

Feedback from the Field: Feasibility of the Perinatal Food Group Recall Form

Mienah Zulfacar Sharif¹, Dena R. Herman², Suzanne Haydu³, Candice Gray³,
and Karen C. Ramstrom⁴

¹*UCLA Fielding School of Public Health-Department of Community Health Sciences*

²*California State University, Northridge*

³*Maternal, Child & Adolescent Health Division, California Department of Public Health*

⁴*Center for Family Health, California Department of Public Health*

Abstract

Background: Maintaining a healthy weight can reduce risks of excessive weight gain during pregnancy and help prevent maternal and child obesity. Low-income women are high-risk for excessive weight gain during pregnancy. Nutrition counseling can help improve dietary habits, however, it is often provided by paraprofessionals who lack formal training in dietetics. There is a need for a brief dietary assessment form for paraprofessionals serving low-income perinatal women. **Purpose:** The purpose of this study was to provide feedback on the feasibility of the Perinatal Food Group Recall (PFGR) form among Comprehensive Perinatal Health Workers (CPHWs) serving low-income pregnant and post-partum mothers. **Methods:** Nine CPHWs at four clinics were asked to complete their regular dietary assessment form and then administer the PFGR. Key informant interviews with the nine paraprofessionals were conducted to obtain their feedback on the form. **Results:** The findings suggest that the form provides a feasible and easy-to-administer dietary assessment tool for use by practitioners without formal dietetics training who serve clinics in low-income communities with heavy client flow. **Conclusion:** The form can facilitate the provision of nutrition counseling among low-income mothers and build capacity among community health workers.

© 2015 Californian Journal of Health Promotion. All rights reserved.

Keywords: Obesity, pregnancy, nutrition assessment, dietary services, capacity building.

Introduction

Maintaining a healthy weight during pregnancy can help prevent excessive weight gain, improve birth outcomes (Gould Rothberg, Magriples, Kershaw, Rising, & Ickovics, 2011), and reduce maternal and child's risks of being obese (Chang, Nitzke & Brown, 2010; Herring, Rose, Skouteris, & Oken, 2012). In 2013, 40% of mothers in California exceeded the recommended amount of weight gain during pregnancy (California Department of Public Health, 2013). A risk factor for gaining excessive weight during pregnancy is being overweight or obese prior to pregnancy

(Herring, Rose, Skouteris, & Oken, 2012). Nutrition services are crucial at all stages of pregnancy, including the preconception and perinatal periods (Herman et al., 2014).

Nutrition counseling is recommended for low-income mothers due to their higher risk for weight gain during pregnancy, postpartum weight retention (Chang, Nitzke & Brown, 2010) and not meeting nutrition recommendations (Laraia, Bodnar & Siega-Riz, 2007). However, budgetary constraints often impede the ability of public programs to provide a full-time Registered Dietitian (RD). Thus, paraprofessionals often provide

nutrition counseling services that these women may otherwise not receive.

Nutrition counseling at Comprehensive Perinatal Services Program (CPSP) clinics is typically provided by administering either the Perinatal Food Frequency Questionnaire (FFQ) which generally underestimates energy and protein intake, especially for foods not commonly consumed; or the 24-hour dietary recall which may suffer from similar errors in reporting but on a smaller scale (Carroll et al., 2012; Freedman et al., 2015). Barriers that paraprofessional may face when administering these dietary assessments include: 1) lack of formal dietetics training and 2) the time these forms require to administer. Therefore, there is a need for a brief dietary assessment tool that can accommodate the training level of community health workers and provide feedback for consistent nutrition counseling. Though brief dietary assessment tools have been developed, (Nelson & Lytle, 2009; Subar, Kirkpatrick, et al., 2012; Paxton, Strycker, Toobert, Ammerman, & Glasgow, 2011), they are generally nutrient- or food-group specific and take a long time to administer.

To address these limitations in existing forms, the California Department of Public Health, Maternal, Child and Adolescent Health (MCAH) Division finalized the Perinatal Food Group Recall (PFGR) form in 2009 to be used in CPSP. CPSP provides a wide range of services to Medi-Cal eligible pregnant women, from conception through 60 days postpartum. CPSP nutrition counseling is commonly delivered by the Comprehensive Perinatal Health Workers (CPHWs), paraprofessionals who are not required to have formalized training in dietetics.

