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Influence of couple nutritional counselling versus maternal nutritional counselling on maternal attitude about proper maternal dietary practices and weight gain monitoring during pregnancy in Goma town, DR Congo.

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Abstract

Background: Addressing maternal health disparities in low-resource settings necessitates effective community-based interventions. This study utilized a cluster-randomized controlled trial design to evaluate the efficacy of maternal and couple counseling interventions on attitudes related maternal dietary practices and weight gain monitoring during pregnancy.

Objective: The study aimed to assess the impact of maternal and couple counseling interventions on maternal and compare the influence of couple nutritional counselling versus maternal nutritional counselling on maternal attitude about proper maternal dietary practices and weight gain monitoring during pregnancy in Goma town, DR Congo.

Methods: Three study groups, each comprising 84 participants, were established: a control group receiving standard counseling, a maternal counseling group, and a couple counseling group. Sample size determination and randomization were conducted according to established guidelines, with Microsoft Office Excel 2007 facilitating random allocation. The interventions involved tailored counseling sessions designed to meet the specific needs of each group. Data collection utilized Focus Group Discussions and In-depth Interviews, and analysis employed Chi-square, ANOVA, and T-test.

Results: Preliminary findings indicate that both maternal and couple counseling interventions positively influenced attitudes on maternal dietary practices and weight gain monitoring. Participants in the intervention groups demonstrated improved attitudes and opinions, in reference to recommended dietary practices compared to the control group. Statistical analyses revealed significant differences among the study groups, indicating the effectiveness of the interventions.

Conclusion: Maternal and couple counseling interventions show promise in enhancing maternal nutrition and weight gain monitoring during pregnancy. These findings emphasize the importance of targeted community-based interventions in promoting maternal and child health in resource-constrained settings.

Keywords: Influence; Nutritional counseling; Attitude; Pregnancy; Dietary practices; Weight gain monitoring

Introduction

Maternal undernutrition during pregnancy is a prevalent issue with serious implications for both mothers and infants. In turn, maternal dietary

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attitudes are among the important factors influencing dietary practices among pregnant women. Insufficient dietary intake among pregnant women often leads to adverse birth outcomes such as intrauterine growth retardation, low birth weight, and pre-maturity [1]. These consequences not only impact the immediate health of mothers and infants but also have broader ramifications for family well-being and community development, hindering productivity and socio-economic progress. While healthcare providers in Goma Town frequently discuss healthy eating habits with pregnant women, there are gaps in attitudes towards proper nutrition before and during pregnancy [2]. Additionally, existing programs primarily focus on maternal nutritional counseling during routine antenatal care visits, overlooking the need for comprehensive interventions tailored to pre-conception and pregnancy periods. As such, there is a pressing need to shape positive attitudes towards dietary practices among pregnant women to ensure better health outcomes for both mothers and infants.

In recent years, there has been a growing recognition of the importance of involving both pregnant women and their partners in nutrition education and decision-making processes. Couple counseling interventions have emerged as a promising approach to address this gap, promoting shared responsibility and mutual support in developing positive attitudes towards making healthy dietary choices. This collaborative effort has the potential to overcome cultural and social barriers and enhance dietary diversity and nutritional supplementation among pregnant women. Given the high prevalence of undernutrition and anemia among pregnant women in regions like Goma Town, targeted interventions addressing dietary deficiencies and lifestyle behaviors are essential to improve maternal and child health outcomes. Although current interventions primarily focus on routine antenatal counseling sessions and maternal nutritional counseling for specific health conditions, there remains a critical need for comprehensive targeted counseling interventions that prioritize shaping positive attitudes towards dietary practices among pregnant women. Against this backdrop, this study aimed to evaluate the effectiveness of maternal nutritional counseling versus couple counseling interventions in improving maternal attitudes towards dietary practices. By focusing on enhancing attitudes, this study sought to inform future strategies aimed at combating maternal malnutrition and enhancing maternal and child health outcomes in the region.

Materials and Methods

Study design

This was a community-based cluster-randomised controlled trial. There were three study groups of 84 participants each: two intervention groups and a control group. One intervention group received maternal counselling and the other received couple counselling. The control group received the usual standard counselling from the health facility.

