How can we measure the 'HIV/AIDS effect' on household food security? Piloting an experiential indicator in Nkandla, KwaZulu-Natal

To the Editor: Aids is widely believed to be bringing a heightened vulnerability to food insecurity issues, both at the individual – but also the household level. For household level interventions, it is crucial to establish the indicators that would be appropriate for studying and monitoring the so-called Aids effect. As we know, household socioeconomics are widely considered a 'gold standard' for adequate food access in developing countries, and most food security indicators have undergone rigorous verification against this 'benchmark'.[1-4] In this regard, if Aids impacted on food security by influencing household socioeconomics alone, our existing food security indicators should also be sensitive to determine the Aids impact *by proxy*.

But there is a problem with hedging the effectiveness of our food security indicators on a presumed Aids correlation with household socioeconomics. Aids is so damaging because it impacts not only on household socioeconomics, but also undermines the viability of diverse livelihood strategies.[5] The latter erodes access to human and physical networks and compromises social capital networks, all of which play an important role in securing food resource transfers. There may also be an increased reliance on natural capital, which may be unsustainable.

It would therefore appear that in the era of Aids we require food security indicators that are sensitive to the multiple influences of diverse household livelihoods, and not just household economics, or food security alone. Experiential measures have at their core an understanding of the diverse livelihood strategies (termed coping *strategies*) people might employ in response to the experience of resource restriction. Experiential measures have been proposed by research and development agencies as appropriate indicators for measuring food quantity insecurity in the context of risk and vulnerability.[6, 7]

The Coping Strategy Index (CSI), developed and tested by the World Food Programme and CARE International, uses up to 16 questions on a four-point scale to record the frequency of food resource restriction and augmentation strategies. The questions are weighted using community rankings.[8]

In July 2006, Rhodes University Department of Environmental Science piloted the CSI in the Nkandla district of KwaZulu-Natal. The pilot supplemented a larger four-site study that coupled the presence of five household Aids proxies relating to chronic illness, mortality and fostering of dependents in the household with (1) a simple experiential index of hunger and (2) a 48-hour dietary recall. In the Nkandla site, the very simple experiential index used in the entire study was incorporated into the CSI. A total of 175 household surveys were conducted with the household member responsible for preparing the family meal. The CSI is divided into two sub-indices, which are underscored by the logic that a household can implement two forms of coping strategies: either restricting food quantity or quality, or seeking means to increase the amount of food available. These two sub-sets of coping strategies are termed the resource restriction and resource augmentation coping strategies. The two sub-indices are then summed to give the total CSI score.

Preliminary analysis of the data was done through t-tests that probed trends of central tendency in the individual CSI items, sub-indices and aggregate score. These trends of central tendency suggested that the CSI may be sensitive to the Aids proxy "Presence of death in the household (0–56 yrs)" (Table 1). Average recorded coping-strategy frequency was not significantly higher for any other Aids proxy (results not shown), including

Table I: T-tests showing trends of central tendency for mean individual as well as total aggregated (weighted) CSI item responses, and CSI sub-indices for total resource restriction and resource augmentation coping strategies.

	Mean	S.D	Mean	S.D	t-value	p
	Presence of death in the HH (0–56 yrs)					
	No (n = 155)		Yes (n = 20)			
Coping strategy (frequency 1–4)						
Go without eating all day?	1.77	0.90	2.20	0.89	-1.99	0.048*
Skipping meals?	2.63	0.92	2.50	0.89	0.61	0.544
Reduce some HH members' portions?	2.36	0.90	2.45	1.10	-0.40	0.688
Serving less-preferred food?	2.57	0.93	2.95	0.89	-1.72	0.088**
Restrict adults so children can eat?	1.94	0.99	1.60	0.82	1.48	0.140
Total Resource Restriction CSI	27.85	8.27	28.90	7.66	-0.54	0.589
Borrow food?	2.31	0.89	2.50	1.00	-0.88	0.378
Buy foods on credit from a shop?	1.57	0.81	2.25	0.91	-3.48	0.001*
Gather and eat wild fruit/spinaches?	2.06	0.96	2.10	1.02	-0.15	0.877
Harvest immature crops?	1.58	0.82	1.50	0.83	0.41	0.680
Send household members away?	1.38	0.73	1.60	0.88	-1.23	0.220
Work for food?	1.30	0.69	1.65	0.93	-2.05	0.042*
Find a man to buy you food?	1.05	0.30	1.10	0.45	-0.64	0.521
Hunt wild meat?	1.47	0.82	1.15	0.49	1.72	0.088**
Did a little job to get a little money?	1.37	0.75	1.75	1.02	-2.02	0.045*
Steal?	1.01	0.08	1.15	0.67	-2.57	0.011*
Total Resource Augmentation CSI	34.99	8.38	39.70	8.56	-2.36	0.019*
Total (weighted) Coping Strategy Index	***62.84***	***14.51***	***68.60***	***14.42***	***-1.67***	***0.096****

