

# **Broccoli or Broken Windows?**

## **The relationship between anti social behaviour and a nutrient deficient diet**

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### **ABSTRACT**

The differential extent of research into nutrition and malnutrition and the impact this has on externalising behaviours is vast. It is generally accepted that nutrition and related factors such as food additives, hypoglycaemia and cholesterol plays an important role as a contributor of children and adults externalising behaviour, such as aggression or anti social behaviour, and as such much research has been carried out into the prevalence of this. However, little is known about the role malnutrition plays in such externalising behaviours (Raine, Lui, Venables, & Mednick, 2004). Furthermore identifying the antecedents of anti social behaviour has also become prevalent in society today (Rutter, 1997). Therefore, the following paper will explore the relationship between malnutrition and anti social behaviour.

Action research (Bogdan & Biklen, 1992), facilitated by the use of a semi structured questionnaire informed by The National Health Service, was carried out with an anti social behaviour cohort (identified as being involved in persistent anti social behaviour) from a local family intervention project (FIP).

Anti social behaviour as defined by the coalition government as “any aggressive, intimidating or destructive activity that damages or destroys another person's quality of life” (Home Office, 2011). Family Intervention Projects provide intensive support to vulnerable families with complex needs. Initially developed as part of the former Labour governments Respect programme, they focused on families identified as being involved in persistent anti social behaviour (ASB) and at risk of losing their homes through eviction. However, FIPs are now being expanded to provide intensive support for a wider group of families at risk. Provisions have been redesigned by the coalition government as a “whole family approach to working with families with multiple and complex problems” (Home Office, 2011; Kendall, Rodger, & Palmer, 2010). Family risk factors include mental health issues, domestic violence, offending parent/s and parental imprisonment, as well as; substance misuse, child abuse and neglect or poor parenting, family conflict, deprivation, unemployment and lack of education. Child risk factors include, in varying degrees, behavioural problems, anti social behaviour, truancy, school exclusion and poor school attainment, of children residing within the family home as well as Local Authority accommodated children. These risk factors, in varying degrees, have to be present in the families to meet the acceptance criteria of Family Intervention Projects (Home Office , 2008). The following paper will also discuss the results and the recommended interventions informed by the results.

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<sup>1</sup> Submitted as part-fulfilment of the BA (Hons) Criminology & Criminal Justice, School of Academic Studies, Blackpool & the Fylde University Centre, (An Associate College of Lancaster University), Blackpool, May 2011

## ACKNOWLEDGEMENTS

For my daughter Shannon

I would like to thank those people whom without this paper would not have been possible. My family, and in particular, Stephen, Nathan and Shannon for supporting, encouraging and most of all believing in me, especially during my darkest hours. My friend and fellow student, Claire aka Thelma, who made my arduous journey a joyous one and one I could not have travelled without her.

I would also like to thank the Springboard FIP staff and clients respectively, for allowing me to do my research and taking part; again without them this paper would not have been possible.

Many thanks also to all the tutors and LRC staff from Blackpool University Centre, both past and present. However, I would like to give special thanks to my former HELM Fiona Porter and former course tutor, Rod Passant; without your inspiration, knowledge and belief I would never have made it through. Lastly, but by no means least, my present course tutor Wendy Askam for her inspiration, depth of knowledge and sheer determination to see me through to the end.

So to you all many, many thanks

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## **ABBREVIATIONS**

ASB	Anti Social Behaviour
ADHD	Attention Deficit Hyperactivity Disorder
CBT	Cognitive Behaviour Therapy
CD	Conduct Disorder
CJS	Criminal Justice System
DV	Daily Values
FIP	Family Intervention Project
HMP	Her Majesty's Prison
MANOVA	Multivariate of Analysis of Variance
NOMS	National Offender Management Service
RDA	Recommended Dietary Allowance
RDI	Recommended Daily Intake
RDS	Research Development and Statistics Section
VIT	Vitamin
YIP	Youth Inclusion Project
YJB	Youth Justice Board
YOT	Youth Offending team

## KEY WORDS/GLOSSARY OF TERMS

Anti Social Behaviour	Behaviour, which causes or is likely to cause, harassment, alarm or distress to one or more persons who are not in the same household as the perpetrator.
Carbohydrate	Any of a group of organic compounds that includes sugars, starches, celluloses, and gums and serves as a major energy source in the diet of animals. These compounds are produced by photosynthetic plants and contain only carbon, hydrogen, and oxygen, usually in the ratio 1:2:1.
Family Intervention Project	Provide intensive support through assertive working methods, with the underlying threat of sanctions; projects help families improve their behaviour by tackling underlying problems that are key risk factors for offending behaviour.
Minerals	An inorganic element, such as calcium, iron, potassium, sodium, or zinc, that is essential to the nutrition of humans, animals, and plants.
Malnutrition	Malnutrition is the condition that develops when the body does not get the right amount of the vitamins, minerals, and other nutrients it needs to maintain healthy tissues and organ function.
Nutrition	Good nutrition can help prevent disease and promote health. There are six categories of nutrients that the body needs to acquire from food: protein, carbohydrates, fat, fibres, vitamins and minerals, and water.
Protein	Any of a group of complex organic macromolecules that contain carbon, hydrogen, oxygen, nitrogen, and usually sulphur and are composed of one or more chains of amino acids. Proteins are fundamental components of all living cells and include many substances, such as enzymes, hormones, and antibodies that are necessary for the proper functioning of an organism. They are essential in the diet of animals for the growth and repair of tissue and can be obtained from foods such as meat, fish, eggs, milk, and legumes.
Mann-Whitney U test	In statistics, the Mann Whitney U test is a non-parametric statistical hypothesis test for assessing whether two independent samples of observations have equally large values. It is one of the most well-known non-parametric significance tests by Henry Mann and his student Donald Ransom Whitney in 1947.

References: (Farlex, 2011; Home Office , 2008; Walliman, 2006; Noaks & Wincup, 2004)

## RESEARCH PROBLEM

Much research has been carried out on the effects specific foodstuffs have on adverse externalising behaviour, however, little research has been undertaken into a nutrient deficient diet and the impact or consequences this has on adverse externalising behaviours.

## INTRODUCTION

### Anti Social Behaviour

Anti social behaviour has gained a high profile in Britain in recent years moreover interest in indentifying the antecedents of anti social behaviour has become prevalent also. The rationale behind this interest is transparent; anti social behaviour is costly to society, both in terms of the physical cost of property damage, as well as the disruptions to society's normal pattern of living. Anti social behaviour can be defined as behaviour that contravenes the norms of society. However, different societies have different cultural norms and values, as well as different laws. Decriminalising certain activities that were deemed anti social, such as homosexuality, or criminalising acts such as smoking in a public place that was once acceptable to society, is now deemed anti social, therefore the term anti social behaviour can be ambiguous at best. Loeber and Farrington (1997) also suggest the social phenomenon that is anti social behaviour is fraught with difficulties when it comes to demonstrating causal factors (Loeber & Farrington, 1997; Rutter, 1997; Shaw & Winslow, 1997).

Most research concerned with indentifying the factors associated with anti social behaviour are concerned with identifying the societal factors and although this has produced some important correlation evidence it has not however demonstrated that societal factors have causal relationships with anti social behaviour, as this would require more rigorous experimental designs which are difficult to attain in sociological research (Altman, 1991; Rutter, 1995). Furthermore Stone & Kelnar (2000) go on to suggest that a more in depth knowledge of the biology of anti social behaviour would help inform interventions with which to tackle it (Stone & Kelnar, 2000). Nevertheless there is a wide range of interventions available for various agencies to use with which to tackle ASB, however none appear to identify nutrition as a causal factor of ASB. However, there has been a lot of research that identifies the consumption of specific foodstuffs, such as sugar and food additives, that can have a detrimental effect of behaviour; moreover, there is recent evidence, which will be discussed further in the literature review, to suggest that the lack of essential nutrients in ones diet can adversely affect behaviour also.