Study area and target population

The study was conducted in Goma town, DR Congo. The target population was pregnant women in their first trimester attending Reproductive and Child Health (RCH) clinic in Goma town and their partners.

Sample Size Determination and Randomisation

The sample size was calculated for a two-sided significance of 5%, power of 80% and a moderate anticipated standardized effect of 0.5 as recommended by Cohen (1988) and Lipsey (1990). This was the formula used: $N= 16 (\sigma \text{ plan}/ \delta \text{ plan})^2 = 16/ \Delta^2\text{plan}$.

Microsoft Office Excel 2007 was used to randomly allocate the three sub-locations into the 3 three study groups.

Description of the study Interventions

Control group (study group 1): in this group no schedule, no counselling session was given from research team. Maternal counselling (study group 2): In this study group each participant had have a minimum of eight contacts with a counsellor (7 ante-natal and 1 post-natal). Couple counselling (study group 3): The couples (pregnant women and their partners) in this group were counselled together and in privacy. The counselling sessions were almost similar to those of the maternal counselling group in terms of venue, steps and content. However, father were given additional messages on benefits of paternal contributions into the promotion of maternal nutrition during pregnancy.

Data collection and analysis

Focus Group Discussion guide and In-depth interview were used to collect data on the knowledge regarding maternal dietary practices and weight gain monitoring before and after the intervention. Chi-square, ANOVA and T-test were used to analyze data. P-value of 0.05 were used to check the influence among groups.

Results

Maternal demographic and socio-economics characteristics by study group

The study established the average age of participating mothers to be 26 years, hinting at a cohort of relatively young expectant mothers, potentially indicative of a stage in life where family planning and childbearing are common. However, the standard deviation of ±6 years suggests some diversity within the sample, encompassing both younger and older pregnant women. Delving deeper into education levels, the data unveils a spectrum of educational attainment among pregnant women. Notably, 40% have achieved at least a secondary level of education, indicating a baseline of literacy

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and numeracy skills that could potentially empower these women to make informed decisions regarding their health and well-being. Furthermore, the presence of 33% with tertiary education underscores a segment of the population with potentially greater access to economic opportunities and resources. However, the finding that 4% have no formal education highlights a concerning gap in access to education, which could perpetuate cycles of poverty and limit these women's ability to advocate for themselves and their children.

Occupational diversity emerged as another key theme, with the dataset revealing a range of economic activities among pregnant women. The fact that 43% are engaged in small-scale trading suggests a degree of entrepreneurial spirit and economic agency within the sample. Conversely, the 27% who are unemployed may face challenges in accessing financial resources and securing stable livelihoods, potentially exacerbating vulnerability during the crucial period of pregnancy. The observation that all (100%) households are headed by males sheds light on prevailing gender norms and power dynamics within the studied population. This finding underscores the importance of gender-sensitive approaches in addressing maternal and child health issues, as women's autonomy and decision-making power within households can profoundly influence health-seeking behaviors and access to essential services.

Moving on to household size, the average of 4.7 individuals hints at varying degrees of family structures and support networks among pregnant women. Larger household sizes may present both challenges and opportunities, affecting resource allocation, caregiving responsibilities, and overall household dynamics. Moreover, food security informed concern. The predominance of purchasing (90%) as a source of food underscores the reliance on market-based systems to meet dietary needs. However, the presence of farming as a significant means of food acquisition (10%) highlights the importance of agricultural livelihoods and subsistence farming practices within the studied population. Moreover, the allocation of household income to food represents another dimension of food security. The average allocation of 37.5% of household income to food suggests a baseline level of food affordability and access within the sample. However, disparities in income and purchasing power may exist within households, potentially affecting dietary diversity and nutritional adequacy. The finding that 68% of households have access to safe water and sanitation facilities indicates a relatively high level of coverage within the studied population. However, the presence of discrepancies among groups suggests potential inequities in access, with certain subgroups facing barriers to essential services (Table 1).

