochrane Database of Systematic Reviews 2017, Issue 10. Art. No.: CD011069. DOI: 10.1002/14651858.CD011069.pub2. https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD011069.pub2/epdf/standard

3. Diet, physical activity and behavioural interventions for the treatment of overweight or obese adolescents aged 12 to 17 years

Review question

How effective are diet, physical activity and behavioural interventions in reducing the weight of overweight or obese adolescents aged 12 to 17 years?

Background

Across the world, more adolescents are becoming overweight and obese. These adolescents are more likely to suffer from health problems in later life. More information is needed about what works best in treating this problem.

Study characteristics

We found 44 randomised controlled trials (clinical studies where people are randomly put into one of two or more treatment groups) comparing diet, physical activity and behavioural (where habits are changed or improved) treatments (interventions) to a variety of control groups delivered to 4781 overweight or obese adolescents aged 12 to 17 years. Our systematic review reports on the effects of multidisciplinary interventions, dietary interventions and physical activity interventions compared with a control group (no intervention, 'usual care,' enhanced usual care or some other therapy if it was also delivered to the intervention group). The adolescents in the included studies were monitored (called follow-up) for between six months and two years.

Key results

The average age of adolescents ranged from 12 to 17.5 years. Most studies reported the body mass index (BMI). BMI is a measure of body fat and is calculated by dividing weight (in kilograms) by the square of the body height measured in metres (kg/m^2). We summarised the results of 28 studies in 2774 adolescents reporting BMI, which on average was 1.18 kg/m^2 lower in the intervention groups compared with the control groups. We summarised the results of 20 studies in 1993 adolescents reporting weight, which on average was 3.67 kg lower in the intervention groups compared with the control groups. BMI reduction was maintained at 18 to 24 months of follow-up (monitoring participants until the end of the study), which on average was 1.49 kg/m^2 lower in the intervention groups compared with the control groups. The interventions moderately improved health-related quality of life (a measure of a person's satisfaction with their life and health) but we did not find firm evidence of an advantage or disadvantage of these interventions for improving self-esteem, physical activity and food intake. No study reported on death from any cause, morbidity (illnesses) or socioeconomic effects (such as days away from school). Three studies reported no side effects, one reported no serious side effects, one did not provide details of side effects and the rest of the studies did not report whether side effects occurred or not.
We identified 50 ongoing studies which we will include in future updates of our review.

Interventions sur le régime alimentaire, l'activité physique et le comportement pour le traitement des adolescents obèses ou en surpoids âgés de 12 à 17 ans

Question de la revue

Quelle est l'efficacité des interventions sur le régime alimentaire, l'activité physique et le comportement pour réduire le poids des adolescents en surpoids ou obèses âgés de 12 à 17 ans ?

Contexte

De plus en plus d'adolescents dans le monde sont en surpoids et obèses. Ces adolescents sont plus susceptibles de souffrir de problèmes de santé plus tard dans leur vie. Davantage d'informations sont nécessaires pour déterminer les meilleures méthodes pour résoudre ce problème.

Caractéristiques de l'étude

Nous avons trouvé 44 essais contrôlés randomisés (essais cliniques dont les sujets sont affectés de façon aléatoire à un de deux ou plusieurs groupes de traitement) comparant des traitements intervenant sur le régime alimentaire, l'activité physique et le comportement (changement ou amélioration de certaines habitudes) à différents groupes témoins chez 4781 adolescents en surpoids ou obèses âgés de 12 à 17 ans. Notre revue systématique a rapporté des données sur

les effets d'interventions multidisciplinaires, diététiques et d'activité physique par rapport à un groupe témoin (absence d'intervention, « soins habituels », soins habituels améliorés ou autre traitement si celui-ci avait également été offert dans le bras d'intervention). Les adolescents dans les études incluses étaient suivis (appelés pour des évaluations régulières) pendant une période de six mois à deux ans.

