

Nutritional problems in young adults and word therapy

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Abstract: Zimbabwe has experienced a harsh economic climate with potential food insecurity. The current article explores the literature available concerning food, nutrition and eating disorders in Zimbabwean children and young adults, and proposes Christian perspectives towards nursing intervention. In rural areas, termites and madora are frequently consumed, principally because of their perceived nutritional value. Seasonal patterns of rural food consumption studies revealed that the largest number of meals missed in Zimbabwe was in May. Home-grown meals were consumed to a greater extent in May and August than in December-January. Age of the child, residence, and severe stunting and wasting are significant predictors of childhood diarrhoea. Breast feeding may be inadequate in terms of the number of meals offered in high-density towns. The nutritional status of a child is determined by a variety of factors, including biological, social, cultural, and economic, birth status, birth weight, diarrhoeal status, duration of breastfeeding and residence. Anorexia nervosa is very rare amongst black Zimbabweans, although the incidence of obesity is growing in teenagers. Malnutrition should be regarded seriously and appropriate measures taken to ensure that measures are taken with families, community and government to combat it. The role of the Christian community health nurse cannot be obviated.

Key words: children, eating disorder, food, nutrition, young adult, Zimbabwe

INTRODUCTION

Zimbabwe – capital city: Harare – was a former British colony called Rhodesia which attained its independence on 18 April 1980. Zimbabwe saw a harsh economic climate with 150,000% inflation (International Monetary Fund, January 2008), limiting medical treatment and causing malnourishment. Invasions of commercial farms spearheaded in 2000 have crippled the agriculturally-dependant economy of Zimbabwe leading to massive food shortages and depreciation in lifestyle [1-3]. The government of Zimbabwe has been accused of using food as a political weapon [4]. Stress and malnourishment have led to associated nutritional diseases, particularly in infants and orphans [5], and a reduced resistance to HIV-AIDS progression, and succumbing to opportunistic infections. Additionally, mothers are forced to breast-feed their babies [6, 7] due to a lack of milk formula in the supermarkets. Women with both low input and chronic energy deficiency may lose their productive capacity, placing them at greater risk of food insecurity and infection with HIV [8]. Zimbabwe has been found to be the African country with the largest increase in under-five-year-old mortality [9]. A recent study on undergraduate students revealed a diet that was somewhat healthy particularly in women, due to a higher income status and affordability, albeit much diluted in bulk and evidently unbalanced [10]. Perhaps the food frequency questionnaire developed by Merchant et al. [11] could be used to estimate nutrient intake in teenagers. There has been an association of iron supplementation improving pregnancy outcomes and child survival ratings independent of the mother's nutritional

status [12]. Vitamin A and iron deficiencies may be of public health significance in lactating women living in semi-arid areas of Zimbabwe [13]. Iron-deficiency anaemia is a public health problem in Zimbabwe associated with areas of food insecurity [14]. Drinking mahewu, a non-alcoholic beverage, during pregnancy reduces the risk of pre-term delivery in Zimbabwean women [15]. Many rural women introduce fermented food (mahewu, sour milk and sour porridge) to their infants from 4 months old, albeit they have a low storage period of only 1-3 days [16]. Consumption of traditional beer rich in iron protects women from iron deficiency [17], obviously if not taken in excessive quantities. Poor nutrition affects women, pregnancy outcomes and developing children, women often exhibiting iron deficiency, goiters and loss of weight [18].

The aim of the current review article was to explore the literature available concerning food, nutrition and eating disorders in Zimbabwean children and young adults, and propose Christian perspectives towards nursing intervention.

METHODS

The criteria used to select articles to be included were both theoretically and practically motivated and adopted from proposed criteria listed below:

- Positive selection of literature was determined by appropriateness of methodology; adequacy of subject numbers; specificity of gender and/or age of subjects; and statistically significant response rates to survey questionnaires.
- The time frame used was 1960-2008, inclusive.
- A multi-factorial overview of the factors concerning food, nutrition and eating disorder were elucidated. It

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was presumed that collective articles detailing known factors of usage/abuse were not necessarily correlated with functionality and health.

- Compilation of materials began with published literature or easily accessible academic research.
- The articles were accessible from on-line sources including PubMed and Medline. The research strategy was refined using particular search terms including: food, nutrition; eating disorder; starvation; human and Zimbabwe.