The PFGR was adapted from an Alameda County nutrition assessment tool; field tested and reviewed by nutrition experts and Perinatal Service Coordinators (PSCs). The form was intended to be a user-friendly instrument for CPHWs to administer and use as reference to provide general nutrition counseling.

The PFGR collects information on the number of servings of fruit, vegetables, milk products, meat and beans (protein foods), grains, whole grains, solid fats, beverages (caffeinated and sugar-sweetened), and extra foods (e.g. candy, cookies) consumed on a typical day. The form also provides standardized nutrition counseling advice, such as portion sizes and foods to eat. Each question has a space allotted to indicate the client's preferred food item for each specific food group. Table 1 outlines the main differences between the PFGR, the Perinatal FFQ and the Perinatal 24-hour dietary recall.

Purpose

To date, there has been no formal assessment of the applicability of the PFGR among CPHWs. The purpose of the current study was to: 1) present qualitative findings from CPHWs regarding the feasibility (i.e. the practicality) and utility (i.e. the usefulness) of the Perinatal Food Group Recall (PFGR) form; and 2) provide recommendations for CPSP nutrition practice.

Methods

Study Design and Procedures

For this study, forty clinics that were either using 24-hour dietary recalls or FFQs were invited to participate. Clinics were selected to participate based on office manager and staff buy-in and adequate clinic flow to

Table 1.

Comparison of the Perinatal Food Group Recall Form with the Perinatal 24-Hour Dietary Recall and the Perinatal Food Frequency Questionnaire

	Perinatal Food Group Recall Form ^a	Perinatal 24-Hour Dietary Recall ^b	Perinatal Food Frequency Questionnaire ^c
Interview Prompt	“On a typical day, how many servings of [.....] do you eat?”	“What did you eat yesterday, starting with when you got up?”	“How often do you eat the food listed below?” (Daily or weekly)
Food Intake Categorization and Terminology	8 groups: a. fruit b. vegetables c. milk foods d. meat and beans (protein foods), e. grains/whole grains f. solid fats g. extra foods h. beverages (caffeinated and sugar-sweetened beverages)	6 groups: a. fruit b. vegetables c. dairy d. protein e. grains f. oils	7 groups: a. fruits b. vegetables c. protein d. sweets and oils e. milk foods f. grains g. other foods
Record of Dietary Intake	Box is checked based on category of servings the respondent reports consuming of that item	Time of day each food item was consumed is recorded	Sum of consumed items in each food group is recorded
Information on Servings	Servings consumed by category (never, fewer than 3 servings, 3 or more servings) ^d	Actual number of servings consumed	Not included
Additional Information	Food group specific nutrition counseling tips provided. Refers to special materials for “Vegetarian eating.”	Actual food name written on form	Information on whether and to whom referrals are given. Notes Spanish name for foods (e.g. meat/carne). Notes foods high in folate.

A. Perinatal Food Group Recall is available at: <http://www.cdph.ca.gov/pubsforms/forms/CtrlForms/cdph4472d.pdf>.

B. 24-hour Perinatal Dietary Recall is available at: <http://www.cdph.ca.gov/pubsforms/forms/CtrlForms/cdph4472a.pdf>.

C. Perinatal Food Frequency Questionnaire is available at: http://publichealth.lacounty.gov/mch/cpsp/forms/PFFQ_Eng&Span_Blank.pdf

D. Note: some response options vary by group.

collect 50-100 forms. CPHWs were asked to complete their regular dietary assessment form (Perinatal FFQ or 24-hour Dietary recall), introduce the client to the study, and obtain consent. The CPHW was instructed to next complete the PFGR followed by a demographic questionnaire.

Interviews were conducted with CPHWs by a study team member while another team member took notes. Interviews were made available in both English and Spanish, however, all CPHWs preferred that the

interview be conducted in English. Interviews lasted approximately 60 minutes and audiotapes were transcribed. Data were analyzed based on themes that guided the interview questions. A second reviewer independently identified themes to control potential biases. This study was approved by the UCLA and State of California Committee for Protection of Human Subjects.

Participants

Between May and December 2011, a total of four CPSP clinics in four counties Los Angeles (LA), Orange (OC), Sacramento and Santa Cruz (SC) participated. At the time of the study, two of the clinics administered the 24-hour recall (Sacramento and Santa Cruz) and the other two clinics administered the FFQ (Orange County and Los Angeles). Characteristics of clients across the clinics were similar in that they were predominantly Hispanic/Latina (94% in LA, 93% in OC, 100% in Santa Cruz and 91% in Sacramento) and low-income (income \$10,000-25,000: 94% in LA, 63% in OC, 44% in Santa Cruz and 69% in Sacramento).

