Traditional complementary and alternative medicine and antiretroviral treatment adherence among HIV patients in KwaZulu-Natal, South Africa

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Social Aspect of HIV/AIDS and Health

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Background

Traditional, Complementary and Alternative Medicine (TCAM)
→common among individuals with moderate and advanced HIV disease.
Patients who have experienced HIV-related symptoms are most likely to pursue TCAM, presumably to alleviate such symptoms.
(Littlewood & Vanable, 2008)

In South Africa: HIV treatment naïve
Use of herbs for HIV associated with being on a disability grant
TCAM use for HIV associated with being on a disability grant, number of HIV symptoms (Peltzer et al., 2008)

Background-2

- HAART adherence and TCAM use (7 studies)
- Two studies identified an association between TCAM use and treatment non-adherence
- 5 studies no association

(Littlewood & Vanable, 2008)

Background

- **Reasons for TCAM use among HIV+ patients**

- To alleviate HIV-symptoms and HAART side-effects and to improve quality of life.
- For some HIV+ people, TCAM offers a means of addressing their concerns with conventional treatment and engaging in healthcare practices that align with their health beliefs.
- To clarify why some HIV+ patients use TCAM whereas others do not, quantitative research into the relationship between TCAM use and patients' reasons for TCAM use is needed.

(Littlewood & Vanable, 2008)

Background-3

- **Patient-provider communication** about TCAM use would presumably reduce the risk for adverse health outcomes that may result from drug interactions or misuse of conventional medication.
- TCAM disclosure rates vary substantially across studies, with between 38 to 90% of patients reporting that their physician is aware of their TCAM use (Littlewood & Vanable, 2008)

South Africa: HIV treatment naïve

Most participants their health care provider was not aware that they were taking herbal therapies (90%) and faith healing methods for HIV (81.6%).

Background: aim

The aim of this prospective study was to assess the use of Traditional Complementary and Alternative Medicine (TCAM) for HIV patients and antiretroviral treatment adherence at time 2 when 6 months on antiretroviral therapy in three public hospitals in KwaZulu-Natal, South Africa.

Method

- Time 1: Prior HAART
- Time 2: 6 months on HAART

-3 public hospitals in Uthukela health district in KwaZulu-Natal from October 2007 to February 2008

Measures

-Traditional, complementary medicine

-ARV adherence (VAS, AACTG,..)

-HIV symptoms

-Quality of Life

Results

- **Sample**
- Baseline:
- 735 (29.8% male and 70.2% female) who completed assessments prior to ART
- At six months follow-up:
- 525 completed the assessment,
- 75 had died,
- 57 had been transferred,
- 54 could not be traced,
- 21 refused the interview and
- 1 interview was incomplete.

At six months following initiation on ART

- 519 initiated and
- 6 did not go on ART,
- 24 (4.6%) had temporarily suspended ART because of side effects, and
- 3 (0.6%) had changed their antiretroviral HIV medications in the last 6 months.

- HIV medications
- 411 (79.8%) patients included Lamivudine (3TC), Starivudine (d4T) + efavirenz (stocrin) and for
- 107 (20.8%) Lamivudine (3TC), Starivudine (d4T) + nevirapine.

Table 1: Sample characteristics

Variable	N=519	%
Sex		
Male	139	26.6
Female	370	73.4
Age in years		
18-29	136	26.3
30-39	222	42.9
40-49	100	19.3
50 and above	59	11.4
Marital status		
Never married	379	73.3
Currently married	68	13.2
Cohabitating	40	7.7
Divorced/separated	11	2.2
Widowed	19	3.7
Highest education		
None	40	7.7
Up to Grade 7	157	30.4
Grade 8-11	221	42.7
Grade 12 or more	99	19.1
Ethnicity		
Zulu	513	98.8
Other	6	1.2

Residence		
Rural village	42.6	42.7
Informal settlements (slums)	6.0	6.0
Urban/metropolitan areas	9.4	9.5
Township	22.7	22.8
Farm	18.9	19.0
Employment situation		
Housewife, home maker	76	15.0
Unemployed	303	59.6
Employed	115	22.6
Pensioner, student, disabled	21	4.2
Main source of household income		
Formal salary	162	31.7
Contribution by family members	86	16.9
Government grant	113	22.1
Grants/donations by private welfare organizations	80	15.7
No income (other than social grant)	38	7.4
Other	32	6.3

Disability grant ("for HIV/AIDS")		
Yes	268	52.5
No	242	47.5
Health insurance		
Yes	77	15.0
No	438	85.0

