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Interventions Of Chronic Energy Deficiency (Ced) In Pregnant Women: A Review Of Current Evidance

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ABSTRACT

Prevention of chronic energy Deficiency (CED) is still a challenge for developing countries like Indonesia. The CED has been included by the government in the national target in the 2015-2030 Sustainable Development Goals (SDGs) and target for pregnant women with CED is 5%. This was literature study aims to identify a variety of evidence about CED prevention strategies. This was is a literature study derived from search results on three electronic databases, namely Pubmed, Science Direct, Elsvier and Google Scholar. The journal references used as references are 12 journals that are relevant to the topic of this literature study. We did a journal of observational studies published from 2016 to 2022. The include studies Variables that have a relationship with chronic energy deficiency in pregnant women are diet, nutrient intake, food abstinence, socio-culture, economy, parity, knowledge, body mass index, early marriage. Prevention in overcoming the factors that cause CED is carried out with preventive feeding approaches, village head leadership approaches. Utilization of health facilities, the role of midwives and the role of husbands on the effectiveness of empowering pregnant women in efforts to treat CED and intercultural caring method. Prevention with the use of media that can, and CED prevention models in adolescents using Websites. Futher studies observing From 12 articles reviewed there were 2 articles with combine a behavioral approach, where 1 article discussed the influence of leadership in the area. The transcultural approach does not exist in CED so research related to this is urgently needed.

Keywords: Chronic Energy Deficiency, Management Model, Family Food, Mother's Knowledge, Pregnant Woman.

INTRODUCTION

In order to reduce the maternal mortality rate (MMR) and infant mortality rate (IMR) which are directly affected by Chronic Energy Deficiency (CED), the government includes the national CED target in the 2015-2030 Sustainable Development Goals (SDGs)(1,2). The national target for pregnant women with CED is 5% so that the target for non-CED pregnant women is 95% but based on data obtained from Basic Health Research (Riskesdas) in 2018, the proportion of pregnant women who experience CED in Indonesia is 17.3% and is still far from from national targets(3,4). Chronic Energy Deficiency events in North Sumatra Province in 2018 based on Riskesdas obtained 14.75% of incident reports. The incidence of CED in North Sumatra Province in 2019 was 48.3% and pregnant women with CED were 14.9%. Pregnant women who experience CED are five times at risk of giving birth to babies with low birth weight (LBW). Pregnant women with nutrition and health problems have an impact on the health and safety of mothers and babies as well as the quality of the babies born(5,6).

The incidence of CED can be influenced by the nutritional status of pregnant women during conception, the socio-economic status of the mother during pregnancy, the health and nutrition of the mother, the distance between pregnancies, parity, age at first pregnancy, knowledge of good nutritious food, behavior that is still influenced by customs or restrictions on certain foods(7–10). Early detection of CED in pregnant women is not yet available because the local government (Pemda) is still focusing on curative matters. Likewise, the available health workers also prioritize CED prevention rather than prevention, such as early detection of pregnant women's conditions(11). The existing management from the government is still providing budget funds for provision of additional recovery food (PMT-P) for pregnant women. In this response, CED is still centralized and cannot be managed by the local government together with the implementing Health Center(3,12).

Transcultural midwifery is an approach in midwifery with an approach in the socio-cultural context of women's health care, Transcultural care in midwifery practice Includes models of key cultural competencies and how to apply cultural competencies and the concept of cultural safety for individual women, Provides an overview of different cultures and religions to support cultural awareness and sensitivity, addressing ethical barriers and problems in midwifery care and how to reduce them, Packed with scenarios, case studies and activities with cultural concepts(13,14). Based on the results of reports from the Province of North Sumatra in the 2018 Riskesdas in Padangsidimpuan City, there were 14.91% of pregnant women with CED s where this figure is still far below the national target of 5%. Prevention of CED that has been carried out in Padangsidimpuan City is only prevention by providing additional recovery food (PMT-P) for pregnant women and providing information related to nutrition to pregnant women when mothers make visits(15,16). Data on pregnant women with chronic energy deficiency (CED) is still quite high, but research on prevention strategies for CED is still relatively small in Indonesia. This study is done to prevent the occurrence of CED.