Details in articles were then categorised under food; nutrition; eating disorder; and starvation. Encompassed therein was reference to relevant treatment and preventative medicine. Scriptures used in Christian counselling were derived from pastoral websites, book loans and face-to-face/e-mail discussions with Christian leaders and/or pastors, and chaplains.

RESULTS

Food. In Zimbabwe termites and madora are frequently consumed principally because of their perceived nutritional value [19]. Indeed, the protein, fat and mineral contents of the larvae are significantly greater than that in beef and chicken [19]. The low cost of these larvae make them an important source of protein in low-income groups [19].

Seasonal patterns of rural food consumption studies revealed that the largest number of meals missed was in May in Zimbabwe. Home-grown meals were consumed to a greater extent in May and August than in December-January [20]. A study of Zimbabwean diet in 1985 suggested that people were well nourished compared with other developing countries in terms of the total energy obtained from fat, carbohydrate and protein [21]. For example, black middle class and black rural working class had 30, 49 and 17%, and 22, 58 and 17%, respectively [21]. Clearly though this is not currently the case in Zimbabwe given reports of mass starvation. Indeed, in areas where food security is a public health concern, pregnant women may not be meeting their own nutritional needs [22]. In a study on infants, 40% of the preterm and 17% of term infants had serum retinol levels $<20 \mu\text{g/dL}$, indicating deficiency of vitamin A [23].

Nutrition. Indigenous methods of crop production, including intercropping onions for pest management, reduce reliance on expensive chemicals and commercially manufactured fertilizer, using chicken and goat manure instead [24]. Such projects, if successful, will avert the threat of starvation, particularly in drought-prone areas that use infiltration pits and gravity to nourish the soil during the dry season [24]. However, even with such systems in place, adverse economic and political motives may prevent nutritionally vulnerable households from access to supplementary feeding [25]. Peaks of poor nutritional status in rural areas coincide with periods of food scarcity before harvest (January-March), which is also associated with a higher prevalence of diarrhoea and malaria [26]. In Zimbabwe, public health measures and maternal care were problematic, although the author suggests that household security was not a problem [27]. This requires the need for development of a policy-making tool for setting priorities in community action [27]. Currently, though, given the harsh economic situation, one could argue that household security is threatened.

In urban areas, nutritional indices studies demonstrated that stunting and wasting is low amongst urban primary school children, but the spread of their heights and weights lies was lower than the spread of the heights and weights of NCHS reference children [28]. The age of the child, residence, and severe stunting and wasting are significant predictors of childhood diarrhoea, and infants 6-11 months of age are 2.91 times more likely than younger ones to have had diarrhoea [29]. Diarrhoea incidence peaks between 13-19 months of age, and if it is responsible for an entire weight loss of ca. 66 g/episode, the reduction in overall growth is ca. 120 g, requiring an energy input of 480kcal or 2-3 kcal/kg/day to replace [30].

Breast-feeding may be inadequate in terms of the number of meals offered in high-density towns [31]. The author suggests the need to establish protocols for producing rehydrated sugar/salt solution. Human milk is a significant food source for children in sub-Saharan Africa [32]. In a study in a large, densely-populated suburb, a supplementary feeding programme included 2 kg nutrimeal porridge flour containing maize, soya bean flour, sugar and salt [33]. Mothers were asked to return every fortnight for growth monitoring and resupply. As a consequence, 83% of the subjects showed improvement, and 59% recovery growth. 73% of children with chronic health conditions, including diarrhoea, cough and fever, improved, emphasising the importance of adequate nutrition [33]. The nutritional status of a child is determined by a variety of factors including biological, social, cultural, and economic, birth status, birth weight, diarrhoeal status, duration of breast-feeding and residence [34]. A study of child survival in rural Zimbabwe showed that malnutrition accounted for 69.7% of cases, with acute respiratory infections and diarrhoea in children aged less than 5 years [35]. Malnutrition was more common in dry areas and on commercial estates [35]. Another study suggested that if childhood malnutrition in rural areas is to be reduced, then there should be an attenuation of maternal work load and increased decision-making power, and better access to health care [36]. Such suggestions, while plausible, are impractical given the impossibility to change the culture of husband-wife roles. The pragmatic attitudes of mothers and interaction with certain social, cultural and economic variables, are important elements that influence child-feeding decisions, including resisting the use of commercial infant formula and promoting long-term breastfeeding [37]. Among orphans, community-based groups in low income urban and peri-urban areas should support extended families to prevent rupture of stressed community coping mechanisms [38].