Table 2: Health characteristics

Variable	N=519	%
Time since HIV diagnosis		
2007/8	379	75.2
2006-1995	125	24.8
CD4 count (cells/uL)= Median=130 (IQR=72-185) (at baseline: Median=119; IQR=59-163)		
1-99	188	37.2
100-200	232	45.9
>200	85	16.8
Number of HIV symptoms (range 0-20) M(SD)		1.21 (2.60)
Receiving TB treatment	34	6.6
Hospital admission in the past 6 months	53	10.3
Participated in support group in the past 6 months	14	2.7
Seen someone for counselling/support in the past 6 months	123	23.8
Seen an ARV treatment buddy in the past 6 months	132	25.6
Understanding (complete) of T-helper (CD4) count	337	66.2
HIV disease & HIV treatment related knowledge (better informed than most)	392	76.3
Health information involvement score		
4.0	203	39.5
3.5-3.9	108	21.0
<3.5	203	39.5
Degree of trust in medical provider score		
100	219	42.6
90-99	99	19.3
0-89	196	38.1
Health care decision involvement score		
1.0	205	39.9
1.5	88	17.1
2 or more	221	43.0
Discrimination by health care provider	14	2.1

Table 3: Use of TCAM (Traditional, complementary and alternative medicine) for HIV in the past six months (prior to ART=Time 1(T1), N=735; follow-up (T2), N=525)

				Use duration in weeks	Cost in Rand/month	Health care provider aware of use
		N	%	M (SD)	M (SD)	n (%)
Total TCAM use[a]	T1	421	42.6			
	T2	144	28.0			
1. Herbal therapies (e.g., Ginseng, Echinacea or St. John's Wort, Hypoxis plant (African potato), cannabis)	T1	269	36.6	10.0 (8.1)	129 (166)	21 (10.2)
	T2	43	7.9	4.0 (1.5)	250 (330)	2 (4.7)
2. Faith healing including spiritual practices and prayer	T1	263	35.8	11.9 (7.0)	0.4 (1.0)	42 (16.1)
	T2	116	22.1	19.8 (18.6)	0.2 (1.7)	58 (50.4)
3. Physical/body-mind therapy (e.g. exercise, massage)	T1	37	5.0	13.5 (14.8)	9 (11)	2 (0.5)
	T2	10	1.9	8.9 (6.7)	0.8 (2.6)	6 (60.0)
4. Micronutrients (vitamins, minerals & multivitamin)	T1	312	42.6	12.5 (9.5)	6 (53)	173 (66.3)
	T2	457	87.4	18.3 (12.4)	8 (20)	449 (98.3)
5. Over-the-counter drugs	T1	15	2.1	14.2 (14.1)	159 (202)	4 (22.2)
	T2	48	6.5	4.8 (2.1)	23 (22.3)	28 (58.3)

[a] The use of micronutrients was excluded from TCAM since mostly vitamins were provided by the health facility

Reasons for using TCAM

- **Herbs** for HIV:
- immune supplementation (66.7%),
- pain relief (11.1%),
- relaxation (11.1%),
- to treat adverse effects from ARV treatment (4.4%)
- **Faith healing** for HIV:
- improve overall well-being (51.1%),
- stress relief (22.1%),
- depression (12.3%),
- relaxation (4.3%),
- pain relief (3.8%),

Table 4: ART adherence

		n	%
30-day VAS at 95%	Adherent	427	82.9
	Non-adherent	88	17.1
Self-reported 4-day recall dose adherence	Adherent	435	84.5
	Non-adherent	80	15.5
Self-reported time adherence	Adherent	372	72.4
	Non-adherent	142	27.6
Self-reported food adherence	Adherent	369	71.7
	Non-adherent	146	28.3
Adherence to all (Dose, Schedule and Food)	Adherent	364	70.8
	Non-adherent	150	29.2

Table 5: Association between TCAM use and antiretroviral non-adherence

	VAS non-adherence (<95%)				Dose, schedule and food non-adherence			
	Cr OR*, 95% CI	P	Adj OR*, 95% CI#	P	Cr OR*, 95% CI	P	Adj OR*, 95% CI##	P
1. Herbal treatment	7.99 (3.98-16.01)	.000	6.67 (3.12-14.24)	.000	22.62 (8.67-59.02)	.000	28.62 (10.02-81.76	.000
2. Faith healing	0.84 (0.47-1.50)	.549	---		0.56 (0.34-0.93)	.026	0.41 (0.20-0.82)	.012
3. Massage/Exercise	3.06 (0.70-13.62)	.136	---		4.16 (0.98-17.61)	.053	---	
4. Micronutrients	0.20 (0.11-0.35)	.000	0.19 (0.10-0.34)	.000	0.06 (0.03-0.13)	.000	0.06 (0.03-0.12)	.000
5. Over-the-counter drugs	3.97 (1.74-8.28)	.001	2.38 (0.92-6.16)	.073	9.90 (4.16-23.54)	.000	10.51 (3.80-29.07)	.000
Combined TCAM (1,2,3)	2.18 (1.34-3.56)	.000			1.52 (1.00-2.30)	.049		

*Adjusted for age, sex and education

#Nagelkerke R square=.21; ## Nagelkerke R square =.43

People may **miss taking their medications** for various reasons. Here is a list of possible reasons why you may miss taking your medications. How often have you missed taking your medications because you:	Rarely or sometimes N=519	%
1. Were away from home?	54	9.9
5. Wanted to avoid the side effects?	39	7.6
10. Felt sick or ill?	38	7.4
14. Felt food?	33	6.4
4. Had too many pills to take?	27	5.3
2. Were busy with other things?	22	4.3
13. Ran out of pills?	22	4.3
9. Fell asleep / slept through dose time?	20	3.9
12. Had problems taking pills at specified times (with meals, on empty stomach etc)?	20	3.9
3. Simply forgot?	15	2.9
11. Felt depressed or overwhelmed?	13	2.5
8. Felt like the drug was toxic / harmful?	10	2.0
7. Had a change in daily routine?	8	1.6
6. Did not want others to notice you taking medication?	3	0.6