Clinic managers were asked to invite all of their CPHWs who administer dietary assessments to participate. A total of 9 CPHWs (1 in LA, 2 in OC, 5 in SC, 1 in Sacramento) participated in the data collection and interviews. Only 2 CPHWs did not participate (1 from Los Angeles and 1 from Orange County) due to their limited hours at the clinic. All but one CPHW was female and all identified as Latino/a.

Measures

Interviews followed a semi-structured guide to obtain CPHW feedback and recommendations for improving the PFGR. Main interview themes included: advantages and disadvantages of using the PFGR in comparison to the existing form and suggestions for improving the PFGR.

Results

The PFGR in Comparison to the Existing Form (N=9)

All 9 participating CPHWs reported that the PFGR was easy to use and clear. All CPHWs reported that the PFGR assessment took less time than their existing form.

CPHWs also reported that the tips on the PFGR allow for more consistent and basic nutrition counseling that can be given directly following each question, “I don’t have to go to my notes and explain to the patient and give them handouts, it’s right there in front of me.” (OC, #2).

The interviews also elucidated some disadvantages of the PFGR. For example, CPHWs using the 24-hour dietary recall reported that the PFGR omitted detailed information on what the client ate most recently and that this information was necessary to provide appropriate dietary counseling; “The new form [the PFGR] was more general and the old form [the 24-Hour Dietary Recall] was more specific.” (SC, #3). A specific disadvantage of the PFGR was the lack of visuals to portray appropriate portion sizes; “I kept hearing from the patients, over and over, to get the visuals [of portion sizes] to see how much they were actually eating. It was hard to get actual food intake.” (SC, #4) Additionally, the PFGR, in comparison to the FFQ, lacks a space to make notes about referrals.

Feedback on Implementing the PFGR at CPSP Clinics throughout California (N=8)

CPHWs at three (Sacramento, Los Angeles, Orange County) clinics interviewed recommended replacing their current dietary assessment form with the PFGR. As one CPHW explained, “...I didn’t have any complaints from the patients; it was easy for them to understand and for me to work with.” (Sacramento). However, at one clinic, all five of the CPHWs using the 24-hour dietary recall (Santa Cruz County) preferred combining elements of the two forms rather than adopting the PFGR as is, “Both go hand in hand and complement each other.” (SC, #1).

Suggestions for Improving the PFGR (N=5)

Key informants provided suggestions for how to improve the next iteration of the PFGR. Key informants currently using the 24-hour dietary recall were concerned about the lack of a visual model representing serving sizes on the PFGR. This was explained by one CPHW, “[When using the PFGR] We first have to show them how many ounces are in a glass, then they would have a better idea of how much they are actually eating.” (SC, #1)

Additionally, key informants suggested streamlining the tips on the PFGR with information consistent with that provided by WIC, as most CPSP clients also participate in WIC. One CPHW expressed concern that clients were being told to avoid fruit juice on the counseling portion of the PFGR, but at the same time clients receive juice from their WIC food packages (Table 2).

Table 2.

Results of Key Informant Interviews at CPSP Clinics	
Clinics Currently Using the 24-Hour Dietary Recall	Clinics Currently Using the Food Frequency Questionnaire
The PFGR in Comparison to the Existing Form (N=9)	
<p>“I kept hearing that they [clients] thought they got more detailed information from the old forms.”</p> <p>“Everything was very clear I didn’t have a problem with the form [the PFGR] what-so-ever so I was very pleased. The questions were straight-forward and clear. It was just the information not gotten because of the portion sizes.”</p>	<p>“I guess, there’s something I didn’t see [on the PFGR]. The one from CPSP [Food Frequency Questionnaire] has a place to mark if I made any referrals and where did I make it to. For example, if I give any handouts or referrals to nutritionists there’s a box to note when their appointment is.</p> <p>“It [the PFGR] helped answer different information about the intake and was closer to what they were actually eating as opposed to just categories....”</p> <p>“It [the PFGR] was more useful to counsel people.”</p>
Feedback on Implementing the PFGR at CPSP Clinics Throughout California (N=8)	
<p>“This [the PFGR] will cover something that the other one [the 24-Hour Dietary Recall] doesn’t. For example, how often do you eat this or that and then what did you eat yesterday. Both go hand in hand and complement each other.”</p>	<p>“...I would be in favor of it. I don’t know if it will take too much resources and time to implement. I didn’t have any complaints from the patients; it was easy for them to understand and for me to work with...I don’t think you will have too many problems getting it [the PFGR] approved.”</p>
Suggestions for Improving the PFGR (N=5)	
<p>“[When using the PFGR] We first have to show them how many ounces are in a glass then they would have a better idea of how much they are actually eating.</p> <p>“We do give out a copy of portion sizes and how much they [clients] should be eating each day after we give the counseling and give recommendations. We give them out to them so they have a visual and I tell them to put it on their fridge and remember to eat your vegetables....we do add them [the visuals] to the assessment.”</p>	<p>“What would also help is to combine the PFGR with the WIC Program because sometimes they contradict each other. We tell them [clients] not to drink juice but they get juice because WIC still gives juice. There needs to be more consistency across programs.”</p>