Item scoring ranges from1 = never to 4 = nearly every day. Item responses grouped according to presence of recent (two years) death in the household of someone aged 0–56 years. * $p < 0.05$, ** $p < 0.1$

chronic illness of an active adult in the household, which was found to elicit a higher coping-strategy response in similar research in Zimbabwe.[8] It is noteworthy that it is the resource augmentation strategies (particularly the strategy "buying foods on credit" ($t = -3.48$, $p = <0.001$) and not the resource restriction strategies in the CSI that were being employed to significantly higher degrees in death-afflicted households ($t = -2.36$, $p = 0.019$). This is in keeping with the theory that Aids causes 'erosive' coping strategies, which augment food security in the short term at the expense of long-term resilience.[9]

What makes the suggestion of a CSI association with mortality all the more interesting is the fact that the CSI failed to show statistical significance with any of the socioeconomic categories for income, education and female-headedness. Only two individual coping strategies showed associations with socioeconomic status at the 10% level, namely female-headed households were more likely to rely on wild or gathered foods ($t = -1.73$, $p = 0.085$), and lower-income households were more likely to engage in casual or entrepreneurial labour activities for food ($t = 1.31$, $p = 0.075$). Importantly, this suggests an 'Aids effect' that is independent of the well-established correlation between food security and household socioeconomics.

Unfortunately, the Nkandla site did not yield a prevalence of mortality as high as we had anticipated given the local antenatal HIV prevalence rates, and the sample size was insufficient to probe the relationship between the CSI and mortality with more certainty. Nevertheless, preliminary indications that food resource augmentation coping strategies (that may be erosive in nature) were being employed to significantly higher degrees in death-afflicted households than food resource restriction strategies (experience of hunger) have important implications for food security interventions that plan to increase livelihood resilience in the long term, and not just alleviate short-term food insecurity. The CSI shows promise as an indicator sensitive to the complexity and diversity of rural livelihoods – where food security is

not always underscored by household socioeconomics alone. As a follow-up to this study, the full CSI has now been adopted as the experiential measure of choice in ongoing survey work in all four research sites. We anticipate that this more detailed research will clarify these trends further.

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Unsubstantiated claims on supplements

To the Editor: We are all aware of the large number of supplements, nutritional and other, on the market. I am sure that most of the readers have, as have I, often despaired about the claims on such products and wished that they could be better controlled, in the same way that medications are controlled. It is also very frustrating that the public often choose to believe these claims, despite the fact that we are able to show them that there is no scientific basis for most of these claims.

Although for the general population such claims may be seen as 'uneventful', it is quite a different situation when unsubstantiated claims are presented to extremely vulnerable groups of patients, who will often try and grasp at anything that promises them recovery or reduction in symptoms. These groups include cancer patients, but even more so, the families of children with cancer. It is bad enough that patients these days can read about 'miracle cures' on the internet and walk into any pharmacy where various 'consultants' (company representatives) are ready to give them 'advice'. It is even worse when they are actively hunted down to be convinced about the miracle properties of a product.

Glyconutrients have been available on the South African market for some time now. The available scientific literature does not support or describe a) a glyconutrient deficiency (the body is able to synthesise all of these nutrients and they are abundant in food) and/or b) that additional intake of such supplements has any documented benefits. Despite the lack of evidence of any beneficial outcomes, a glyconutrient supplement apparently costs between R1 000 and R2 000 a month!

The following information can be found on the promotional information of glyconutrient products, which may make them attractive to patients. With regards to scientific proof, they claim:

- There are more than 4 500 publications on glyconutrients.
- The last four Nobel Prizes have been awarded in this category.
- Clinical studies prove that glyconutrients stimulate the body's production of healing stem cells.

There are many more claims such as these on the promotional DVDs of these products. The Society of Glycobiology in America, however, issued a statement that they do not endorse these products and are not associated with the manufacturer or supplier of glyconutrients. https://www.glycobiology.org/Default.aspx?tabid=74 (accessed 03/12/07).

However, this letter is not only about glyconutrients per se, but rather about my experience of the questionable marketing practices apparently employed by one sales person of these products.

The following scenario played out in my office: Retrospectively, the sales representative of these products wanted to talk to me about my niece, who had recently been diagnosed with neuroblastoma. I immediately met with the sales representative, as at first I thought the request was from one of the healthcare professionals caring for my niece, since I am not only her aunt, but also her dietician. I was then told that the sales representative had already seen my sister-in-law (a nursing sister), who fortunately referred the sales representative to me. The sales representative extolled the advantages of glyconutrients, particularly in relation to cancer and stem cells. Upon my informing the sales representative of the lack of scientific evidence regarding the benefits of these products, the sales representative went on to speak of the Fischer Foundation supporting the efficacy of these products. Upon further informing the sales representative of the lack of randomised double-blind placebo controlled trials, and that all scientific trials on glyconutrients are in animal/cell lines, the sales representative proceeded to state that such trials are not necessary since these products heal everything and one cannot measure that! The interview was concluded by the sales representative telling me that it was such a pity I did not want to do what was best for my niece. I then asked how she had heard about my niece, to which she replied me that it had been by word of mouth. Subsequently, I heard from the hospital staff that the sales representative had said she had just quickly popped in to see me since she was en route to another hospital!