The use of middle upper arm circumference (MUAC) identified a cohort of 71.1% of children as being diseased or healthy when using body weight vs. age as the comparative index [39]. Height for age comparisons identified 54.4% of children as being diseased or healthy, suggesting the inadequacy of using MUAC for detecting malnourishment [39].

Eating disorder & starvation. According to Mahoney [40], teenagers with eating disorders often have an obsession with weight, have a distorted body image, weigh themselves several times a day, eat very little, will not eat around others, are very 'picky' about what they eat, and deny that there are food issues. Anorexia nervosa is rare among black Zimbabweans, and extensive searches in the literature revealed only one paper by Buchan and Gregory [41]. In this case, there were clear conflicts of such behaviour with culture of the woman cited

in this regard, and her need to seek advice from a traditional healer was regarded as important for her recovery. Starvation is more commonly associated with drought, political turmoil, and economic and social division [42].

Another problem with increased affluence is obesity, usually associated with a rise in socio-economic status, urbanisation, and diminishing physical activity. In South Africa, the energy intake has increased, with a fat intake from 15-20% - 25-30%, a reduction in dietary fibre intake to 20-25g (rural) and 15-20 g (urban), respectively [43]. In one study, obesity was observed in 50% of the adults, and in many pre-school children an increased risk of hypertension, diabetes, and cardiovascular disease was attributed to the high consumption of refined, starchy products [44].

Christian nurse counselling and the use of Scripture.

Discussions with administrators on 4 pastoral websites, 17 active Christian leaders and/or pastors, 2 Catholic chaplains, and 1 Church of England chaplain, revealed scriptures from both the Old and New Testament that could be used by the Christian nurse when ministering to or counselling the patient.

The Bible does not specify anything on eating disorders directly, although one's body is the Temple of God, and one must care for it as such [40]. Anorexia and bulimia are dangerous disorders that can severely harm one's body. Christians must examine their hearts rather than their physical appearances. Appearance is not a pre-requisite of faith. Whilst the Bible calls Christians to be in the world, not of the world, peer pressure can be overwhelming [40].

Searches pertaining to eating food via BibleGateway.com [45] and in a paper written by Mahoney [40] revealed Scriptures in both the Old and New Testaments relevant to eating food, and that God blesses somebody by provision of food. Indeed, if Christians are to maintain their bodies, or temple, for the Holy Spirit, then they need to be healthy. It is important that the Christian nurse shares these scriptures with the patient who is willing to listen. They should not be forced upon the person, just shared, as indeed God's Word is ultimately Truth. The nurse should let the person know that God does not hate them because they made a mistake, but that he loves them and will heal them. It is vital that the person trusts in God to accomplish this process successfully.

Leviticus 17:10 (NIV). Eating Blood Forbidden

10 Any Israelite or any alien living among them who eats any blood—I will set my face against that person who eats blood and will cut him off from his people. 11 For the life of a creature is in the blood, and I have given it to you to make atonement for yourselves on the altar; it is the blood that makes atonement for one's life. 12 Therefore I say to the Israelites, 'None of you may eat blood, nor may an alien living among you eat blood'.

Ezekiel 12:17-20 (NIV)

17 The word of the LORD came to me: 18 Son of man, tremble as you eat your food, and shudder in fear as you drink your water. 19 Say to the people of the land: This is what the Sovereign LORD says about those living in Jerusalem and in the land of Israel: They will eat their food in anxiety and drink their water in despair, for their land will be stripped of everything in it because of the violence of all who live there. 20 The inhabited towns will be laid waste and the land will be desolate. Then you will know that I am the LORD.

Jeremiah 15:2 (NIV)

2 And if they ask you, Where shall we go? Tell them, this is what the LORD says: Those destined for death, to death; those for the sword, to the sword; those for starvation, to starvation; those for captivity, to captivity.

1 Samuel 16:7 (NIV)

7 The Lord does not look at the things man looks at. Man looks at the outward appearance, but the Lord looks at the heart.