Furthermore in a recent longitudinal cohort study of children and parents, the former Labour Government Home Office, used a multivariate of analysis of variance (MANOVA) to examine some of the individual child and family characteristics. The report suggested the following characteristics are associated with anti social behaviour (Home Office, 2008).

- family adversity (e.g. parental criminality, inadequate housing, financial problems)
- negative emotionality (e.g. difficulty, moods, temper tantrums)
- shyness/withdrawal
- general development (e.g. motor skill development, expressive language)
- language (vocabulary)
- conduct problems (e.g., hyperactivity, problem behaviour)
- pro-social behaviour (behaviour that benefits other people such as empathy)
- peer problems and friendships (e.g. peer problems, friendship quality)

Although the research was not suggestive of causal links between behaviour types and continued involvement in anti-social or other problem behaviour, it did highlight strong associations which are

worth further investigation (Home Office, 2008). The following (**table 1**) contains the former Labour Governments typology of ASB; table 2 contains specified powers to deal with ASB and which agency can impose those interventions and on whom. It also contains the effect imposing the intervention may have and what results from a breach of that power imposed (House of Commons Committee of Public Accounts, 2007).

**Table 1: The Home Office Typology of Anti-Social Behaviour**

<b>Misuse of public Space</b>	<b>Disregard for community personal wellbeing</b>	<b>Acts directed at People</b>	<b>Environmental Damage</b>
<p><b>Drugs/Substance Misuse</b> Taking drugs Sniffing volatile substances Discarding needles/drug paraphernalia</p> <p><b>Drug Dealing</b> Crack houses Presence of dealers or users</p> <p><b>Street drinking</b></p> <p><b>Aggressive begging</b></p> <p><b>Prostitution</b> Soliciting Cards in phone boxes Discarded condoms</p> <p><b>Kerb crawling</b> Loitering Pestering residents</p> <p><b>Illegal campsites</b></p> <p><b>Vehicle-related nuisance</b> Inconvenient/illegal parking Car repairs on the street/in gardens Abandoning cars</p> <p><b>Sexual acts</b> Inappropriate sexual conduct Indecent exposure</p>	<p><b>Noise</b> Noisy neighbours Noisy cars motorbikes Loud music Alarms (persistent ringing/malfunction) Noise from pubs/clubs Noise from business/industry</p> <p><b>Rowdy behaviour</b> Shouting and swearing Fighting Drunken behaviour Hooliganism/loutish behaviour</p> <p><b>Nuisance behaviour</b> Urinating in public Setting fires (not directed at specific persons/property) Inappropriate use of fireworks Throwing missiles Climbing on buildings Impeding access to communal areas Games in restricted areas Misuse of air guns Letting down tyres</p> <p><b>Hoax calls</b> False calls to emergency services</p> <p><b>Inappropriate vehicle use</b> Joyriding Racing cars Off-road motorcycling Cycling/skateboarding in pedestrian areas/footpaths</p> <p><b>Animal related problems</b> Uncontrolled animals Dog fouling</p>	<p><b>Intimidation/Harassment</b> Groups of individuals making threats Verbal abuse Bullying Following people Pestering people Voyeurism Sending nasty offensive letters Obscene nuisance phone calls Menacing gestures</p> <p><b>Can be on the grounds of:</b> Race Sexual orientation Gender Religion Disability Age</p>	<p><b>Criminal damage/vandalism</b> Graffiti Damage to bus shelters Damage to phone kiosks Damage to street furniture Damage to buildings Damage to trees plants hedges</p> <p><b>Litter/rubbish</b> Dropping litter/chewing gum Dumping rubbish (including in own garden) Fly-tipping Fly-posting</p>

Source Ref (House of Commons Committee of Public Accounts, 2007)



**Table 2: The Range of Interventions Available to Tackle ASB**

<b>Power Imposed</b>	<b>Power Imposed By</b>	<b>Imposed Against</b>	<b>Effect</b>	<b>Effect of Breach</b>
Acceptable Behaviour Contract	Police, local housing office, schools, social services	Anyone committing ASB	Voluntary agreement to try to curb anti-social behaviour informally, avoiding the need for an Anti-Social Behaviour Order	Agency may try to secure Anti-Social Behaviour Order and use breach of Acceptable Behaviour Contract as relevant evidence
Anti-Social Behaviour Order	Magistrates on application of police, local authorities, Registered Social Landlords, or Housing Action Trusts	Someone aged 10+ who has committed anti-social acts, where necessary to protect the public from further acts	All acts specified in the order (on discretion of magistrate) prohibited for at least two years (as specified)	Criminal offence: possible five years imprisonment
Crack House Closure Order	Magistrates on application from the police	Premises that have been used in connection with use, production or supply of Class A drugs	Premises are closed to all persons whom the court decides for up to three months	Imprisonment of up to three months and possible level 5 fine
Demoted tenancies Court, on application of local authorities	Registered Social Landlords and Housing Action Trusts	A tenant guilty of antisocial conduct or unlawful activity	Secure or assured tenancy ended and replaced with a demoted tenancy	Possible possession proceedings, resulting in eviction
Dispersal power	The police	A group of people congregating in a designated area (which must be an area with persistent anti-social behaviour)	Police officer or Community Support Officer can require a group to disperse without evidence that it is causing anti-social behaviour	Refusal to follow the officer's directions to disperse is an offence: possible level 4 fine or three month imprisonment
Penalty Notices for Disorder	Police, Community Support Officers, other persons accredited by the Chief Constable	Anyone aged 16+ guilty of any of the listed offences, including drunkenness offences	£50 fine (recently increased from £40) for most offences; £80 for more serious offences.	No criminal record Non-payment would result in prosecution for the matter in which the notice was given
Housing Act Injunction	County or High Court, on application of Registered Social Landlords, Housing Action Trusts or local housing authorities	A person over the age of 18 who has acted anti-socially, used premises for unlawful purposes or breached the terms of their tenancy	Conduct specified in the injunction prohibited	Contempt of court: possible two years imprisonment/unlimited fine
Individual Support Order	Magistrates, to accompany Anti-Social Behaviour	10-17 year olds who have been given an Anti-social	Aims to complement an Anti- Social Behaviour Order by	Criminal Offence: possible level 3 fine (£1,000 or £250 if child

	Orders	Behaviour Order	addressing the causes of behaviour. Can require attendance at two sessions per week for six months	is under the age of 14 at the time of the conviction) (
Parenting Contracts	Youth Offending Team	Parent of a child or young person who has been or is likely to be involved in crime or anti-social activity	Voluntary agreement by the parent to agree to the requirements of the team and by the team to support the parent	Breaching an agreement is not a criminal offence and there are no legal consequences
Parenting Order	Magistrates, to accompany an Anti-Social Behaviour Order or criminal conviction or else on application of the Youth Offending Team	Parents of anti-social children who have refused to co-operate on a voluntary basis	Emphasis is on improving parental skills through attendance at a parenting programme. Can impose other requirements	Criminal offence: possible level 3 fine (£1,000)

Source: Adapted from Home Affairs Select Committee report on Anti-Social Behaviour, (2004–05)

Most youths within the Criminal Justice System (CJS) will be involved with Youth Offending Teams (YOT) however, the Youth Justice Board (YJB) Directory of Emerging Practice, for both young people displaying offending behaviour and support for parents, also has many offending behaviour programmes that incorporate numerous different practices with which to change offending behaviour such as ASB. Many of those within the directory combine approaches such as Cognitive Behaviour Therapy (CBT), substance misuse awareness, social skills and life skills. However, none of the current programmes within the directory, and in particular those that teach to young people life skills, teach young people about nutrition and healthy diet (Youth Justice Board, 2010). If a general search within the whole of the YJB categories is performed, using the keyword nutrition, only one search result matching the criteria is displayed. This is the award winning ‘Southampton Baseline Project’ (see appendix 1) which is a Youth Inclusion Project (YIP) funded by the YJB via the Wessex YOT. The project appears to be one of the only programmes that attempts to combat offending and anti social behaviour by teaching young people how to budget, cook and the benefits of a healthy diet (Youth Justice Board, 2010).