Discussion

Nutrition counseling can help women prevent excessive weight gain during pregnancy and also ensure adequate intake of nutrients before and during pregnancy. Given budgetary constraints that limit the provision of services by RDs in large, public programs, there is a need for a tool that allows paraprofessionals to provide general and consistent nutrition counseling. This study suggests the PFGR can help build capacity among paraprofessionals by providing them a feasible and quick dietary assessment tool at clinics with heavy client flow.

The feedback collected, including the disadvantages and advantages, can inform revisions to nutrition assessment tools. Interviews highlighted the need for visuals on portion sizes that the PFGR currently lacks. A potential strategy for addressing this limitation is for practitioners to use visual aids with clients, such as the California MyPlate for Moms (CA Dept. of Public Health). Moreover, the desire for more detailed information, expressed by some CPHWs, will also help inform modifications to the form to improve service delivery. Finally, feedback elucidated the benefit of reviewing common recommendations between WIC and CPSP during training sessions for CPHWs to increase their 'buy-in' for using these new forms and also improve consistency of messaging for program participants.

Limitations

This study had several limitations. First, findings are based on a small sample size of CPHWs from four clinics, and, though

distributed across the state, cannot be generalized to all CPHWs working in CPSP clinics. Second, data were collected from

four of 40 invited clinics that met inclusion criteria (agreed to participate and had adequate client flow to complete at least 50 forms without interviewing the same participant twice), which also limits the generalizability of the findings. In addition, due to irregular client flow and staff turnover, there was some variation in the number of forms collected between the four clinics (Total of 284 forms: 49 collected in LA, 35 collected in Sacramento County, 99 collected in OC and 101 collected in SC).

Implications for Future Research

The findings are based on a pilot feasibility study. There is need for validation studies of the PFGR. In addition, future studies should assess the effect of the PFGR on outcomes including improving dietary habits, health literacy, and weight outcomes. Moreover, future research can include qualitative assessments of clients' perspective on the counseling received from the PFGR in comparison to existing forms and whether it provides more useful or feasible recommendations for maintaining dietary changes. Future efforts can also help evaluate the feasibility and cost-effectiveness of expanding training opportunities on nutrition counseling for CPHWs and other capacity building opportunities to improve service delivery. In conclusion, feedback from CPHWs suggests that a brief assessment tool such as the PFGR could facilitate the provision of consistent nutrition counseling across large programs serving at-risk, perinatal populations.

Acknowledgments

We would like to thank the following people including the California Perinatal Services Coordinators, Clinic Managers and Comprehensive Perinatal Health Workers who helped facilitate and complete the data collection: Nancy Diehl, Kris Meier, Oscar

Alvarez, Vicki Verkle, Eva de Jesus, Veronica Leon, Isabel Diaz, Mildred Jacobo, Guadalupe Saucedo, Consuelo Rodriguez, Maria Hummel, Sylvia Rodriguez.

We would also like to thank Helen Brown and Sanghi Rajbhandari for their support for this project including their feedback on the next steps for improving the form.

MZ Sharif was partially supported by Award Numbers 5T32AG033533 and

R24HD041022 from the National Institute on Aging. MZ Sharif also received support from the National Heart, Lung and Blood Institute (NHLBI) at the National Institutes of Health (NIH) by grant numbers P50 HL105188 and R25HL108854 from. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute on Aging nor the National Institutes of Health.