METHOD

Data Sources and Searches

Literature sources come from online searches of journal databases through free articles in pdf format about research on Prevention chronic energy deficiency published between 2015-2022 in online article databases PubMed, Geogle Schoolar, Sci Hub and Sciencedirect.

Study Selection

The inclusion and exclusion criteria set out in this literature review include the following Inclusion Criteria Research using both quantitative and qualitative data, research subjects are pregnant women at risk chronic energy deficiency, research published by publishers who already have a digital object identifier (DOI) or already have an ISSN, years of publication between 2015-2022, The language used is English and Indonesian.

Data Extraction

Data extraction can be done if all data that meets the requirements have been classified for all existing data. After the screening process is carried out, the results of this data extraction can be known with

certainty from the initial amount of data owned, which still meets the requirements for further analysis. The data extraction process carried out is as follows:

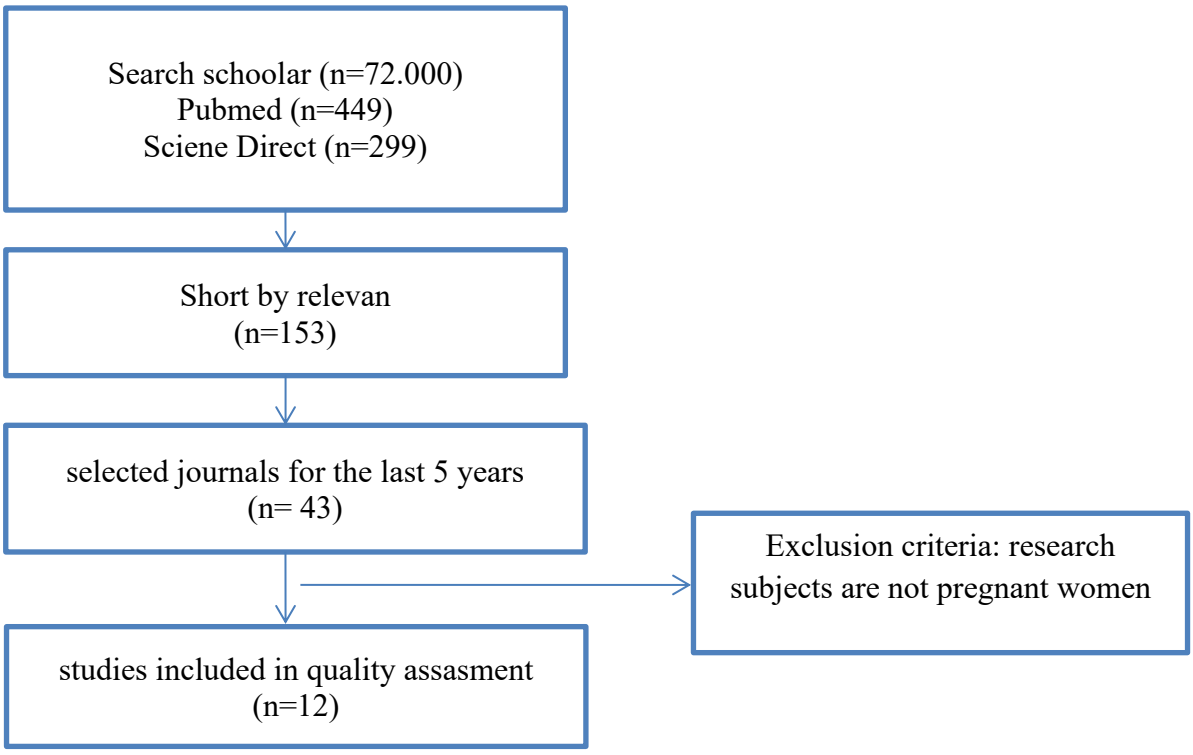

Figure 1. Summary Of Evidence Search And Selection

RESULTS

Article details are presented in table 1

Table 1. Summary of Selected Research Findings on Chronic Energy Deficiency Prevention And Management Model

