Social support in postpartum women living with HIV referred to adherence clubs versus routine primary health services

Walter Chabaya[1]

(1) Division of Epidemiology & Biostatistics, University of Cape Town, South Africa
Email: chbwal001@myuct.ac.za

School of Public Health
Departement Openbare Gesondheid
Isikolo Sempilo Yoluntu
UNIVERSITY OF CAPE TOWN

Postpartum women have high levels of social support which increase with time postpartum regardless of mode of HIV care. Interventions should target women with low education levels and twin deliveries.

Background

- Postpartum women in HIV care are at high risk of viraemia and disengagement from care

- Lack of social support is associated with viraemia/disengagement, necessitating innovative, sustainable support systems to improve outcomes

- Group-based differentiated service delivery models including adherence clubs (AC) may improve social support but their effect on social support in postpartum women is unclear

Methods

- We conducted a secondary analysis utilising longitudinal data from the "Postpartum Adherence Clubs for Antiretroviral Therapy" (PACART) study

- 411 virally suppressed women who were ≥18 years, initiated antiretroviral therapy during pregnancy and were <70 days postpartum were randomised to an AC or primary health care (PHC) clinic (standard of care) for HIV care

- Demographic questionnaires were administered at baseline

- Perceived availability of social support (PASS) scales, including instrumental and emotional support were measured at baseline, 6 and 24 months postpartum

- A mean score (range 1-5) was calculated per visit

- In R studio, linear regression was used to assess factors associated with social support scores at baseline

- Linear mixed-effects modelling was used to assess the association between AC vs PHC HIV care and social support levels through 24-months, including an interaction between group of HIV care and time postpartum

Results

- Median age was 29 years [interquartile range (IQR) 26,32] and median duration postpartum was 11 days (IQR 7,21)

- Most participants attended high school (96%), were unemployed (68%), in a relationship (89%), and had a singleton delivery (99%)

Table 1. Description of the cohort at baseline visit.

	All women, N = 411 n(%) or median (IQR)*	Clinic, N = 205 n(%) or median (IQR)	Club, N = 206 n(%) or median (IQR)	p-value
Age categories				0.40
18-24 years	84 (20)	46 (22)	38 (19)	
25-28 years	124 (30)	62 (30)	62 (30)	
29-34 years	152 (37)	69 (34)	83 (40)	
≥ 35 years	50 (12)	28 (14)	22 (11)	
Education				0.50
Primary/None	6 (1.5)	2 (1.0)	4 (1.9)	
High school	394 (96)	196 (96)	198 (96)	
Post secondary	11 (2.7)	7 (3.4)	4 (1.9)	
In a relationship	367 (89)	180 (88)	187 (91)	0.30
Pregnant before	324 (79)	159 (78)	165 (80)	0.60
Babies delivered				0.06
One	406 (98.78)	205 (100)	201 (97.57)	
Twins	5 (1.22)	0 (0.00)	5 (2.43)	
Perceived availability of social support				
Combined	4.08 (3.17, 4.75)	4.08 (3.33, 4.75)	4.04 (3.08, 4.75)	0.7
Instrumental	3.86 (3.00, 4.75)	3.88 (3.13, 4.75)	3.75 (3.00, 4.75)	0.5
Emotional	4.50 (3.38, 5.00)	4.50 (3.25, 5.00)	4.50 (3.50, 5.00)	0.9

*IQR: Interquartile range

- Median PASS scores were 4.08 vs 4.04 at baseline, 4.13 vs 4.08 at 6-months, and 4.33 vs 4.58 at 24-months postpartum for PHC and AC respectively (p>0.05 for all)
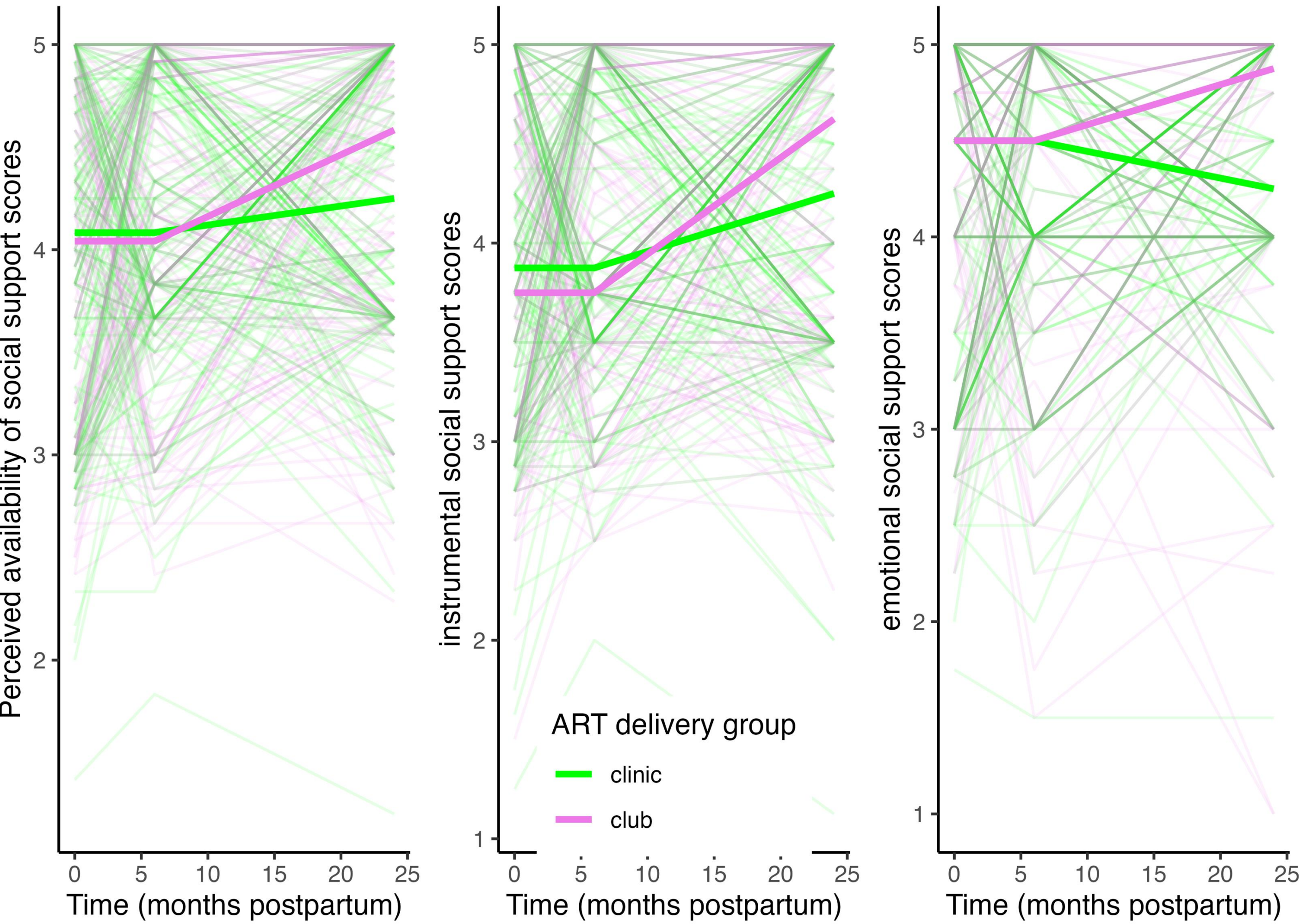
Table 2. Medians of the mean scores of the perceived availability of social support, instrumental and emotional social support at 6 and 24 months postpartum overall and stratified by ART (Antiretroviral therapy) delivery group.