Principaux résultats

L'âge moyen des adolescents variait de 12 à 17,5 ans. La plupart des études rapportent l'indice de masse corporelle (IMC) : l'IMC est une mesure de la graisse corporelle, calculée en divisant le poids (en kilogrammes) par le carré de la taille en mètres (kg/m^2). Nous avons résumé les résultats de 28 études portant sur 2774 adolescents et rapportant l'IMC, qui était en moyenne plus bas de 1,18 kg/m^2 dans les groupes d'intervention que dans les groupes témoins. Nous avons résumé les résultats de 20 études portant sur 1993 adolescents et rapportant le poids, qui était en moyenne plus bas de 3,67 kg dans les groupes d'intervention que dans les groupes témoins. La réduction de l'IMC s'est maintenue, entre 18 et 24 mois de suivi (surveillance des participants jusqu'à la fin de l'étude), à 1,49 kg/m^2 de moins en moyenne dans les groupes d'intervention que dans les groupes témoins. Les interventions ont modérément amélioré la qualité de vie liée à la santé mais nous n'avons pas trouvé de preuve solide d'un avantage ou d'un désavantage de ces interventions pour améliorer l'estime de soi, l'activité physique et l'alimentation. Aucune étude n'a rapporté la mortalité toutes causes confondues, la morbidité (maladies) ou les effets socio-économiques (tels que les jours d'absence de l'école). Trois études ne rapportaient pas les effets secondaires, une étude n'a rapporté aucun effet secondaire grave, une autre n'a pas fourni de détails concernant les effets secondaires et le reste des études n'ont pas indiqué s'il y a eu ou non des effets secondaires.

Nous avons identifié 50 études en cours, que nous inclurons dans les futures mises à jour de notre revue.

Citation: Al-Khudairy L, Loveman E, Colquitt JL, Mead E, Johnson RE, Fraser H, Olajide J, Murphy M, Velho RM, O'Malley C, Azevedo LB, Ells LJ, Metzendorf MI, Rees K. Diet, physical activity and behavioural interventions for the treatment of over- weight or obese adolescents aged 12 to 17 years. Cochrane Database of Systematic Reviews 2017, Issue 6. Art. No.: CD012691. DOI: 10.1002/14651858.CD012691
https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD012691/epdf/standard

4. Combined diet and exercise interventions for preventing gestational diabetes mellitus

Review question

What are the effects of combined diet and exercise for preventing gestational diabetes mellitus (GDM), and related health problems for mothers and their babies? This is an update of a Cochrane review that was first published in 2015.

Background

GDM is high blood sugar (hyperglycaemia) during pregnancy. Up to a quarter of pregnant women develop GDM, with some at a higher risk than others (such as overweight or obese women, older women, and those of particular ethnicities). GDM can lead to significant health problems for women and their babies. In the short term, women with GDM may develop pre-eclampsia (high blood pressure (hypertension) and protein in the urine), or give birth by caesarean section. Their babies may grow large for their gestational age, and, as a result, be injured at birth, and/or cause injury to their mothers during birth. Babies of mothers with GDM often have low blood glucose (hypoglycaemia) and are overweight. Later in life, health problems such as neurosensory disabilities and type 2 diabetes can develop in these babies. Eating well and exercising is known to prevent type 2 diabetes and may be effective for preventing GDM.

Study characteristics

We searched for evidence in November 2016 and included 23 randomised controlled trials (RCTs) (involving 8918 women and their 8709 babies). Most studies were undertaken in high-income countries. All of the studies compared women receiving diet and exercise programs with women receiving standard care without diet and exercise programs. The studies varied in the diet and exercise programs evaluated and health outcomes reported. None reported receiving funding from a drug manufacturer or agency with interests in the results.

Key results

Findings from 19 studies (6633 women) showed a possible reduction in GDM in women who received diet and exercise programs compared with women who received standard care. Fourteen studies (6089 women) showed a possible reduction in caesarean birth (14 studies; 6089 women) and 16 studies (5052 women) showed lower weight gain during pregnancy in women who received exercise programs. We found no differences between groups in other health problems for: pre-eclampsia (8 studies; 5366 women); high blood pressure (6 studies; 3073 women); a large for age baby at birth (11 studies; 5353 babies); and perineal trauma (2 studies; 2733 women). Death of babies around birth (2 studies; 3757 babies), the baby having low blood glucose after birth (2 studies; 3653 babies), and infants being overweight (2 studies; 794 infants) did not differ in the two groups. Effects on depression or type 2 diabetes for mothers, a combined outcome of death or ill-health for babies, or type 2 diabetes or neurosensory disability for babies as children were not reported. Participant views of programs were examined.