No	Author/Place/Year/ Journal	Title	Design	Study Outcome
1	Rully Hevrialni and Yan Sartika, 2021(17). Poltekkes Depkes Bandung Vol 13 No 2	The Effectiveness Of Chronic Energy Deficiency Assistance Intervention With Continuity Of Midwifery Care (Comc) Approach On Pregnant Women	quasi experiment using one groups pre-test and post-test design	The findings revealed no significant difference in body weight and Hb between the provision of additional food in the form of nuggets made from local food and form biscuits. On the UAC of pregnant women, there is a significant difference between providing additional food in the form of nuggets made from local food and providing additional food (AF) in the form of biscuits.
2	Agustina Sari, 2021. Jurnal Ilmiah Kebidanan Indonesia (Indonesian Midwifery Scientific Journal)(18).	Model of the Effectiveness of Empowering Pregnant Women in Efforts to Handle	Cross Sectional study. The analytical method used is the Structural Equation Model (SEM)	There is influence from the leadership of the village head, health facilities, the role of midwives and the role of

		CED with Chronic Energy Reduction		husbands on the effectiveness of empowering pregnant women in efforts to treat CED at the Lewidamar Health Center in 2020.
3	Deni K Sunjaya et al, 2021. Progress in Nutrition , Vol. 23(19)	Development and sensory test of eel cookies for pregnant women with chronic energy deficiency using many facet Rasch model: a preliminary study	exploratory sequential design data analysis using the Rasch model	Three cookies formulae were made. Among the parameters for the sensory assessment with the consumers, texture was the most difficult crite-rion to be fulfilled (1.13 logit), followed by taste (0.18 logit), aroma (-0.34 logit), and color (-0.97 logit). The peanut-flavored cookie (0.62 logit) was preferred over cheese or chocolate-flavored. Conclusion: Cookies made from fish bone flour of Anguilla bicolor and local corn may be a better functional food option for addressing chronic energy deficiency in pregnant women.
4	Halisah, 2022. Repository Unhas(20)	The educational effect of the sipakatau family approach model and zinc supplementation in pregnant women with chronic low energy CED adolescents from underprivileged families	quasi expriment.	There was a mean difference in serum zinc (Zn) levels, Insulin-Like Growth Factor-1 (IGF-1) and hemoglobin (Hb) levels in the two groups with a $p<0.001$ value. There is a positive relationship between family approach education and zinc supplementation in short teenage pregnant women from underprivileged families on serum zinc levels, insulin like growth factor-1 (IGF-1), and hemoglobin with pregnancy outcomes.
5	Ananda, 2022. Repository Unhas(21)	The Educational Model of Chronic Energy Defeciency (CED) Prevention Using Web-Based She Smart in Adolescent Girls	Research and Development (R&D) dan Pre-experimental Design, with one group pretest-posttest design.	there is an effect of using the web-based She Smart educational model on the knowledge, attitudes, and actions of young women about chronic energy deficiency (CED).

DISCUSSION

Chronic Energy Deficiency Risk Factors

Factors that cause CED in pregnant women are influenced by direct and indirect factors. Direct factors include infectious diseases and food intake, while indirect factors include family food availability, education, mother's knowledge, family income, and health services(22,23). The results Research by Hanna and Abel showed that the educational status of the couple was low (POR = 1.7%; 95% CI: 1.19-2.53; I2 = 54.8%), multiple pregnancies (POR = 2.15%; 95%CI: 1 .27-3.64; I2 = 0%) and indicators of malnutrition (POR = 2.03%; 95%CI: 1.72-2.4, I2 = 0%) positively determine maternal malnutrition. Conversely, better household economic status (POR = 0.47%; 95%CI: 0.36-0.62; I2 = 24.2%) has a negative effect on maternal malnutrition. sociodemographic and economic factors, maternal malnutrition is influenced by inadequate nutritional intake or indicators of poor nutrition and pregnancy(24,25).