Time postpartum	Overall , N = 411[1]	Clinic, N = 206[1]	Club, N = 206[1]	P-value[2]
Perceived availability of social support mean scores				
6 months	4.08 (3.67, 4.92)	4.13 (3.67, 4.92)	4.08 (3.67, 4.92)	0.6
24 months	4.50 (3.67, 5.00)	4.33 (3.67, 5.00)	4.58 (3.67, 5.00)	0.6
Instrumental social support mean scores				
6 months	3.88 (3.50, 5.00)	3.88 (3.50, 4.97)	3.75 (3.50, 5.00)	0.5
24 months	4.46 (3.50, 5.00)	4.38 (3.50, 5.00)	4.63 (3.50, 5.00)	0.5
Emotional social support mean scores				
6 months	4.50 (4.00, 5.00)	4.50 (4.00, 5.00)	4.50 (4.00, 5.00)	0.6
24 months	4.50 (4.00, 5.00)	4.25 (4.00, 5.00)	4.75 (4.00, 5.00)	0.4

[1] Median (IQR), [2] Wilcoxon rank sum test

Results continued

Figure 1. Spaghetti plots of perceived availability of social support, instrumental and emotional social support for all participants from baseline until 24-months postpartum stratified by ART (Antiretroviral Therapy) delivery group.

- Significant associations with social support at baseline were post-secondary education [coefficient 0.85, 95% confidence interval (CI) (0.04,1.65), p=0.04] and twin-delivery [coefficient -1.02, 95% CI(-1.73,-0.30), p=0.01]

- Significant associations with social support over 24-months were twin-delivery [coefficient -0.70, 95% CI(-1.14,-0.26), p<0.01] and time postpartum [coefficient 0.01, 95% CI(0.003,0.02), p<0.01]

- There was a strong negative correlation between random intercepts and time slopes (-0.72)

Table 3. (A) Linear regression model output testing associations between perceived availability of social support scores at baseline and various variables. (B) Linear mixed-effects model output testing associations of different covariates with perceived availability of social support over a 24-month period postpartum together with an interaction effect.

Covariates	A. Linear regression			A. Linear mixed-effects		
	Coefficient Estimate	95%CI*	P-value	Coefficient Estimate	95% CI	P-value
Age categories ref* 18-24 years						
25-28 years	-0.06	(-0.30, 0.17)	0.60	-0.004	(-0.16, 0.16)	0.96
29-34 years	-0.03	(-0.27, 0.21)	0.82	0.01	(-0.16, 0.17)	0.95
≥ 35 years	-0.24	(-0.55, 0.06)	0.12	-0.15	(-0.35, 0.05)	0.15
Education ref Primary/None						
High school	0.49	(-0.17, 1.14)	0.15	0.05	(-0.38, 0.49)	0.81
Post secondary	0.85	(0.04, 1.65)	0.04	0.34	(-0.20, 0.88)	0.21
Relationship status	0.03	(-0.23, 0.28)	0.84	0.15	(-0.02, 0.32)	0.08
Pregnant before Yes	-0.05	(-0.27, 0.17)	0.64	-0.06	(-0.21, 0.09)	0.41
Babies delivered ref One						
Twins	-1.02	(-1.73, -0.30)	0.01	-0.70	(-1.14, -0.26)	<0.01
Time postpartum				0.01	(0.003, 0.02)	<0.01
ART delivery group: Club				-0.01	(-0.16, 0.13)	0.85
Time postpartum: ART delivery group Club				0.003	(-0.01, 0.01)	0.49

*95%CI: 95% Confidence Interval, ref: Reference

Conclusions

- PASS levels did not differ between groups through 24-months postpartum

- Unlike previous research, social support levels increased over time

- Interventions should be tailored to support those with low education levels and twin deliveries

- Interventions may be more impactful when targeted at individuals starting with lower social support, as they show the greatest potential for improvement over time

Acknowledgements