Table 1: Maternal demographic and socio-economics characteristics by study group

Characteristics	Total	Control	Maternal	Couple	ANOVA/ Chi-square
	n=252	n=84	n=84	n=84	
	n(%)	n(%)	n(%)	n(%)	p-value
Age of the pregnant women (Means ±SD)	**26±6**	25**±6**	27**±5**	26**±5**	0.071
Education level of the mother					
No education	11(4)	5(6)	4(5)	2(2)	
Primary	55(22)	17(20)	15(18)	23(27)	χ2=0.989
Secondary	102(40)	37(44)	33(39)	32(38)	
Tertiary	84(33)	25(30)	32(38)	27(32)	
Occupation of the pregnant women					
Not employed	68(27)	23(27)	20(24)	25(30)	
Employed	54(21)	16(19)	24(29)	14(17)	χ2=0.791
Small scale trading	108(43)	37(44)	31(37)	40(48)	
Casual labor	22(9)	8(10)	9(11)	5(6)	
Sex of the house head					
Male	252(100)	84(100)	84(100)	84(100)	χ2=0.333
Female	0(0)	0(0)	0(0)	0(0)	
Household size (Means ±SD)	4.7**±1.2**	5**±2**	5**±1.7**	4**±1.3**	ANOVA 0.172
Number of under five years old children (Means ±SD)	1**±0.3**	1**±0.12**	1**±0.21**	1**±0.43**	ANOVA 0.097
Ways of getting food					
Farming and buying	26(10)	9(11)	4(5)	13(15)	χ2=0.267
Buying	226(90)	75(89)	80(95)	71(85)	

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Food aid/donation	0(0)	0(0)	0(0)	0(0)	
Percentage of household income allocated to food (Means ±SD)	37.5±9.2	37.5±11	38.3±7.8	36.8±7.7	ANOVA 0.343
Access to safe water and sanitation facilities					χ^2= 0.567
Yes	169(68)	57(68)	49(58)	63(75)	
No	83(32)	27(32)	35(42)	21(25)	

Maternal attitude toward nutrition requirements during pregnancy at baseline

The study established various aspects of attitudes towards maternal health and nutrition, providing insights into the response methods and perspectives across different study groups. The majority of respondents across all study groups either strongly disagree (54.76%) or disagree (31.35%) with the notion that pregnant women should avoid food taboos. This trend persists consistently across the total sample as well as within the control, maternal, and couple groups. The chi-square test indicates a lack of significant difference in responses among the groups, suggesting a uniform stance on this issue regardless of demographic factors. Regarding alcohol and tobacco consumption during pregnancy, the data reveals a more varied spectrum of attitudes. While a significant portion of respondents express uncertainty (59.12%) about whether these substances should be avoided, a notable proportion also disagree with this notion (29.34%). Interestingly, there's a slight difference in responses among the groups, with the control group showing the lowest uncertainty (55.95%) compared to the maternal (57.14%) and couple (64.28%) groups. However, the chi-square test suggests that this difference is not statistically significant (p = 0.097) (Table 2).

Opinions on increasing meal frequency and water intake during pregnancy are relatively consistent. The majority agree that pregnant women should take at least one more meal per day (54.36%) and drink at least two more glasses of water per day (64.68%). There's a slight variation in responses among the groups, with the control group showing the highest agreement regarding increased meal frequency (55.95%) and the couple group expressing the highest agreement on increased water intake (51.19%). However, once again, the chi-square tests indicate non-significant differences among the groups (p = 0.862 and p = 0.674, respectively). Further, the majority express uncertainty (57.14%) about whether pregnant women should consume at least five food groups over ten items per day. Again, there's no significant difference in responses among the groups (p = 0.732).

In terms of monitoring weight during pregnancy, the majority agree (25.79%) that pregnant women should do so monthly, with a significant proportion expressing uncertainty (74.20%). Once more, there's no significant difference among the groups in their responses (p = 0.543). Additionally, opinions regarding the effect of weight gain during pregnancy on baby birth weight are varied, with a considerable portion expressing uncertainty (56.34%). Interestingly, there's a slight difference in responses among the groups, with the maternal group showing the highest level of uncertainty (63.09%), while the control group has the lowest (54.76%). However, as indicated by the chi-square test, these differences are not statistically significant (p = 0.991) (Table 2).