Ashraful et.al's research conducted in Bangladesh with the title Socio-economic and demographic factors influencing nutritional status among early child-bearing young mothers in Bangladesh with multiple logistic regression analysis showed that young mothers from rural areas, poor families, and those who are illiterate or those with low levels of education, working, and married to unemployed husbands are at higher risk of being thin. Young mothers who give birth without caesarean section, give birth at home, or marry at an early age and have more than two children are also at higher risk of being underweight(26–28). The results of research by Kiki Fazirah et al in Makassar with the title Risk Factors Associated With Chronic Energy Deficiency (Ced) In Pregnant Women In The Work Area Of Sudiang Raya Public Health Center Makassar City shows that employment (p-value 0.016) and income (p- value 0.044) has a significant relationship with the incidence of chronic energy deficiency, while parity (p-value 0.757) does not have a significant relationship with the incidence of chronic energy deficiency so it can be concluded that there is a relationship between work and income with the incidence of chronic energy deficiency(29,30).

Research conducted by Nur Cahya et al (2019), showed that the risk of protein energy deficiency decreased with high energy and protein intake, education level higher than high school, sufficient knowledge, high family income, age ≥20 years to 35 years, parity, using high ANC services and fulfilling food availability are factors that influence the incidence of chronic energy deficiency. Puskesmas has a large contextual influence on chronic energy shortages of 51.25%. In conclusion, there is a significant influence between food intake, level of education, occupation, knowledge, family income, age, parity, utilization of ANC services, and availability of food on chronic energy deficiency in pregnant women(31,32).

A Model For Preventing Chronic Energy Deficiency

Prevention of CED in pregnant women is not yet available because the local government (Pemda) is still focused on curative matters. Likewise, the available health workers also prioritize CED prevention rather than prevention, such as early detection of pregnant women's conditions. The existing management from the government still provides a budget for providing additional recovery food (PMT-P) for pregnant women. In this response, KEK is still limited and cannot be managed by the regional government together with the Puskesmas implementers(33,34). Prevention of the causes of CED (Embryonic Defects and Deformities) can be done through a comprehensive approach, one of which is by using the right feeding approach. In this case, it is important to provide accurate information about a nutritious diet for pregnant women, with the aim of preventing the occurrence of CED. Feeding foods rich in nutrients, such as folic acid, iron, and vitamins, is one of the most important preventive measures. In addition, education about healthy diets for pregnant women needs to be carried out in an integrated and sustainable manner, to ensure that the health of the fetus and mother is maintained during pregnancy(35–38).

The village head's leadership approach also plays an important role in the prevention of CED. As a leader at the village level, the village head has a great influence in mobilizing the community to care more about the health of pregnant women. By providing clear direction and supporting health programs at the village level, village heads can ensure that preventive efforts, such as routine health check-ups for pregnant women, are easily accessible to all residents. This strong leadership will create collective awareness in the community to prevent the occurrence of CED and improve the quality of health of

pregnant women(39–41). The use of health facilities is also very important in efforts to prevent CED. Health centers and hospitals can be strategic places to provide adequate health services for pregnant women, such as pregnancy checks, nutrition counseling, and other necessary health services(42). Medical personnel, including midwives, have an important role in providing information about CED prevention and monitoring pregnant women's health on a regular basis. Therefore, the existence of health facilities that are easily accessible and supported by competent health workers is a key element in preventing CED(43–45).

In addition, the role of the husband also cannot be ignored in the prevention of CED. The husband's support and attention to the health of the pregnant wife has a great influence on the success of the pregnant woman's empowerment program. Husbands who are actively involved in the care and fulfillment of nutrition during pregnancy can help reduce the risk of developing CED. In addition, cross-cultural treatment methods can also be applied by prioritizing local wisdom in caring for pregnant women, in accordance with local culture and customs. The use of appropriate media, such as health websites and applications, can also strengthen prevention efforts by providing easily accessible information to adolescents and the wider community about the importance of preventing CED early on(33,46,47).

CONCLUSION

Futher studies observing From the 12 articles reviewed there were 2 articles with combine a behavioral approach, where 1 article discussed the influence of leadership in the area which in my opinion this could be the basis for a transcultural approach. The transcultural approach does not exist in CED so research related to this is urgently needed.

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