## Healthy Diet and Nutritional Information

Most people can obtain all the nutrients they need by eating a varied healthy diet. A varied diet should contain plenty of fruit and vegetables, plenty of starchy foods, such as, rice, grains, pasta and potatoes (wholegrain where possible). Some protein-rich foods such as meat, fish, eggs and pulses, some milk and dairy foods and a small amount of foods high in fat, salt and sugar. The essential vitamins and mineral needed to be healthy can be obtained by varying the type of food stuffs consumed (The Food Standards Agency, 2010).

Fat soluble vitamins (A, D, E, K) (see table 3) are mainly found in fatty foods such as, animal fats (including butter and lard), vegetable oils, liver, dairy foods and oily fish. The body needs these vitamins to function properly however you do not need to eat food stuffs containing them every day, as the body stores fat soluble vitamins in the liver and fatty tissues. This means stores build up for when your body needs them, also to many fat soluble vitamins can be harmful (The Food Standards Agency, 2010).

Water soluble vitamins (B6, B12, C, biotin, folic acid, niacin, pantothenic acid, riboflavin, thiamine) (see table 4) are found in fruit, vegetables and grains. These vitamins are not stored in the body and are needed every day to maintain health. Unlike fat soluble vitamins, water soluble vitamins are destroyed by heat, especially boiling, or by being exposed to air. Therefore, the best ways to cook these foodstuffs are, by steaming or grilling, or consuming raw if applicable (The Food Standards Agency, 2010).

Minerals (calcium, iron, magnesium, phosphorus, potassium, sodium, sulphur) (see table 5) are essential nutrients that the body needs in food form, in small amounts, to function properly. They can be found, in varying amounts, in food stuffs such as, meat, cereals, fish, dairy products, vegetables, fruit and nuts. Minerals are needed to build strong teeth and bones, control body fluids both within and outside of cells and to turn the food eaten into energy (The Food Standards Agency, 2010).

Trace elements (boron, cobalt, copper, chromium, fluoride, iodine, manganese, molybdenum selenium, silicon, zinc) (see table 6) are found in food stuffs such as, meat, cereals, fish, dairy products, vegetables, fruit and nuts and like vitamins and minerals, are also essential for the body to work properly, however, they are needed in much smaller amounts (The Food Standards Agency, 2010).

## Vitamins and Minerals Food Sources with Recommended Dietary Allowances (RDA) and Function Tables

**Table 3: Fat Soluble Vitamins**

Fat Soluble Vitamin	Food Source	RDA Men	RDA Women	Function
VIT A Retinol	Liver, liver oils, milk, dairy products, eggs, fortified margarine	0.7mg	0.6mg	Helps maintain the health of skin and mucus linings (in the nose for example). Helps strengthen immunity from infections. Helps vision in dim light.
Carotene:	Red and yellow fruits and vegetable, e.g. carrots	As Vit. A	As Vit. A	Body converts in to Vitamin A and performs same function.
VIT D	Butter, margarine, oily fish, eggs	0.01mg	0.01mg	Regulates calcium and phosphate for healthy teeth and bones.
VIT E	Cod liver oil, almonds, peanuts, hazelnuts, butter, margarine, cream	4mg	3mg	Acts as antioxidant and protects cells membranes.
VIT K	Green leafy vegetables e.g. spinach, cabbage, broccoli. Margarine, vegetable oils	0.001mg per kg of body weight	0.001mg per kg of body weight	Blood clotting and building strong bones.

**Table 4: Water Soluble Vitamins**

<b>Water Soluble Vitamin</b>	<b>Food Source</b>	<b>RDA Men</b>	<b>RDA Women</b>	<b>Function</b>
VIT C	Fruits and vegetables. High in Kiwi, orange, tomato, broccoli red and yellow peppers	40mg	40mg	Helps body absorb iron from food, helps protect cells and keep them healthy.
VIT B1 (Thiamine)	Yeast, pork, sunflower seeds, legumes i.e. peas, fortified breakfast cereals, broccoli, eggs	1mg	0.8mg	Works with other B vitamins to help break food down into energy. Keeps nerves and muscle tissue healthy.
VIT B2 (Riboflavin)	Liver, milk, eggs, ricotta cheese, oysters, fortified breakfast cereal, yeast, plain chocolate, fish, pulses	1.3mg	1.1mg	Helps keep skin, eyes, nervous system and mucous membrane healthy. Helps produce steroids and red blood cells. Helps absorb iron.
VIT B3 (niacin)	Tuna, beef, liver, chicken, halibut, mushroom	17mg	13mg	Helps produce energy from food eaten. Helps keep nervous and digestive system healthy.
VIT B5 (Pantothenic acid)	Found in all foods, especially liver, kidneys, egg yolk, yeast, broccoli and peanuts.	In all food	In all food	Helps body release energy from food eaten.
VIT B6 (pyridoxine)	Liver, whole grain cereals, steak, bananas, beans, legumes, nuts, seeds, chicken, tuna, beef. Small amounts in fruit and vegetables.	1.4mg	1.2mg	Allows the body to store and use energy from the protein and carbohydrate eaten. Also helps haemoglobin to form which is the substance that carries oxygen around the body.
BIOTIN	Synthesised by micro flora of digestive tract. Yeast, liver, kidneys, nuts.	Between 0.01 and 0.2 mg	Between 0.01 and 0.2 mg	Helps convert food in to energy.
VIT B12	Meat, fish, shellfish, chicken, milk, marmite.	0.0015mg	0.0015mg	Helps process folic acid. Helps makes red blood cells, keeps nervous system healthy. Converts food into energy.

**Table 5: Minerals**

<b>Mineral</b>	<b>Food Source</b>	<b>RDA Men</b>	<b>RDA Women</b>	<b>Function</b>
FOLIC ACID (FOLATE)	Brewer's yeast, spinach, fortified breakfast cereals, legumes, broccoli, avocados, orange juice, greens, liver.	0.2mg	0.2mg Before/during pregnancy 0.4mg	Works with vit. B12 to form healthy red blood cells. Helps reduce neural tube defects such as spina bifida in unborn babies.
CALCIUM	Milk and dairy products, bananas, nuts, pulses, sardines, tinned salmon, dried fruit, broccoli.	700mg	700mg	Helps build strong teeth and bones. Regulates muscle contraction including the heart. Makes sure blood clots normally.
IRON	Offal, legumes, fortified breakfast cereals, greens leafy vegetables, cocoa, dried fruit.	8.7mg	14.8mg	Has a number of important roles including helping make red blood cells to carry oxygen round the body.
MAGNESIUM	Nuts, legumes, peanut butter, tuna, chicken, meat, milk, wholemeal bread, wholegrain cereals, spinach, peas, jacket potato, corn and tea.	trace	trace	Helps make and activates enzymes in the body. Most people get their RDA through drinking tea.

**Table 6: Trace Elements**

<b>Trace Elements</b>	<b>Food Source</b>	<b>RDA Men</b>	<b>RDA Women</b>	<b>Function</b>
ZINC	Liver, beef, chicken, peanut butter, pork, oysters, whole grains.	5.5mg - 9.5mg	4mg – 7mg	Helps make new cells and enzymes. Helps process carbohydrates, protein and fat from eaten food. Helps heal wounds.
COPPER	Liver, kidneys, shellfish, whole grains, mushrooms, legumes, chocolate, nuts.	1.2mg	1.2mg	Helps produce white and red blood cells. Triggers the release of iron from haemoglobin. Important in infant growth, brain development, immune system and strong bones.
IODINE	Iodised salt, seaweed, salt water seafood, sunflower seeds, spinach, pumpkin, broccoli, nuts, shrimp, oyster, chocolate.	0.14mg	0,14mg	Helps make thyroid hormone that keeps thyroid and metabolic rate healthy.