What the sales representative did not tell me was the following:

- The Fischer Foundation is neither clear on its position on the promotion of these products nor does it provide critical details of its support of or approach to these products.
  www.fischerinstitute.org (accessed 03/12/07)
- There is apparently a court case of fraud against the company that sells glyconutrients.
  http://www.raysahelian.com/glyconutrients.html (accessed 03/12/07).
  http://www.mlmwatch.org/04C/Mannatech/complaint.html (accessed 03/12/07)
- The one study that does appear in Medline is also apparently fraudulent.
  http://www.caic.org.au/commercial/Mannatech/manna-uses%20study.htm (accessed 03/12/07)
- According to the Wall Street Journal, "In July, soon after the Texas lawsuit was filed, Mannatech announced that sales associates should immediately stop using marketing materials that link the benefits of company products to any disease. Mannatech is facing several shareholder lawsuits that accuse it of engaging in illegal sales practices, boosting sales and artificially inflating the stock's value."
  http://online.wsj.com/article/SB118775074805504989.html?_mod_=yahoo_hs&ru=yahoo (accessed 03/12/07)

On reflection, a number of questions remain in my mind. To mention but a few: How many seriously vulnerable people has this sales representative seen? How many patients have been convinced by this sales representative to use these products? How many people can afford R1 000 to R2 000 a month, in a setting associated with enormous care costs and the generally known need for other supplements to prevent deterioration of nutrition status? To what other vulnerable populations are these sales practices applied? Who protects the unsuspecting public? How can this type of sales practice be allowed in a hospital? I can go on . . .

Please let me know what you, as the reader, think of my letter.

Arina Prins, RD(SA)
Dietitian
Little Company of Mary, Pretoria

Editor's notes:

The Mannatech Affiliate in the country was given the opportunity to comment on the letter submitted by A Prins. Mannatech's reply, from Mannatech USA, which has been edited for brevity and relevance, was as follows:

To the Editor: "Thank you for bringing this matter to our attention. . . . As a result of your letter, we are looking into this specific situation to determine the parties involved and . . . we can determine any appropriate, disciplinary action. . . .Mannatech independent sales representatives are not allowed to make any claims that our products can treat, cure or mitigate disease. . .

Thanks again for your feedback and information."

Terry Persinger
President and CEO
Mannatech

In view of the claim on "glyconutrient" products referring to Nobel Prize winners in the field, the Editor communicated with Prof Günther Blobel, Nobel Prize winner, Medicine, 1999. Prof Blobel's response, edited for brevity, to the letter by A Prins, was as follows:

To the Editor: ". . . for years, Rockefeller University and I have been trying to prevent Mannatech to use my name. I have absolutely nothing to do with them. Lawyers of our university have put in restraining orders to the company, but obviously they still carry on in . . . South Africa. I would be happy if you write about the misuse of names of Nobel Laureates. There are other Nobel Laureates of Rockefeller University who have the same problem . . . "

Günter Blobel
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Consumption of traditional beer in a rural South African population: Its effect on iron status

To the Editor: I wish to comment on the article by Choma et al[1] dealing with iron status and traditional beer consumption.

Although I was heartened to see that this topic is still of interest, I was disappointed with the academic professionalism of the authors who give the impression that they have discovered a new entity.

I quote: "We therefore decided to investigate whether the consumption of traditional beer had an effect on iron status in an adult rural black population."

They make no comparative reference to the numerous articles published over the last fifty years by Walker, Higginson, Bothwell, Seftel, Charlton, Wapnick and Isaacson, among many others. The latter authors have indeed discovered and investigated iron overload in depth

My book[2] devotes an entire chapter to iron overload and includes a long list of references which the authors should study.

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Authors' Reply

As the authors of this article we thank Professor Charles Isaacson and acknowledge Bothwell et al[1,2] and Charlton et al[3] as pioneers of the association of traditional beer consumption with iron overload. Their studies did show that traditional beer consumption increased the risk of iron overload. To our knowledge they used hospital subjects in their studies and their main aim was to show that traditional beer consumption was associated particularly with iron overload. Mandishona et al[4] and Moyo et al[5] studies were limited to women of child bearing age or spouse pairs, respectively. Unlike other studies, our study used subjects from a free-living general population which was stratified by gender, alcohol consumption and age which facilitates the full analyses of the contribution of consumption of traditional beer. Our aim was therefore not to show that we have discovered the new entity but rather to highlight that the same results are observed even if a different approach is used which cements what previous studies have found. Furthermore our study confirms that traditional beer improves iron status in women of child bearing age while increasing the risk of iron overload in the elderly (men included).

On this basis and apart from editorial space restrictions, we felt that some of the references that Prof Isaacson wanted us to quote were not directly relevant to our study. However, those references that we thought were directly relevant to our findings were indeed quoted (references nos 5, 6, 10, 15, 29). One should also note that our institution is one of the historically disadvantaged universities and we cannot have access to all references we would like to have in our field of interest. However, as the authors, we acknowledge the need for the passing of information in the book titled "Pathology of a Black Population" by Prof Isaacson.

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