The influence of counselling on maternal attitude about proper maternal dietary practices and weight gain monitoring by study group

The majority of the participants agreed that pregnant women should consume at least five food groups with over ten items per day (56%), while a significant portion disagree with this notion (44%) (Table 3). Interestingly, there's a notable difference in responses among the groups, with the couple group showing the highest agreement (69%) and the control group exhibiting the highest disagreement (41%). The chi-square test suggests a significant difference in responses among the groups (p = 0.001), highlighting varying perspectives on this dietary recommendation.

Similarly, opinions on increasing water intake during pregnancy also vary. While a considerable portion agrees that pregnant women should drink at least two more glasses of water per day (46%), a significant proportion disagrees with this suggestion (54%). Again, there's a notable difference among the groups, with the control group showing the highest disagreement (87%). The chi-square test indicates a significant difference in responses among the groups (p = 0.001). Regarding meal frequency, the overwhelming majority agree that pregnant women should take at least one more meal per day (94%), with only a small percentage disagreeing (6%). This uniform agreement persists across all study groups, with no significant difference noted (p>0.05). Further, the majority agreed with the recommendation on avoidance of food taboos during pregnancy (68%), while a significant portion disagrees (32%). There's a notable difference in responses among the groups, with the control group showing the highest disagreement (20%). The chi-square test indicates a significant difference in responses among the groups (p = 0.001), suggesting varying attitudes towards dietary restrictions during pregnancy.

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Table 2: Maternal attitude toward nutrition requirements during pregnancy at baseline

Aspects of attitude	Response methods		Study groups			Chi-square P-value
		Total (n=252)	Control (n=84)	Maternal (n=84)	Couple (n=84)	
		n(%)	n(%)	n(%)	n(%)	
A pregnant women should avoid food taboos	Strongly Disagree	138(54.76)	45(53.57)	47(55.95)	46 (54.76)	0.902
	Disagree	79(31.35)	27(32.14)	23(27.38)	29(34.52)	
	Uncertain	30(11.90)	12(14.28)	10(11.90)	8(9.52)	
	Agree	5(1.20)	0(0.0)	4(4.76)	1(1.19)	
	Strongly Agree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	
Alcohol and tobacco consumption should be avoided during pregnancy	Strongly Disagree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0.097
	Disagree	74(29.34)	21(25.0)	26(31.0)	27(32.14)	
	Uncertain	149(59.12)	47(55.95)	48(57.14)	54(64.28)	
	Agree	27(10.71)	14(16.67)	10(11.90)	3(3.57)	
	Strongly Agree	2(0.79)	2(2.38)	0(0.0)	0(0.0)	
A pregnant women should take at least one more meal per day	Strongly Disagree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0.862
	Disagree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	
	Uncertain	93(36.90)	30(35.71)	35(41.67)	28(33.33)	
	Agree	137(54.36)	47(55.95)	41(48.80)	49(58.33)	
	Strongly Agree	22(8.73)	7(8.33)	8(9.52)	7(8.33)	
A pregnant women should drink at least 2 more glass of water per day	Strongly Disagree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0.674
	Disagree	163(64.68)	62(73.80)	58(69.04)	43(51.19)	
	Uncertain	81(32.14)	21(25.0)	23(27.38)	37(44.05)	
	Agree	8(3.17)	1(1.19)	3(3.57)	4(4.76)	
	Strongly Agree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	
A pregnant women should eat at least five group over ten food items per day	Strongly Disagree	6(2.38)	2(2.38)	4(4.76)	0(0.0)	0.732
	Disagree	87(34.52)	29(34.52)	28(33.33)	30(35.71)	
	Uncertain	144(57.14)	49(58.33)	44(52.38)	51(60.71)	
	Agree	15(5.95)	4(4.76)	8(9.52)	3(3.57)	
	Strongly Agree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	
A pregnant woman should monitor their weight monthly	Strongly Disagree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0.543
	Disagree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	
	Uncertain	187(74.20)	65(77.38)	59(70.23)	63(75.0)	
	Agree	65(25.79)	19(22.61)	25(29.76)	21(25)	
	Strongly Agree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	
Weight gain during pregnancy has effect on baby birth weight	Strongly Disagree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0.991
	Disagree	90(35.71)	29(34.52)	36(42.85)	25(29.76)	
	Uncertain	142(56.34)	46(54.76)	43(51.19)	53(63.09)	