	Univariate analyses					
	Herb use			TCAM use		
	%	OR (95% CI)	P	%	OR (95% CI)	P
Sex						
Female (n=370)	7.2	1.00 (reference)		30.5	1.00	
Male (n=139)	10.6	1.53 (0.71-3.01)	.22	22.0	0.64 (0.40-1.03)	.06
Age in years						.02
Not using (herbs or TCAM)	36.8(9.9)	1.00		36.3(9.8)	1.00	
Using (herbs or TCAM)	34.5(9.1)	0.98 (0.95-1.02)	.26	34.5(9.1)	0.97 (0.95-1.00)	
Educational level						
None (n=40)	2.5	1.48 (0.83-2.65)		17.5	1.57 (1.12-2.12)	.009
Up to Grade 7 (n=157)	7.0		.186	21.8		
Grade 8-11 (n=221)	8.3			30.1		
Grade 12 or more (n=99)	9.3			35.4		
Residence						
Rural (n=388)	9.8			30.0	1.00	
Urban (n=227)	5.1	0.39(0.18-0.88)	.02	24.4	0.71 (0.46-1.10)	.13
Being on a disability grant (chronic illness including AIDS) (n=128)						
No	5.0	1.00		30.1	1.00	
Yes	10.9	2.34 (1.16-4.67)	.02	25.7	0.80 (0.54-1.18)	.26
Having a health insurance						
No	9.0	1.00		28.7	1.00	
Yes	2.6	0.27 (0.06-1.15)	.08	22.4	0.71 (0.40-1.27)	.26

	Univariate analyses					
	Herb use			TCAM use		
	%	OR (95% CI)	P	%	OR (95% CI)	P
CD4 count						
<100 (n=186)	10.8	1.00		23.4	1.00	
100-200 (n=232)	7.8	1.43 (0.73-2.79)	.29	29.4	0.73 (0.47-1.14)	.17
>200 (n=84)	2.4	4.94 (1.13-21.64)	.03	33.3	0.61 (0.35-1.08)	.09
Time since HIV diagnosis						
2006-1995	8.9	1.00		32.0	1.00	
2007/8	7.2	0.79 (0.38-1.64)	.53	25.7	0.74 (0.47-1.15)	.18
Hospital admission in past 6 months						
No	8.0	1.00		28.2	1.00	
Yes	7.5	0.93 (0.32-2.73)	.90	24.5	0.83 (0.43-1.60)	.57
Number of HIV symptoms	M(SD)			M(SD		
Not using (herbs or TCAM)	1.21(2.4)	1.00		1.20(2.5)		
Using (herbs or TCAM)	1.25(4.2)	1.01 (0.89-1.14)	.93	1.28(3.0)	1.01 (0.94-1.09)	.77
Overall Quality of Life (range 1-5)						
Not using (herbs or TCAM)	4.4(0.7)	1.00		4.4 (0.7)	1.00	
Using (herbs or TCAM)	4.0(0.4)	0.49 (0.33-0.73)	.000	4.1 (0.6)	0.50 (0.37-0.67)	.000
Missed medication to avoid side effects						
No	5.7	1.00		26.0	1.00	
Yes	35.9	9.23 (4.31-19.75)	.000	48.7	2.70 (1.40-5.23)	.003
Suspended because of side effects						
No	7.6	1.00		27.6	1.00	
Yes	13.0	1.83 (0.52-6.44)	.347	27.3	0.99 (0.38-2.57)	.975
Understanding of T-helper (CD4) count						
No or some	4.1	1.00		35.7	1.00	
Yes	9.9	2.53 (1.09-5.84)	.030	24.0	0.57 (0.38-0.85)	.006
HIV disease & HIV treatment related knowledge (better informed than most)						
No	3.3	1.00		9.0	1.00	
Yes	9.0	3.03 (1.06-8.68)	.039	33.9	5.17 (2.68-9.94)	.000
Seen ARV treatment buddy						
No	2.4	1.00		25.6	1.00	
Yes	24.4	13.36 (6.17-28.91	.000	34.6	1.54 (1.00-2.36)	.049
Seen someone for counselling/support						
No	2.6	1.00		25.5	1.00	

Discussion/Conclusion

High prevalence of TCAM use
Decline in TCAM use when on ART
Provider unaware of TCAM use

Non-adherence →
Herbs, over-the counter drugs

Herbs/TCAM →
Disability grant
Side effects
Low QoL
HIV/ARV knowledge
Treatment support
[not HIV symptoms]

Limitations

- No viral load
- More than one time point
- Adherence measure
- Self-report

Thank you

- We thank the Tibotec REACH initiative for funding the study

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