PHOSPHORUS	Milk, cheese, yoghurts, meat, chicken, fish, peanut butter, almonds, legumes.	550mg	550mg	Helps build strong bones and teeth. Helps release energy from food eaten.
SELENIUM	Liver, kidneys, meat, cereals and dairy products.	0.075mg	0.06mg	Important to immune system function, thyroid hormone metabolism and in reproduction. Is also part of the body's antioxidant defence system.
CHROMIUM	Mushrooms, prunes, meat, whole grain cereals and spices.	0.025mg	0.025mg	Influences how insulin behaves in the body, so affects the converting of food to energy.
MOLYBDENUM	Milk, dairy products, legumes, meat, oats, rice, soybeans, lentils, pasta and wide range of food.	Trace	Trace	It helps make and activate some of the enzymes involved in repairing and making genetic material.

Reference Source for tables A, B, C & D (NHS, 2010; The Food Standards Agency, 2010)

Recommended Daily Intake (RDI) of calories for an average adult is 2000 kcal per day. The RDI of calories for children aged between 5 and 10 years is 1800 kcal per day, see (table 7) for specific nutrients and daily values (NHS, 2010; The Food Standards Agency, 2010).

**Table 7: Nutrient Daily Values**

Nutrient	Daily Value (DV)
Total Fat	65g
Saturated Fatty Acids	20g
Cholesterol	300mg
Sodium	2300mg
Potassium	4700mg
Total Carbohydrate	300g
Fibre	25g
Protein	50g

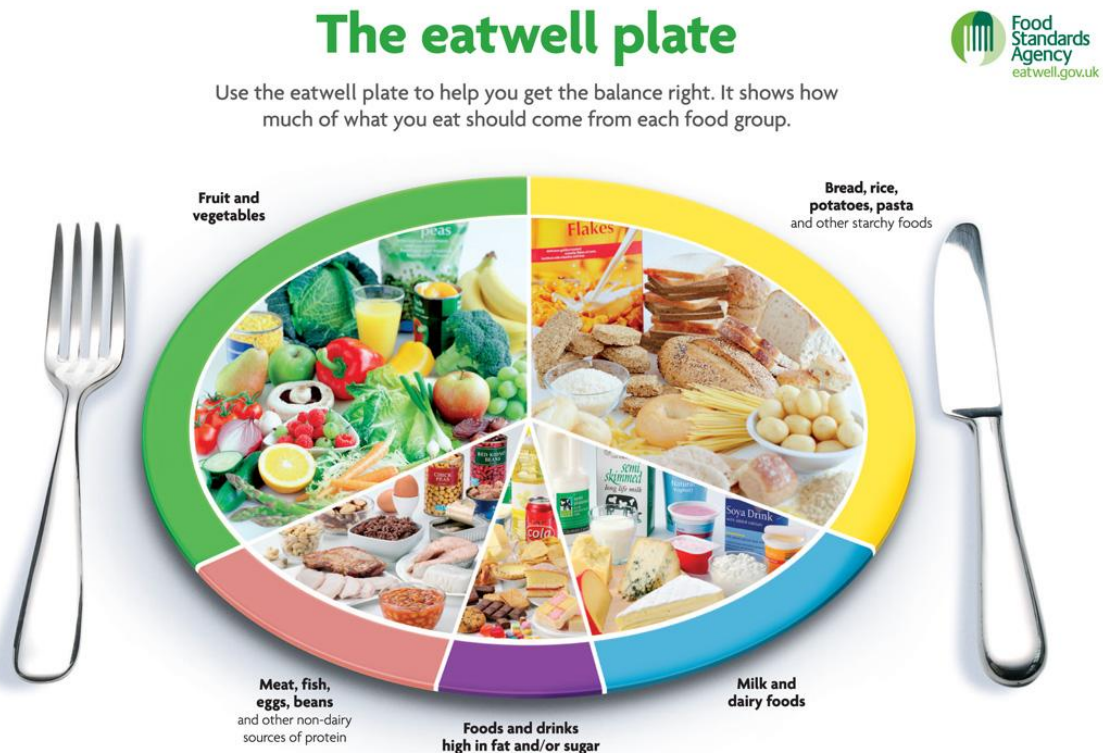
Reference Source: (NHS, 2010; The Food Standards Agency, 2010)

The recommended dietary allowance (RDA) of fruit and vegetables should amount to a third of the daily intake of food, approximately 665 kcal per adult and 600 kcal per child. It should also contain a variety of fruit and vegetables made up of five portions each containing 80 grams for example; one 80g portion of vegetables equals three heaped tablespoons (raw, cooked, frozen or tinned) or a dessert bowl of salad vegetables. One 80g portion of fruit equals one apple, or a banana, or two small fruits such as plums or apricots; one handful of grapes or berries; one slice of large fruit such as melon or pineapple or one heaped tablespoon of dried fruit; one 150ml glass of fruit juice. For a shopping food planner that incorporates five portions of fruit and vegetables a day (see appendix 3) (The Food Standards Agency, 2010; NHS, 2010).

The RDA of starchy (carbohydrate) foods, such as, bread, rice, potatoes and grains (wholegrain where possible) should amount to a third of the daily intake of food, approximately 665 kcal per adult and 600 kcal per child. Gram for gram starchy foods contain less than half the calories of fat, however, care should be taken not to add to the calorie content by adding food such as, cheese and butter, to starch products (The Food Standards Agency, 2010; NHS, 2010).

The last third of RDA should be split into three amounts with one third made up of protein such as lean meat, fish, beans and eggs (and other non dairy sources of protein), with the RDA of fish and shellfish amounting to two portions of fish per week, one of which should be an oily fish such as, mackerel. The recommended portion of fish should be equal 140 grams; one third of food or drinks with high fat and/or sugar content and the last third made up of dairy products such as, milk, cheese and yoghurts (The Food Standards Agency, 2010; NHS, 2010). The 'eatwell plate' (see **diagram 1**) is a simplified version of which food groups should be consumed in the correct amounts.

**Diagram 1: The 'eatwell' plate**



Reference Source (The Food Standard Agency, 2010).

## Family Intervention Projects

Family Intervention Projects (FIP's) provide intensive support to vulnerable families. Initially developed as part of the former Labour governments 'Respect' agenda (see **appendix 2**), they focused on families identified as being involved in persistent ASB and at risk of losing their homes. However, FIP's are now being expanded to provide intensive support for a wider group of families at risk.

FIP's work by providing intensive support through assertive working methods, with the underlying threat of sanctions; projects help families improve their behaviour by tackling underlying problems

that are key risk factors for offending behaviour (see **table 8**). The projects take a multi- agency approach co-ordinated by a key worker and include accredited parenting programmes, such as, Triple P Parenting (Home Office, 2009).

**Table 8: Key Risk Factors**

FAMILY RISK FACTOR	CHILD RISK FACTOR
<ul style="list-style-type: none"> <li>• Mental Health</li> <li>• Domestic Violence</li> <li>• Offending Parent/s</li> <li>• Parental Imprisonment</li> <li>• Substance Misuse</li> <li>• Child Abuse and Neglect</li> <li>• Poor Parenting (harsh, inconsistency parenting, lack of supervision and guidance etc.)</li> <li>• Family Conflict/Breakdown</li> <li>• Deprivation</li> <li>• Unemployment</li> <li>• Lack of Education</li> </ul>	<ul style="list-style-type: none"> <li>• Behavioural Problems (attention deficit hyperactivity disorder ADHD, conduct disorder (CD), anti social behaviour (ASB))</li> <li>• Truancy</li> <li>• School Exclusion</li> <li>• Poor School Attainment</li> <li>• Under Care of Local Authority</li> </ul>

Reference Source (Home Office, 2009)

Blackpool's award winning family intervention project 'Springboard' has been in operation as an ASB FIP since 2006. It supports chaotic families address a wide range of issues identified as risk factors in (**table 8**). However, currently there is no ongoing work around healthy eating and the positives of a healthy well balanced diet. Previously Springboard has run projects that have tackled poor diets of families. However, they were mainly in relation to tackling health issues surrounding obesity and excess weight within the families.