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	Agree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	
	Strongly Agree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	
Husband/ father should be involved in maternal nutrition during pregnancy	Strongly Disagree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0.214
	Disagree	98(57.93)	37(44.04)	28(33.33)	33(33.33)	
	Uncertain	146(57.94)	42(50.0)	55(65.48)	49(58.33)	
	Agree	8(3.17)	5(5.95)	1(1.19)	2(2.38)	
	Strongly Agree	0(0.0)	0(0.0)	0(0.0)	0(0.0)	

Opinions on avoiding alcohol and tobacco consumption during pregnancy also vary significantly. While a considerable portion agrees with this recommendation (40%), a majority disagree (60%). There's a notable difference in responses among the groups, with the control group showing the highest disagreement (76%). The chi-square test indicates a significant difference in responses among the groups ($p = 0.001$), highlighting divergent perspectives on this health guideline. Moreover, the majority agreed that pregnant women should monitor their weight monthly (72%), while a significant portion disagrees (28%). There's a notable difference among the groups, with the control group showing the highest disagreement (54%). The chi-square test indicates a significant difference in responses among the groups ($p = 0.001$), suggesting varying attitudes towards weight monitoring during pregnancy.

Relating to the impact of weight gain during pregnancy on baby birth weight, a majority agreed that weight gain during pregnancy has an effect on baby birth weight (66%), a considerable portion disagrees (34%). There's a notable difference in responses among the groups, with the control group showing the highest disagreement (55%). The chi-square test indicates a significant difference in responses among the groups ($p = 0.001$), highlighting divergent perspectives on this issue. Ultimately, some participants agreed that husbands or fathers should be involved in maternal nutrition during pregnancy, while a significant portion disagreed (73%). There's a notable difference among the groups, with the control group showing the highest disagreement (93%). The chi-square test indicates a significant difference in responses among the groups ($p = 0.001$)Table 3), suggesting varying attitudes towards the role of husbands/fathers in maternal nutrition.

The Influence of counselling on maternal attitude scores by study group

The study aimed to compare the influence of couple nutritional counseling versus maternal nutritional counseling on maternal attitudes about proper maternal dietary practices and weight gain monitoring during pregnancy in Goma town, DR Congo. Analyzing the mean knowledge scores at baseline and end line provides valuable insights into the effectiveness of the different counseling approaches. At baseline, the mean knowledge scores were relatively similar across all three groups, with the maternal group slightly lower than the control and couple groups. However, at the end line, significant differences emerged, indicating the impact of the counseling interventions.

The end line mean knowledge score for the control group increased from 22.5 to 35.1 (Table 4), representing a difference of 12.6 points. Similarly, the maternal group saw a substantial increase from 21.3 to 51.4, resulting in a difference of 30.1 points. The couple group exhibited the most significant improvement, with the mean knowledge score jumping from 21.2 to 60.1, yielding a difference of 38.9 points. Statistical analysis using the T-test revealed that the differences observed in all three groups were statistically significant. The p-values of 0.048, 0.041, and 0.001 for the control, maternal, and couple groups, respectively, indicate a high level of significance in the observed changes. Further analysis was conducted to compare the differences in knowledge scores between groups. Comparing the mean knowledge score differences between group 2 (maternal) and group 1 (control) revealed an increase of 16.3 points, indicating a significant impact of maternal counseling over control. Similarly, comparing group 3 (couple) with group 2 (maternal) showed an increase of 8.8 points, signifying the additional benefit of couple counseling over maternal counseling alone.

Additionally, comparing group 3 (couple) with group 1 (control) demonstrated the most significant difference, with an increase of 26.3 points, highlighting the combined effect of couple counseling compared to no counseling. These findings suggest that both maternal and couple nutritional counseling interventions led to substantial improvements in maternal knowledge about dietary practices and weight gain monitoring during pregnancy. Furthermore, the data indicates that the couple counseling approach yielded the most significant improvements, emphasizing the importance of involving partners in maternal health interventions.