References

- California Department of Public Health. 2013. Maternal and Infant Health Assessment Survey. California Department of Public Health.
- California Department of Public Health. MyPlate for Moms. Retrieved from: <http://www.cdph.ca.gov/programs/NutritionandPhysicalActivity/Documents/MO-NUPA-MyPlateforMoms.pdf>
- Carroll, R.J., Midthune, D., Subar, A.F., Shumakovich, M., Freedman, L.S., Thompson, F.E., & Kipnis, V. (2012). Taking advantage of the strengths of 2 different dietary assessment instruments to improve intake estimates for nutritional epidemiology. *American Journal of Epidemiology*, 175, 340–347.
- Chang, M.W., Nitzke, S., & Brown, R. (2010). Design and outcomes of a Mothers in Motion behavioral intervention pilot study. *Journal of Nutrition Education and Behavior*, 42, S11-S21.
- Freedman, L.S., Commins, J.M., Moler, J.E., Willett, W., Tinker, L.F., Subar, A.F... & Prentice, R.L. (2015). Pooled results from 5 validation studies of dietary self-report instruments using recovery biomarkers for potassium and sodium intake. *American Journal of Epidemiology*, 181, 473-487.
- Gould Rothberg, B.E., Magriples, U., Kershaw, T.S., Rising, S.S., & Ickovics, J.R. (2011). Gestational weight gain and subsequent postpartum weight loss among young, low-income, ethnic minority women. *American Journal of Obstetrics & Gynecology*, 204, 1-11.
- Herman, D.R., Baer, M.T., Adams, E., Cunningham-Sabo, L., Duran, N., Johnson, D., & Yakes, E. (2014). Life Course Perspective: Evidence for the Role of Nutrition. *Journal of Maternal and Child Health*, 18, 450-61.
- Herring, S.J., Rose, M.Z., Skouteris, H., & Oken, E. (2012). Optimizing weight gain in pregnancy to prevent obesity in women and children. *Diabetes, Obesity and Metabolism*, 14, 195-203.
- Laraia, B.A., Bodnar, L.M. & Siega-Riz, A.M. (2007). Pregravid body mass index is negatively associated with diet quality during pregnancy. *Public Health Nutrition*, 10, 920–926.
- Nelson, M.C., & Lytle, L.A. (2009). Development and evaluation of a brief screener to estimate fast-food and beverage consumption among adolescents. *Journal of the American Dietetic Association*, 109, 730-734.

- Paxton, A.E., Strycker, L.A., Toobert, D.J., Ammerman, A.S., & Glasgow, R.E. (2011). Starting the conversation performance of a brief dietary assessment and intervention tool for health professionals. *American Journal of Preventative Medicine*, 40, 67-71.
- Subar, A.F., Kirkpatrick, S.I., Mittl, B., Zimmerman, T.P., Thompson, F.E., Bingley, C., ... & Potischman, N. (2012). The Automated Self-Administered 24-hour dietary recall (ASA24): a resource for researchers, clinicians, and educators from the National Cancer Institute. *Journal of the Academy of Nutrition and Dietetics*, 112, 1134-1137.

Author Information

*Mienah Zulfacar Sharif, MPH

UCLA Fielding School of Public Health-Department of
Community Health Sciences
650 Charles E. Young Drive South, 26-081 CHS, Los
Angeles, CA 90095
Email: mienah@gmail.com

Dena R. Herman, PhD, MPH, RD
California State University, Northridge
18111 Nordhoff Drive, Northridge, CA 91330
Email: dena.herman@csun.edu

Suzanne Haydu, MPH, RD
Maternal, Child & Adolescent Health Division
California Department of Public Health
1615 Capitol Avenue, MS-8306, Sacramento, CA
95814
US Post P.O. Box 997420, Sacramento, CA 95899-
7420
Email: Suzanne.Haydu@cdph.ca.gov

Candice Gray, MPH, CHES
Maternal, Child & Adolescent Health Division
California Department of Public Health
1615 Capitol Ave., MS 8400, PO Box 997420,
Sacramento CA, 95899-7420
Email: candice.gray@cdph.ca.gov

Karen C. Ramstrom, DO, MSPH,
Center for Family Health
California Department of Public Health
1615 Capitol Avenue, PO Box 997377, MS 0510,
Sacramento, CA 95899-7377
Email: Karen.Ramstrom@cdph.ca.gov

* corresponding author