On a more current note the new Coalition government in July 2010 commissioned an independent review in to 'early intervention of families that present with multiple problems' (formerly family intervention under the Labour government). The review is to be chaired by the Secretary of State for Work and Pensions, MP Graham Allen (DWP, 2010). In the recommendations from the review, Allen (2011) suggests that Early Intervention should be put at the heart of other government strategies such as those focusing on education, employment, crime reduction and mental and physical health. The following recommendations were made in relation to health;

- GP consortia and local authorities to work together to commission evidence based preventative Early Interventions focusing on pregnancy and early years of life.
- The Health and Wellbeing boards to create integrated strategies based on JSNA at a local level by sharing best practise.
- The Dept of Health and NHS to strengthen the accountability of Local directors.
- Public Health for their role in improving "social and emotional capacity".
- In relation to maternity and paternity benefits - the formation of a cross party broad based group to examine possible means to give British parents and babies the same support offered to their Swedish counterparts.
- The success of the family nurse partnership to be built on and extended with the "specific aspiration" that "every vulnerable first time young mother who meets the criteria and wants family nurse partnership should be able to access it". This will require discussions with all



relevant partners on "how to ensure sustained local commissioning, leadership and finance" (Allen, 2011).

## AIM & OBJECTIVES

The aim of this study was to investigate, by using a quantitative research method, if there was a lack of nutrients in an anti social behaviour cohort's diet, and to further see if the diet consumed therefore has an influence on ASB.

In order to meet these aims, operational tasks were undertaken using instruments to collect the primary data on the daily food consumption of the ASB cohort's diet and what the diet consisted of. The instrument used was a questionnaire and a semi structured interview technique. The quantitative data collection method used collected ordinal data that is numerically based and amenable to analytical testing methods, for example, the Mann Whitney U test, so that the hypotheses could be tested. The study was also augmented with a literature review. However, the study was constrained by the lack of available study samples; Blackpool currently only has one FIP with a limited amount of clients, the study and research was therefore limited.

## HYPOTHESES

**H1- There will be a significant difference in the nutritional consumption levels of the ASB cohort (AC=18) when compared with the nutritional consumption levels of the control group (CG=18).**

**H0 - There will not be a significant difference in the nutritional consumption levels of the ASB cohort (AC=18) when compared with the nutritional consumption levels of the control group (CG=18).**

## LITERATURE REVIEW

Although there have been several studies that have demonstrated the effects of related factors such as food additives, hypoglycaemia and cholesterol on the behaviour of human beings and despite decades of research into the social and biological risk factors of children's/adults aggressive and anti social behaviour, little is known about the role of malnutrition as a contributor to children and adults developing externalising behaviour (Raine, Lui, Venables, & Mednick, 2004).

Raine et al (2004) also suggest that poor nutrition is thought to predispose to externalising behaviour problems (conduct disorder, attention problems, excessive motor activity and socialised aggression). They acknowledge that to date there appears to be very little in the way of prospective longitudinal studies that test this hypothesis, however, they carried out a study that assessed whether children aged 3 years with a poor nutritional diet were predisposed to anti social behaviour at the ages of 8, 11 and 17 years. The study also assessed whether such relationships are independent of psychosocial adversity and whether IQ mediates the relationship between nutrition and externalising behaviour problems (Raine, Lui, Venables, & Mednick, 2004).

The study drew a cohort at birth of 1795 participants in whom signs of malnutrition were assessed at age 3 years, and cognitive measures were assessed at age 3 and 11 years. At ages 8, 11 and 17 years anti social behaviour, aggression and hyper active behaviour was assessed (Raine, Lui, Venables, & Mednick, 2004).

The study suggested that a lack of zinc, iron, vitamin B and protein in the first three years of a child's life caused aggressive and anti social behaviour later on in life. At the age of 8 years old children who consumed a poor nutritional diet, as opposed to children who consumed a healthy diet, were found to be more hyperactive and aggressive. At age 11 years children with a poor nutritional diet were found to be more hyperactive, aggressive and also display delinquent tendencies. By the age of 17 years, children with a poor nutritional diet displayed externalising behaviour problems that included conduct disorder, attention problems, excessive motor activity and socialised aggression (Raine, Lui, Venables, & Mednick, 2004).

The study also suggested that the relationship between malnutrition and externalising behaviour was mediated by cognitive ability rather than psychosocial adversity, which indicated that children with a poor nutritional diet are also predisposed to having a low IQ which therefore predisposes them to externalising behaviour problems (conduct disorder, attention problems, excessive motor activity and socialised aggression) (Raine, Lui, Venables, & Mednick, 2004).

Raine et al (2004) went onto suggest that externalising behaviour problems of children are predisposing factors for later adult offending. Therefore early identification of key risk factors in child and adolescent aggression and anti social behaviour is paramount to the development of successful programmes that deal with adult aggression (Raine, Lui, Venables, & Mednick, 2004).

Although Hagall (n.d.) questioned the results of the study and commented that although the findings could not be dismissed Hagall stated;

*"I would be surprised if diet plays a big role, in my experience diet is not part of the explanation. It can cause hyper activity disorders, but anti social behaviour is more influenced by parenting and genetics and teen peer pressure in teenage groups."* (BBC News Channel, 2004)

Nevertheless, in 2002 a study in Durham took place researching the links between fatty acids and learning conditions such as dyspraxia, dyslexia and attention deficit and hyperactivity disorder (ADHD). 'The Durham Trial' was one of the most extensive and largest study's of its type to take place, its initial aim was to study dyspraxia however, full assessments on dyslexia and ADHD were also undertaken (Durham LEA et al, 2006).

Durham education authority collaborated with researchers, Dr Madelaine Portwood from the Dyslexia Research Trust, who specialises in dyspraxia, and Dr Alex Richardson of Oxford University, who specialises in the effect of fatty acids and ADHD. The study identified 200 children, some in pre-school, some in primary schools and some in secondary schools, but all with learning and concentration difficulties. They were then placed on a randomised, double-blinded, placebo trial and then studied throughout a six month period. For the first three months half of the children were given a non active placebo supplement, whilst the other half was given 2 x 500mg of active fatty acid supplements per day. For the latter three months all the children in the study were given active fatty acid supplements (Durham LEA et al, 2006).

The study saw dramatic results in the first three months, the primary school children in the active group showed significant improvements in reading, spelling and behaviour, whilst the non active group showed no overall improvements. During the latter three months when the non active placebo group crossed over to the active fatty acid supplements, again improvements in the same areas were

made, whilst the original active group continued to make improvements or maintain their improvement (Durham LEA et al, 2006).

More specifically at the start of the trial 32% of children in the active group were diagnosed within the clinical range of ADHD. In the placebo group 31% of children were within the clinical range for ADHD. After the first three months the percentage of children in the active group diagnosed in the clinical range of ADHD fell 14% to 18%, whilst those children in the placebo group only reduced by 1% to 30% diagnosed within the clinical range of ADHD. In the latter three months when transferred onto the active fatty acid supplement the placebo group saw similar reductions in percentage rates of those children diagnosed within the clinical range of ADHD (Durham LEA et al, 2006).

In the secondary school students, then aged 12 to 15 years, pre-trial assessments showed that 94% had moderate to severe ratings on the Inattention Scale and for ADHD, furthermore 89% were rated as having severe impulsivity. However, after taking the fatty acid supplement for three months significant improvements in behaviour and concentration were shown. Severe ADHD was reduced by 28% as was severe impulsivity, whilst severe inattention fell from 94% to just 17% of the cases (Durham LEA et al, 2006).

Dr Portwood (2006) went on to suggest that the students taking part had persistent behavioural difficulties and were potentially vulnerable and at risk of exclusion and that by taking the fatty acid supplement, those aspects of their behaviour that put them at risk of exclusion were dramatically improved. Nationally permanent school exclusions since 1999/2000 have risen 19%, with 68% of them being within the 12-14 year age range. Portwood (2006) posits that the results of the trials 'suggests a clear route to improvement' within the area of permanent school exclusions (Portwood, 2006).