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Table 3: The influence of counselling on maternal attitude about proper maternal dietary practices and weight gain monitoring by study group

Aspect of maternal attitude	Total	Control	Maternal	Couple	P-value
					chi square
	n=250	n=83	n=83	n=84	
A pregnant women should eat at least five group over ten food items per day					
Agree					0.001
Disagree	141(56)	34(41)	49(59)	58(69)	
	109(44)	49(59)	34(41)	26(31)	
A pregnant women should drink at least 2 more glass of water per day					
Agree					0.001
Disagree	116 (46)	11 (13)	52 (63)	53 (63)	
	134 (54)	72 (87)	31 (37)	31 (37)	
A pregnant women should take one more meal per day					
Agree					
Disagree	234 (94)	69 (83)	81 (98)	84 (100)	
	16 (6)	14 (17)	2 (2)	0 (0)	
A pregnant women should avoid eating food taboos					
Agree					0.001
Disagree	169 (68)	66 (80)	48 (58)	55 (65)	
	81 (32)	17 (20)	35 (42)	29 (35)	
Alcohol **and** tobacco **consumption should be avoided during** pregnancy					
Agree					0.001
Disagree	101(40)	20 (24)	44 (53)	37 (44)	
	149 (60)	63 (76)	39 (47)	47 (56)	
A pregnant women should monthly **monitor his weight**					
Agree					0.001
Disagree	180 (72)	38 (46)	66 (80)	76 (90)	
	70 (28)	45 (54)	17 (20)	8 (10)	
Weight gain during **pregnancy has** effect **on baby birth weight**					
Agree					0.001
Disagree	164 (66)	37 (45)	60 (72)	67 (80)	
	86 (34)	46 (55)	23 (28)	17 (20)	
Husband/ father should be involved in maternal nutrition during pregnancy					
Agree					0.001
Disagree	68 (27)	6 (7)	11 (13)	51 (61)	
	182 (73)	77 (93)	72 (87)	33 (39)	

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Table 4: Influence of counselling on maternal attitude scores by study group

Maternal	Mean knowledge score			T-test
Study group	Baseline mean score ±SD	End line mean score ± SD	Difference (¹SE)	
Control (group 1)	22.5±7.22	35.1±48.03	12.6	0.048
Maternal (group 2)	21.3±7.76	51.4±20,24	30.1	0.041
Couple (group 3)	21.2±3.69	60.1±14.97	38.9	0.001
	Baseline Difference	End line Difference	Difference in Difference	
Mean of group 2 minus mean of group 1	-1.2	16.3	17.5	0.067
Mean of group 3 minus mean of group 2	-0.1	8.7	8.8	0.003
Mean of group 3 minus mean of group 1	-1.3	25	26.3	0.028

Discussion

The study delved into the influence of couple nutritional counseling versus maternal nutritional counseling on maternal attitudes regarding proper maternal dietary practices and weight gain monitoring during pregnancy in Goma town, DR Congo. Partner involvement in behavioral intervention seems to improve the dietary attitudes of pregnant women, ultimately influencing their dietary choices and ultimately, their nutrition status [9]. In the study, assessing the mean knowledge scores at baseline and end line shed light on shifts in attitudes facilitated by the different counseling approaches. Initially, baseline knowledge scores were relatively comparable across all groups, albeit with slight differences. However, at the end line, notable disparities emerged, indicating the impact of counseling interventions on maternal attitudes. Across the board, there were substantial increases in knowledge scores from baseline to end line, signifying shifts in attitudes towards maternal dietary practices and weight gain monitoring. Comparing these findings with previous research provides valuable insights into the effectiveness of different counseling strategies. The importance of evidence-based interventions for improving maternal and child nutrition cannot be overemphasized. The significant improvements observed in maternal attitudes towards dietary practices and weight gain monitoring in our study align with the goal of implementing effective interventions to enhance maternal and child health outcomes [1]. The study's findings corroborate that both maternal and couple counseling interventions led to substantial improvements in maternal attitudes towards dietary practices and weight gain monitoring [8]. The substantial increases in knowledge scores observed in our study suggest that tailored counseling approaches, whether maternal or couple-based, can effectively influence maternal attitudes towards dietary practices and weight management [4]. Overall, the findings of our study contribute to the growing body of literature on maternal nutrition and counseling interventions during pregnancy. By demonstrating the positive impact of both maternal and couple counseling approaches on maternal attitudes, our research underscores the importance of implementing tailored counseling strategies to promote maternal and child health in similar settings.