Matthew 15:1-20 (NIV). Clean and Unclean

1 Then some Pharisees and teachers of the law came to Jesus from Jerusalem and asked, 2 Why do your disciples break the tradition of the elders? They don't wash their hands before they eat! 3 Jesus replied, and why do you break the command of God for the sake of your tradition? 4 For God said, Honour your father and mother' and anyone who curses his father or mother must be put to death. 5 But you say that if a man says to his father or mother, Whatever help you might otherwise have received from me is a gift devoted to God, 6 he is not to honour his father with it. Thus you nullify the word of God for the sake of your tradition. 7 You hypocrites! Isaiah was right when he prophesied about you: 8 these people honour me with their lips but their hearts are far from me. 9 They worship me in vain; their teachings are but rules taught by men. 10 Jesus called the crowd to him and said Listen and understand. 11 What goes into a man's mouth does not make him unclean, but what comes out of his mouth, that is what makes him 'unclean.' 12 Then the disciples came to him and asked, do you know that the Pharisees were offended when they heard this? 13 He replied, every plant that my heavenly Father has not planted will be pulled up by the roots. 14 Leave them; they are blind guides. If a blind man leads a blind man, both will fall into a pit. 15 Peter said, Explain the parable to us. 16 Are you still so dull? Jesus asked them. 17 Don't you see that whatever enters the mouth goes into the stomach and then out of the body? 18 But the things that come out of the mouth come from the heart, and these make a man unclean. 19 For out of the heart come evil thoughts, murder, adultery, sexual immorality, theft, false testimony, slander. 20 These are what make a man 'unclean'; but eating with unwashed hands does not make him 'unclean'.

Mark 7:1-23 (NIV). Clean and Unclean

1 The Pharisees and some of the teachers of the law who had come from Jerusalem gathered around Jesus and 2 saw some of his disciples eating food with hands that were unclean, that is, unwashed. 3 (The Pharisees and all the Jews do not eat unless they give their hands a ceremonial washing, holding to the tradition of the elders. 4 When they come from the marketplace they do not eat unless they wash. And they observe many other traditions, such as the washing of cups, pitchers and kettles). 5 So the Pharisees and teachers of the law asked Jesus, Why don't your disciples live according to the tradition of the elders instead of eating their food with 'unclean' hands? 6 He replied Isaiah was right when he prophesied about you hypocrites; as it is written: These people honour me with their lips, but their hearts are far from me. 7 They worship me in vain; their teachings are but rules taught by men. 8 You have let go of the commands of God and are holding on to the traditions of men. 9 And he said to them: You have a fine way of setting aside the commands of God in order to observe your own traditions!

10 For Moses said, Honour your father and your mother, and, anyone who curses his father or mother must be put to death. 11 But you say that if a man says to his father or mother: Whatever help you might otherwise have received from me is Corban (that is, a gift devoted to God), 12 then you no longer let him do anything for his father or mother. 13 Thus you nullify the word of God by your tradition that you have handed down. And you do many things like that. 14 Again Jesus called the crowd to him and said, Listen to me, everyone, and understand this. 15 Nothing outside a man can make him unclean by going into him. Rather, it is what comes out of a man that makes him unclean. 17 After he had left the crowd and entered the house, his disciples asked him about this parable. 18 Are you so dull? He asked. Don't you see that nothing that enters a man from the outside can make him unclean? 19 For it doesn't go into his heart but into his stomach, and then out of his body. (In saying this, Jesus declared all foods clean.) 20 He went on: What comes out of a man is what makes him unclean. 21 For from within, out of men's hearts, come evil thoughts, sexual immorality, theft, murder, adultery, 22 greed, malice, deceit, lewdness, envy, slander, arrogance and folly. 23 All these evils come from inside and make a man 'unclean'.

Romans 14:2 (NIV)

2 One man's faith allows him to eat everything, but another man, whose faith is weak, eats only vegetables.

Corinthians 6:19-20 (NIV)

19 Do you not know that your body is a temple of the Holy Spirit, who is in you, whom you have received from God? 20 You are not your own; you were bought at a price. Therefore honour God with your body.

Romans 12:2 (NIV)

2 Do not conform any longer to the pattern of this world, but be transformed by the renewing of your mind. Then you will be able to test and approve what God's will is—his good, pleasing and perfect will.

CONCLUSION

Prayer may be important to the Christian nurse, but so is action which is often an expression of our faith. Regarding children, all attendees at a clinic may be weighed and, if required, be placed onto a malnutrition register. Health and educational services perspectives on nutrition may work cooperatively to reinforce child health [46]. Parents may need to be made aware of the dangers of under-nutrition, and increase the quantity of affordable, high energy, weaning foods in towns [46]. Thus, malnutrition should be regarded seriously and appropriate measures taken to ensure that measures with families, community and government are taken to combat it. The role of the Christian community health nurse cannot be obviated.

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