Furthermore Dr Richardson et al (2002, 2000, & 1999) suggested that essential fatty acids such as omega 3's are 'essential' as they cannot be synthesised in the body and have to be consumed in diets. However, due to modern industrial processing, most omega 3's fatty acids are stripped from food to prolong the shelf life of food, hydrogenated fats also eradicates omega 3's. In the past Richardson claims that the balance between omega 6's and omega 3's was equal, however, more recently Richardson suggests we consume approximately 10 to 20 times more omega 6's than omega 3's and that disorders have become more prevalent as a result of these changes in diet. The approach used to treat disorders such as ADHD, full autism, schizophrenia and manic depression, is by using pharmacological or psychological treatments. Nevertheless food affects behaviour and although presently nutrition is largely neglected or ignored, if attention to diet was made, a real difference in behaviour would be seen (Richardson et al, 2002, 2000, & 1999).

A more specific study that researched the effects of a nutrient deficient diet on anti social behaviour was Gesch's et al (2002) study of young adult prisoners. Gesch et al (2002) used a double-blind placebo-controlled randomised trial experimental method on 231 young adult prisoners, to test empirically if physiological adequate intake of vitamins, minerals and essential fatty acids would produce a reduction in anti social behaviour. They tested the reduction in anti social behaviour by comparing disciplinary offences before the intake of supplements and during the intake of supplements (Gesch, Hammond, Hampson, Eves, & Crowder, 2002).

Gesch's et al (2002) background to the study suggested that the 1942 wartime government was persuaded by Sinclair (Secretary of State for Air during Churchill's 1940 coalition government) (Hunter, 2005) to supplement the diets of children with cod liver oil and orange juice, as he had speculated that as well as ill health, a poor diet was also an antecedent of anti social behaviour. Gesch (2002) went on to suggest that evidence to support this link has grown (Moynahan, 1976; Virkkunen & Huttunen, 1982; Benton & Cook, 1991; Stevens et al, 1995, 1996; Hamazaki et al, 1996; Schoenthaler et al, 1997; Walsh et al, 1997; Hibbeln et al, 1998; Bjork et al, 1999; Golomb et al, 2000) and that if there is a causal relationship between a nutrient deficient diet and ASB, by

supplementing the lacking nutrients an improvement in behaviour should be seen (Gesch, Hammond, Hampson, Eves, & Crowder, 2002).

All 231 participants in the study were over the age of 18, they were all debriefed and all signed a consent form. The supplements taken were from over the counter brands and consisted of one vitamin and mineral capsule and 4 essential fatty acid capsules. All necessary procedures during the trial were taken so that the active group and placebo group could not identify or differentiate between the active capsules and placebo capsules. Of the 231 participants the average time spent on the supplements for the active group was 142.6 days, the placebo group was 142, and no individuals were withdrawn from the study due to ill effects of the supplementation. All the food consumed by the participants originated in the prison, therefore food consumption was also recorded using a 7 day diet diary (Gesch, Hammond, Hampson, Eves, & Crowder, 2002).

Psychological tests (formerly demonstrated as reliable and valid) were measured by employing; intelligence and verbal ability from the General Aptitude Test; emotional control from the Emotional Control Questionnaire; measurement of anger and aggression from the Survey Anger Scales; self-reported health status from the Malaise Inventory and the Hospital Anxiety and Depression Questionnaire (Zigmond & Snaith, 1983; Hammond, 1984; Roger & Nesshoever, 1987; Bramley et al, 1988; Roger & Najarian, 1989; O'Rourke, 1994; Rutter et al, 1995; Gesch, Hammond, Hampson, Eves, & Crowder, 2002).

The results analysed, after taking account of those participants who did not take their supplements (13), those who were prescribed psychotropic medication (6) and those who did not stay on the trial for more than 2 weeks (40), were based on 90 participants receiving the placebo and 82 participants on active supplements. Baseline rates of offending were also investigated to ensure that both groups were matched in terms of disciplinary incidents before supplementation and both groups were found to have equivalent rates. Those in the active group were found to have committed 26.3% less (11.8 disciplinary infringements per 1000 person-days) disciplinary infringements than those participants who received the placebo, this was found to be statistically significant. Prior to the trial both groups were found to commit, on average, 16 disciplinary infringements per 1000 person-day. Moreover the greatest reduction was found in more serious incidents, with the active group showing, on average, a significant reduction of 37%, whereas the placebo group showed a non-significant reduction of serious offences by only 10.1% . Minor infringements were reduced by 33.3% in the active group and only 6.5% in the placebo group (Gesch, Hammond, Hampson, Eves, & Crowder, 2002).

Gesch et al (2002) posit that the trial has demonstrated “a reduction in anti social behaviour to a remarkable degree”. However, Gesch et al have not advocated that nutrition is the only cause of anti social behaviour but concurs that the difference in outcomes of the active group and placebo group could not be explained through ethnic and social factors as these had been controlled during the randomised design. Furthermore Gesch et al (2002) acknowledge that although the trial needs to be replicated, they concur that the nutritional approach to anti social behaviour is advantageous in that insufficiency in nutrition can be easily identified and remedied. Moreover, as a result of analysing the prisoners' diet diaries it was highlighted that some of the prisoners did not have a basic understanding of what a healthy diet should consist of and made poor food choices. Even though the food provided by the prison was found to be close to the RDA of the UK dietary requirements, the prisoner's poor choices resulted in a lack of nutrients and most notably minerals. Therefore Gesch et al (2002) suggest an improvement in dietary education is also needed (Gesch, Hammond, Hampson, Eves, & Crowder, 2002).

Schauss (1978) also suggested that education on nutrition was found to be more effective at reducing recidivism than conventional probation programmes. Schauss (1978) study comprised of a cohort of 102 offenders on probation for misdemeanours that were selected by a trickle random process into four groups. One of the groups received counselling on nutrition; the second were given specific

nutritional instructions. Each of these groups was compared to control groups which received conventional probation casework and counselling (Schauss, 1979).

For 12 months prior to placement in the study groups, data on recidivism was collected with regard to recorded offences for each group. Over a period of time each group was compared to itself using the data previously collected and each experimental group compared to its control group. Employing the null hypothesis that “there would be no significant difference in recidivistic behaviour between the experimental group and the control group” Schauss study suggested that a biochemical and nutritional approach had an impact on the arrest rate of offenders on probation and that neither of the control groups using the conventional probation methods saw a significant decrease in arrest rate, furthermore the nutritional education group was found to have the lowest recidivism rate amongst all four groups. Schauss went on to suggest that these results suggest additional research is needed on the orthomolecular approach (Schauss, 1979).

Furthermore during the Associate Parliamentary Food and Health Forum (2007) The House of Lords Committee discussed the links between diet and anti social behaviour. The guest speakers included Doctor Gemma Harper, the Programme Director from the Research Development and Statistics Section (RDS) of the National Offender Management Service (NOMS). Dr Harper explained to the committee that in her role as programme director she is responsible for generating quality assured research that underpins policy making that can be presented to Government and Parliament and was in support of a new Natural Justice study that was to take place at HMP Hindley that was testing the relationship between nutritional supplements and offending behaviour. Dr Harper acknowledged that there has been a great deal of research between nutrition and behaviour but that their main interest was the link between nutrition and offending behaviour, to which there had been very little research. During a literature review Dr Harper was unable to find research that investigated the impact of nutrition on offending behaviour. However, she was able to find research that related to nutrition and offending behaviour of incarcerated offenders. She went on to present to the Parliamentary Committee her findings. Dr Harper suggested that although the studies produced positive outcomes on juvenile and young adult offenders, the findings were based on the behaviour of incarcerated people and could not be generalised to the community. Therefore her general conclusion of RDS and recommendations to the committee was that the effect of dietary intervention on offending behaviour was inconclusive and needed further testing and investigation, hence the RDS were therefore in support of the new Natural Justice application to undertake further studies (Associate Parliamentary Food & Health Forum, 2007).