Conclusions

The study concluded that both maternal and couple counseling interventions significantly impacted maternal attitudes towards dietary practices and weight gain monitoring during pregnancy in Goma Town, DR Congo. Specifically, maternal counseling alone led to a substantial increase in mean knowledge scores from baseline to end line, with a notable improvement observed across various aspects of maternal nutrition. Notably, the inclusion of partners in counseling sessions yielded even greater improvements, with the couple counseling approach showing the most significant enhancement in attitudes. Statistical analysis revealed compelling findings, with a significant increase in mean knowledge scores observed across all study groups. For instance, the mean knowledge score for the control group increased from 22.5 to 35.1, representing a difference of 12.6 points, while the maternal group saw a substantial increase from 21.3 to 51.4, resulting in a difference of 30.1 points. The couple group exhibited the most significant improvement, with the mean knowledge score jumping from 21.2 to 60.1, yielding a difference of 38.9 points. These differences were statistically significant, as indicated by the T-test results ($p < 0.05$). Furthermore, chi-square test results highlighted significant differences in attitudes among the study groups, emphasizing the impact of counseling interventions on shaping perceptions and behaviors. For instance, regarding the recommendation of consuming at least five food groups with over ten items per day, 56% of participants agreed, with a significant difference observed among the groups ($p = 0.001$). Similarly, attitudes towards increasing water

intake during pregnancy varied significantly among the groups (p = 0.001). These findings underscore the importance of tailored counseling strategies and partner involvement in promoting maternal health and well-being during pregnancy. By integrating both maternal and couple counseling approaches into routine antenatal care services, interventions can maximize their effectiveness and contribute to better maternal and child health outcomes in similar settings. Ultimately, these results provide valuable insights into the design and implementation of future interventions aimed at improving maternal dietary practices and weight gain monitoring during pregnancy.

References

1. Bhutta ZA, Das JK, Rizvi A, et al. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? The Lancet Maternal and Child Health Series 382 (2013): 452-477.
2. Black RE, Allen LH, Bhutta ZA, et al. Maternal and child undernutrition: global and regional exposures and health consequences. The Lancet Maternal and Child Health Series 371 (2008): 243-260.
3. Bland M J, and Altman D. Statistical methods for assessing agreement between two methods of clinical measurement. The Lancet 327 (1986): 307-310.
4. Campbell F, Johnson M, Messina J, et al. Behavioural interventions for weight management in pregnancy. BMC Public health 11 (2011): 491.
5. Chen J H. Maternal Alcohol Use during Pregnancy, Birth Weight and Early Behavioral Outcomes. Alcohol and Alcoholism. Advance Access Publication 47 (2012): 649-656.
6. Core Inc. Maternal nutrition during pregnancy and lactation. Washington DC (2014).
7. Demilew YM, Alene GD, Belachew T. Effect of guided counseling on dietary practices of pregnant women in West Gojjam Zone, Ethiopia 15 (2020): 0233429.
8. Girard AW, Olude O. Nutrition education and counselling provided during pregnancy: effects on maternal, neonatal and child health outcomes. Paediatr Perinat Epidemiol 26 (2012): 191-204.
9. Imdad A, Bhutta ZA. Maternal nutrition and birth outcomes: effect of balanced proteinenergy supplementation. Paediatr Perinat Epidemiol 26 (2016): 178-190.
10. Imhoff-Kunsch B, Martorell R. Nutrition interventions during pregnancy and maternal, newborn and child health outcomes. Paediatr Perinat Epidemiol 26 (2016): 1-3.
11. Kind KL, Moore VM, Davies MJ. Diet around conception and during pregnancy effects on fetal and neonatal outcomes. Reprod Biomed Online 12 (2006): 532-541.
12. Ministère de l'économie. Contribution des secteurs privés à l'économie nationale, p29, Kinshasa-RDC (2017).
13. Ochola, SA. Evaluation of two counselling strategies improving exclusive breastfeeding among HIV-negative mothers in Kibera slum, Nairobi Kenya: a randomized controlled trial (2008).
14. Ogada IA. Effectiveness of couple couselling versus maternal counselling in promoting exclusive breast feeding: a randomised controlled trial in yando District (2014).