The evidence suggests combined diet and exercise programs may be effective for preventing GDM though the optimum components of these programs are not yet clear. Future studies could describe the interventions used in more detail, if and how these influenced behaviour change and ideally be standardised between studies. Studies could also consider measuring similar maternal and infant outcomes and report them in a standardised way.

Citation: Shepherd E, Gomersall JC, Tieu J, Han S, Crowther CA, Middleton P. Combined diet and exercise interventions for preventing gestational diabetes mellitus. Cochrane Database of Systematic Reviews 2017, Issue 11. Art. No.: CD010443. DOI: 10.1002/14651858.CD010443.pub3
https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD010443.pub3/epdf/standard

5. Oral anti-diabetic pharmacological therapies for the treatment of women with gestational diabetes

What is the issue?

Globally the number of women being diagnosed with gestational diabetes mellitus (GDM) is increasing. GDM is an intolerance to glucose leading to high blood sugars, first recognised during pregnancy and usually resolving after birth. Standard care involves lifestyle advice on diet and exercise. Treatment for some women includes oral anti-diabetic medications, such as metformin and glibenclamide, which are an alternative to, or can be used alongside, insulin to control the blood sugar. This review aimed to investigate benefits of taking oral medication to treat GDM in pregnant women. Another Cochrane Review compares the effects of insulin with oral anti-diabetic pharmacological therapies.

Why is this important?

Women diagnosed with GDM are at a greater risk of experiencing complications such as high blood pressure during pregnancy and at birth. They have an increased risk of developing diabetes later in life. The babies of women who have been diagnosed with GDM can be larger than normal and this can cause injuries to the mother and the baby at birth. The birth is more likely to be induced or the baby born by caesarean section. These babies are at risk of developing diabetes as children or young adults. Finding the best medications to treat the women and prevent the complications that are linked to GDM is therefore important.

What evidence did we find?

We searched for studies on 14 May 2016. We included 11 randomised controlled trials involving 1487 mothers and their babies (but only eight trials contributed data to our analyses). The evidence was limited by the quality and number of studies and we advise caution when looking at the results.

The criteria for diagnosis of GDM and treatment targets varied between studies, and each outcome is based on few studies with low numbers of women. Three studies compared oral medication with placebo/standard care but the following findings are from a single study (375 women). The quality of the evidence was very low or low. We found no differences between the oral medication and placebo group for the risk of high blood pressure, birth by caesarean section, induction of labour or perineal trauma. The number of babies born large-for-gestational age, with low blood sugars or dying at birth was not

clearly different between the groups. Two studies (434 women) reported no difference in the need for insulin between the oral medication and placebo group.
Six studies compared metformin with glibenclamide. The quality of the evidence was very low to moderate. We found no difference between metformin and glibenclamide for the risk of high blood pressure (three studies, 508 women, moderate-quality evidence), birth by caesarean section (four studies, 554 women, low-quality evidence), perineal trauma

(two studies, 308 women, low-quality evidence) or induction of labour (one study, 159 women, low-quality evidence). We found no difference between metformin and glibenclamide for the baby having low blood sugars (four studies, 554 infants, low-quality evidence), being born large-for-gestational age (two studies, 246 infants) or dying at birth (all low- or very low-quality evidence). In one study, the babies of the mothers taking metformin were at reduced risk of having any serious outcome (low blood sugar, jaundice, being born large, breathing problems, injury at birth or death combined) (low-quality evidence). One small study (43 women) comparing glibenclamide with acarbose reported no differences in outcomes for mothers or their babies.
None of the included studies provided any data on many of the outcomes pre-specified in this review, including long-term outcomes for the mother or for the baby as a child or an adult.

What does this mean?

There is not enough high-quality evidence available to guide us on if oral medication has better outcomes for women with gestational diabetes, and their babies, compared with a placebo or if one oral medication has better health outcomes than another oral medication. Because we are still unclear, further research is needed. Future studies should be encouraged to report on the outcomes suggested in this review and in particular the long-term outcomes for the woman and the infant that have been poorly reported to date.