## **METHODOLOGY**

### **Method: Deductive Approach**

The epistemological stance of the research is positivism, as the researcher believed that the phenomena of a nutrient deficient diet and the impact, or consequence, this has on anti social behaviour could be measured using a quantitative method so that the results could then be analysed using a scientific method (Noaks & Wincup, 2004; Walliman, 2006; Web Centre for Social Research Methods, 2011).

### **Database Search**

Using the keywords Anti-social behaviour, nutrition, malnutrition, antecedents, causal factors, externalising behaviour an online database search was carried out by the researcher. This resulted in 319 key articles in relation to the keywords, one of which was Gesch, Hammond, Hampson, Eves, & Crowder, (2002) article on the ‘Influence of supplementary vitamins, minerals and essential fatty

acids on the antisocial behaviour of young adult prisoners: Randomised, placebo-controlled trial'. This in turn led the researcher to investigate further using the keywords, nutrition effects on externalising behaviour, which resulted in 87,300 documents for research for shortlisting and presentation in the literature review (Noaks & Wincup, 2004; Walliman, 2006; Web Centre for Social Research Methods, 2011).

## **Technique/Design**

Using a hypothetico-deductive method the main objective of the research was to investigate the daily diet of the ASB cohort to ascertain if their diet lacked specific foodstuffs that contained the recommended dietary allowances (RDA) of specific nutrients then, compare this to the diet of a control group who do not display ASB so that the hypotheses could be tested.

To do this the researcher used materials that consisted of a letter of introduction with attached consent (**appendix 4**), a standardised introduction and guidance notes (**appendix 4**) and a questionnaire (**appendix 4**) that was carried out by an interviewer using a semi structured interview method.

This method was used as the researcher had identified, through the literature review that much research had been carried out into the consumption of specific foodstuffs and the effect this has on externalising behaviours, however, very little research had been carried out into the lack of specific nutrients and the effect this has on externalising behaviour. Moreover, the antecedents and resulting recommendations, in indentifying and combating the adverse externalising behaviour contains very little advice or information on a nutrient deficient diet and the possible negative outcomes/consequences (Noaks & Wincup, 2004; Walliman, 2006; Web Centre for Social Research Methods, 2011).

## **Instruments**

The semi structured interview method was used so that the questionnaire could be constructed using structured and unstructured sections and then completed with support from the interviewer.

The guidance notes were constructed in a structured format, using portion control, numerical weight values and also a more simplified version of portion control, weight values using approximate measurements of portion controls to facilitate the participants understanding of portion control. All portion controls were constructed by following the Food Standard Agency and National Health Service Agency RDA recommendations.

The nutritional section of the questionnaire was broken down into structured sections that contained standardised simplified headings. Initially the researcher felt the guidance notes were extensive enough for the questionnaire to be completed by the participants in their own time as a structured questionnaire instrument. Nevertheless a pilot study was carried out prior to the questionnaire being completed by the cohort and control group. The purpose of the pilot was to check the feasibility and/or to improve the terminology and/or design to avoid time being wasted on an inadequate design.

Furthermore, after carrying out the pilot questionnaire the interviewer felt it was more appropriate to use a semi structured interview method to facilitate the completion of the questionnaire. The range of foodstuffs that fall under the category headings are so vast that the researcher felt the simplest way to complete this section would be to use a semi structured interview method using the aforementioned guidance notes and guide the applicant through the questions. This was to standardise the responses to the RDA so that there could be no confusion in what the participants perceived portion size to be.

Using randomised dietary recall the participants were asked to think of the last ‘normal’ food consumption day in their household and recall the food they consumed. Normal is characterised as a day when there was no special occasion such as a birthday and they had eaten at home from food they cooked or purchased ready to eat.

At this point of the research no other changes to the method or instruments were made, however, during the research a further error within the instrument was highlighted. The error was contained in the last section under the sub heading ‘please tick which mostly applies to, I eat take away or fast food’ and will be discussed further in the discussion section of the paper (Noaks & Wincup, 2004; Walliman, 2006; Web Centre for Social Research Methods, 2011).

## Participants/Sampling Frame

The participants ( $AC=18$ ) were selected using purposive sampling, which is a deliberate non-random sampling method, as the participants all displayed specific characteristic of anti-social behaviour (ASB) within the Family Intervention Project (FIP) setting. Within the FIP clients come under three localities; north, south and central; these localities are specific to demographic areas within Blackpool. From this sampling frame of three localities a simple random sample of participants was selected for the study from the all three localities.

The control group ( $CG=18$ ) were selected using convenience and purposive sampling, however, the specific characteristic displayed in the control group was that of non ASB. To facilitate locating a sample with the non ASB characteristic convenience sampling was used; the control group participants were selected from people known to the interviewer and whom the interviewer was able to ask directly if the participant had ever been cautioned by authority figures (for example the police or local council) in relation to them displaying ASB within their community.

**Table 9: Gender and Age of ASB Cohort and Control Group**  
ASB Cohort ( $AC=18$ ) Control Group ( $CG=18$ )

Gender	Age	Gender	Age
M	10	M	48
M	6	M	19
M	10	M	48
M	50	M	9
M	26	M	11
M	39	M	32
M	14	M	12
M	12	M	4
M	46	M	49
F	5	F	41
F	13	F	16
F	13	F	18
F	32	F	46
F	13	F	34
F	23	F	9
F	2	F	7
F	6	F	6
F	46	F	33

## **Procedure**

The role of the researcher was to undertake and carry out the semi structured interview with the participants. This method was used so the researcher had the options of varying the standardised questions or format slightly so that the respondent had the scope and time to answer the questions and gave the researcher the time to explore the participant's responses. The same researcher carried out all the interviews to maintain inter-observer consistency validity and open ended questions were used in order to stop the interviewer generalising the responses. The chosen method also helped the researcher build a rapport with the participant and supported the respondent to feel at ease about discussing their dietary intake making their responses more reliable and valid. Furthermore the researcher used sufficient controls by using the standardised guidance notes to support the participants understanding of specific food stuffs and portion sizes so that they clearly understood and would self report honestly on their dietary intake (Noaks & Wincup, 2004; Walliman, 2006; Web Centre for Social Research Methods, 2011).

## **GENERALISABILITY**

The sampling frame of the ASB participants, although small, is a representative sample of clients within the Springboard FIP and can therefore be used to make generalisations about the population within this FIP as the population is homogeneous. Furthermore, with regards generalisations of other FIP's; generalisations can be made if the same criterion for a homogeneous population was used as acceptance into to FIP. However, the sampling frame is not a representative sample of the general population and the results do not, therefore have generalisability within this strata (Noaks & Wincup, 2004; Walliman, 2006; Web Centre for Social Research Methods, 2011).

## **RELIABILITY**

The reliability of the study is high; the methods used were consistent as the variables were operationalised accurately and sufficient controls were employed (Noaks & Wincup, 2004; Walliman, 2006; Web Centre for Social Research Methods, 2011).

## **VALIDITY**

The research has external validity within the strata of Blackpool's Springboard FIP, as the data, in relation to the food consumed, was operationalised by converting it into an ordinal measure. It would also have external validity in other strata's of FIPs if the same acceptance criterion was met and the same methods of operationalising the data was met the results would be generalisability under these conditions.

The research would also have high internal validity; the researcher intended to measure the consumption of specific food stuffs and the resulting data was operationalised by converting it into an ordinal measure.

Although not necessary to the overall validity of the research, the research does have ecological validity as the methods, materials and setting of the study approximated the real-life situation that was under investigation (Noaks & Wincup, 2004; Walliman, 2006; Web Centre for Social Research Methods, 2011).



## ETHICS

Ethics in relation to conducting the research were considered and the researcher carried out the study in accordance with the principles of the Ethical Committees of Lancaster University and Blackpool & the Fylde University, Springboard FIP, along with the ethical guidelines produced by the British Criminological Society,

Throughout the research the researcher recognised that they had a responsibility to ensure that the physical, social and psychological well-being of individuals participating in research was not adversely affected by participation in the research. The researchers also strived to protect the rights (interests, sensitivities and privacy) of those in the study.