Citation: Brown J, Martis R, Hughes B, Rowan J, Crowther CA. Oral anti-diabetic pharmacological therapies for the treatment of women with gestational diabetes. Cochrane Database of Systematic Reviews 2017, Issue 1. Art. No.: CD011967. DOI: 10.1002/14651858.CD011967.pub2
https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD011967.pub2/epdf/standard

6. Planned birth at or near term for improving health outcomes for pregnant women with gestational diabetes and their infants

What is the issue?

The aim of this Cochrane review was to find out if planning an elective birth at or near the term of pregnancy, compared to waiting for labour to start spontaneously, has an impact on the health of women with gestational diabetes and the health of their babies.

Planned early birth means either induction of labour or caesarean birth, and 'at or near term' means 37 to 40 weeks' gestation. To answer this question, we collected and analysed all relevant studies conducted up to August 2017.

Why is this important?

Women with gestational diabetes (glucose intolerance arising during pregnancy) and their babies are at increased risk of health complications (e.g. high blood pressure, bigger babies). Because of the complications sometimes associated with birthing a big baby, many clinicians have recommended that women with gestational diabetes have an elective birth (generally an induction of labour) at or near term (37 to 40 weeks' gestation) rather than waiting for labour to start spontaneously, or until 41 weeks' gestation if all is well. Induction has disadvantages of increasing the incidence of forceps or ventouse births, and women often find it difficult to cope with an induced labour. Caesarean section is a major operation which can lead to blood loss, infections and increased chance of problems with subsequent births. Early birth can increase the chance of breathing problems for babies. It is important to know which approach to birth has a better impact on the health outcomes of women with gestational diabetes and their babies.

What evidence did we find?

Our search identified one trial involving 425 women and their babies. In this trial, 214 women had an induction of their labour at term, the other 211 women waited for a spontaneous onset of their labour.

The findings of this trial highlighted no clear difference between the babies of women in either group in relation to the number of large babies, baby's shoulder getting stuck during birth or babies with breathing problems, low blood sugar and admission to a neonatal intensive care unit. No baby in the trial experienced birth trauma. In the group of women whose labour was induced, there were more incidences of jaundice in the babies. There was no clear difference between women in either group in relation to serious health problems for women, caesarean section, instrumental vaginal birth, postpartum haemorrhage, admission to an intensive care unit and intact perineum. There were no reports in either group of maternal deaths. It should be noted that most of the evidence was found to be of very low quality.

The following outcomes were not reported: postnatal depression, maternal satisfaction, length of postnatal stay (mother), babies with high blood acid, bleeding in the baby's brain, other brain problems for the babies, babies small-for-gestational age and length of baby's postnatal stay.

What does this mean?

There is insufficient evidence to clearly identify if there are differences in health outcomes for women with gestational diabetes and their babies when elective birth is undertaken compared to waiting for labour to start spontaneously or until 41 weeks' gestation if all is well. More research is needed to answer this question.

Citation: Biesty LM, Egan AM, Dunne F, Dempsey E, Meskell P, Smith V, Ni B huinneain GM, Devane D. Planned birth at or near term for improving health outcomes for pregnant women with gestational diabetes and their infants. Cochrane Database of Systematic Reviews 2018, Issue 1. Art. No.: CD012910. DOI: 10.1002/14651858.C D012910. https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD012910/epdf/standard

7. Oral anti-diabetic agents for women with established diabetes/impaired glucose tolerance or previous gestational diabetes planning pregnancy, or pregnant women with pre-existing diabetes

What is the issue?

Pre-existing diabetes and gestational diabetes can increase the risks of a number of poor outcomes for both mothers and their babies. For the mother, these include pregnancy-induced high blood pressure (pre-eclampsia) with additional fluid retention and protein in the urine; and giving birth by caesarean. For the infant, these can include preterm birth; as well as an increased risk of the presence of physical defects at birth such as heart defects, brain, spine, and spinal cord defects, Down syndrome; and spontaneous abortion. Other complications at birth include babies that are large for their gestational age, and obstructed labour (shoulder dystocia) caused by one of the shoulders becoming stuck in the birth canal once the baby's head has been born.

Why is this important?

Being pregnant can trigger diabetes (gestational diabetes) in women with impaired glucose tolerance. Women who have had gestational diabetes are at risk of developing diabetes later in life. This means that management is important for women with impaired glucose tolerance or previous gestational diabetes, as well as for women with established diabetes. Women with established diabetes need good blood sugar control before they become pregnant. Insulin gives good blood sugar control and does not affect the development of the baby, but women may find oral anti-diabetic agents more convenient and acceptable than insulin injections. However little is known about the effects of these oral agents.

This review sought to investigate the effects of oral anti-diabetic agents in women with established diabetes, impaired glucose tolerance or previous gestational diabetes who were planning a pregnancy, or pregnant women with pre-existing diabetes, on maternal and infant health. This review is an update of a review that was first published in 2010.

What evidence did we find?

We searched for evidence from randomised controlled trials (RCTs) on 31 October 2016 and included six RCTs (707 women). Three RCTs included women with current

gestational diabetes and did not report data separately for the population of women relevant to this review. Therefore we have only included outcome data from three RCTs, involving 241 pregnant women and their infants. The quality of the evidence was assessed as being low or very low and the overall risk of bias of the RCTs was varied. The three RCTs all compared an oral anti-diabetic agent (metformin) with insulin in pregnant women with pre-existing (type 2) diabetes.

There was no clear difference in the development of pre-eclampsia (high blood pressure and protein in the urine) for women who received metformin compared with insulin (2 RCTs; 227 women; very low-quality evidence), though women receiving metformin were less likely to have pregnancy-induced high blood pressure in one RCT (206 women; low-quality evidence). Women who received metformin were less likely to have a caesarean section birth (3 RCTs; 241 women; low-quality evidence), though no difference was observed in induction of labour (2 RCTs; 35 women; very low-quality evidence). There was no clear difference between groups of infants born to mothers who received metformin or insulin for being large-for-gestational age (1 RCT; 206 infants; very low-quality evidence), though infants born to mothers who received metformin were less likely to have low blood sugar (hypoglycaemia) (3 RCTs; 241 infants; very low-quality evidence). There were no infant deaths (before birth or shortly afterwards) (2 RCTs; very low-quality evidence). The RCTs did not report on many important short- and long-term outcomes, including perineal trauma and a combined outcome of infant death or morbidity, postnatal depression and weight retention for mothers, and adiposity or disability in childhood or adulthood for infants.

What does this mean?

There is not enough evidence to guide us on the effects of oral anti-diabetic agents in women with established diabetes, impaired glucose tolerance or previous gestational diabetes who are planning a pregnancy, or pregnant women with pre-existing diabetes. Further large, well-designed, RCTs are required and could assess and report on the outcomes suggested in this review, including both short- and long-term outcomes for mothers and their infants.

Citation: Tieu J, Coat S, Hague W, Middleton P, Shepherd E. Oral anti-diabetic agents for women with established diabetes/impaired glucose tolerance or previous gestational diabetes planning pregnancy, or pregnant women with pre-existing diabetes. Cochrane Database of Systematic Reviews 2017, Issue 10. Art. No.: CD007724. DOI: 10.1002/14651858.CD007724.pub3
https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD007724.pub3/epdf/standard

Few definitions

A **systematic review** answers a defined research question by collecting and summarising all empirical evidence that fits pre-specified eligibility criteria.

> ***Une revue systématique*** *consiste à identifier, évaluer et synthétiser toutes les études, publiées ou non, traitant d'un sujet donné. Son objectif est de répondre à une question précise.*

Evidence based medicine (EBM) is the conscientious, explicit, judicious and reasonable use of modern, best evidence in making decisions about the care of individual patients. EBM integrates clinical experience and patient values with the best available research information. It is a movement which aims to increase the use of high quality clinical research in clinical decision making.

> ***Médecine fondée sur les données probantes****: se définit comme « l'utilisation consciencieuse, explicite et judicieuse des meilleures données disponibles pour la prise de décisions concernant les soins à prodiguer à chaque patient, une pratique d'intégration de chaque expertise clinique aux meilleures données cliniques externes issues de recherches systématiques ». On utilise plus couramment les termes médecine fondée sur les preuves ou médecine factuelle.*

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