However, only consent to participate in the study was sought, as the researcher felt if informed consent was sought it would adversely affect the participant's responses. The participants were led to believe that the study was only related to nutrition, not the effect a lack of nutrition may have on ASB. Therefore the participant's would not have felt like their diets and behaviour was under scrutiny and would be more truthful with their responses.

Each individual participant was assured that anonymity and confidentiality would be exercised throughout the study. The participants were also made aware of their right to withdraw and/or the data at any time during the study and were under no obligation to take part as part of the voluntary process of being clients of the Springboard FIP and could refuse to answer specific questions (The British Society of Criminology, 2011; Noaks & Wincup, 2004; Walliman, 2006; Web Centre for Social Research Methods, 2011).

## DESCRIPTIVE STATISTICS

**Table 10: Data Hierarchy**

<b>Theory</b>	A nutrient deficient diet lead to anti social behaviour
<b>Concept</b>	Lack of nutrients, anti social behaviour.
<b>Indicators:</b> <b>ASB</b> <b>Nutrient Deficiency</b>	“any aggressive, intimidating or destructive activity that damages or destroys another person's quality of life” (Home Office, 2010) A Lack of specifics nutrients, in varying amounts, needed in a daily diet to support and maintain a healthy life and body function.
<b>Variables:</b> <b>ASB</b> <b>Nutrient Deficiency</b>	Mental health issues, domestic violence, offending parent/s and parental imprisonment, as well as; substance misuse, child abuse and neglect or poor parenting, family conflict, deprivation, unemployment and lack of education. Fat soluble vitamins, water soluble vitamins, minerals and trace elements.
<b>Values:</b> <b>ASB</b> <b>Levels of nutrients</b>	Meets acceptance criteria of FIP. Measured using Food Standard Agency and Government recommendations of ‘five a day’ following RDA guidelines on page 14 of this report (The Food Standards Agency, 2010).

The quantitative data collected was operationalised by converting it into an ordinal measure to facilitate statistical analysis of the data.

For every RDA of fruit and vegetable consumed an ordinal measure of one was given, with a maximum optimal measure of five (the RDA) and a minimum measure of 0 for the consumption of no fruit and vegetables to each participant (see table 11 & 12).

The RDA for carbohydrates (C), protein (P) and dairy (D) is 2-3 portions per day and 0-3 portions per day for foods high in fats and sugars (F/S); therefore the optimal ordinal measure for consumption of these foods is acceptable at 12. This optimal measure was then deducted from the actual overall measure of portions consumed to give the participant an overall CPDF/S ordinal measure (see table 11 & 12).

**Formula for working out the score for carbohydrates, protein, dairy and foods high in sugar and fats (CPDF/S); total of portions consumed deducted from Optimal RDA 12 = CPDF/S**

In relation to take away food an acceptable optimal score of one or less take away a week was acceptable. Therefore if more than one takeaway was consumed a week a score of one was deducted from the overall score, if one or less was consumed a score of one was added to the participants ordinal score.

Data was then operationalised in to an ordinal measure for each participant by using the following formula;

**F/V score – CPDF/S score +/- one for take away score;**

**For example; Participant 1; 2 - (27-12) - 1 = -14**

The optimal ordinal score result is 6 if all optimal RDA are consumed for example using the above formula;

**5 – 0 + 1 = 6 (FV – CPDF/S + T/A)**

Once each participant was given an ordinal score this was then operationalise in an ordinal rank measure for use in statistical analysis with the Mann-Whitney *U* test in order to reject/accept the hypothesis and null hypothesis.

**Table 11: ASB Cohort Dietary Intake (in RDA Portions)**

PT = Participant

A = Age

F/V = Fruit and vegetable consumed (RDA 5 portions per day)

C = Carbohydrates (RDA 2-3 portions per day)

P = Protein (RDA 2-3 portions per day)

D = Dairy (RDA 2-3 portions per day)

F/S = Food high in fats and sugar (RDA 0-3 portions per day)

T/A = Take away food (RDA acceptable one or less per week)

<b>PT</b>	<b>A</b>	<b>F/V</b>	<b>C</b>	<b>P</b>	<b>D</b>	<b>F/S</b>	<b>T/A</b>
<b>1</b>	10	2	5	3	4	15	2-3
<b>2</b>	6	2	5	3	4	15	2-3
<b>3</b>	10	0	7	0.5	3	4	1
<b>4</b>	50	1.25	4	5	0	3	1
<b>5</b>	26	2.5	6	2.5	1	4	0
<b>6</b>	39	1.5	7.5	0.5	0.5	7	1-2
<b>7</b>	14	1.5	3	1	0	10	1-2
<b>8</b>	12	0	2	0	0	13	1-2
<b>9</b>	46	0	4	1	2	7.5	1-2
<b>10</b>	5	5	4.5	4	1	1.5	0
<b>11</b>	13	3	5	3	1.5	6	3-4
<b>12</b>	13	2	3	3	5	14	2-3
<b>13</b>	32	2	6	6	5	24	2-3
<b>14</b>	13	1.5	4	4	0	3	1
<b>15</b>	23	2.5	8	2.5	0.25	3	0
<b>16</b>	2	4.5	4	1	1.5	3	0
<b>17</b>	6	0	2	4	2	3	1-2
<b>18</b>	46	0	3.5	1	2	4	1

**Table 12: Control Group Dietary Intake (in RDA portions)**

PT = Participant

A = Age

F/V = Fruit and vegetable consumed (RDA 5 portions per day)

C = Carbohydrates (RDA 2-3 portions per day)

P = Protein (RDA 2-3 portions per day)

D = Dairy (RDA 2-3 portions per day)

F/S = Food high in fats and sugar (RDA 0-3 portions per day)

T/A = Take away food (RDA acceptable one or less per week)

<b>PT</b>	<b>A</b>	<b>F/V</b>	<b>C</b>	<b>P</b>	<b>D</b>	<b>F/S</b>	<b>T/A</b>
<b>1</b>	48	5	3	2	1	6	1
<b>2</b>	19	5	3	2	1	3	1
<b>3</b>	48	4	4	3	1	5	0
<b>4</b>	9	4	3	2	1	1	0
<b>5</b>	11	4	3	2	1	1	0
<b>6</b>	32	5	4	3	1	4	0
<b>7</b>	12	5	4	2	2	4	0
<b>8</b>	4	5	4	2	2	2	0
<b>9</b>	49	5	6	1	3	6	0
<b>10</b>	41	5	3	4	1	4	1
<b>11</b>	16	5	3	4	1	4	1
<b>12</b>	18	5	5	6	1	2	1
<b>13</b>	46	4	3	2	1	2	0
<b>14</b>	34	5	3	2	1	1	0
<b>15</b>	9	3	4	2	3	3	0
<b>16</b>	7	5	4	2	2	4	0
<b>17</b>	6	5	4	2	2	2	1
<b>18</b>	33	5	6	4	2	4	1

**Table 13: ASB Cohort & Control Group Participants Nutritional Consumption Scores.**

<b>Participant ASB Cohort</b>	<b>Score</b>	<b>Participant Control Group</b>	<b>Score</b>
1	-14	1	6
2	-14	2	3
3	-1.5	3	4
4	2.25	4	0
5	2	5	0
6	-2	6	5
7	-0.5	7	6
8	-4	8	4
9	-3.5	9	2
10	3	10	6
11	-1	11	6
12	-12	12	4
13	-28	13	1
14	1.5	14	1
15	1.75	15	4
16	3	16	6
17	-2	17	4
18	-0.5	18	4

## Measures of Central Tendency

**Table 14: ASB Cohort & Control Group Measure of Central Tendency: Nutritional Consumption**

<b>Nutritional Consumption Measures of ASB Cohort</b>	<b>Nutritional Consumption Measures of Control Group</b>
Range of scores = - 28 to 3	Range of scores = 0 to 6
Mean of scores = - 3.916.	Mean of scores = 2.55.
Median of scores = - 1.5	Median of scores = 4
Mode of scores = -14, -2 and -0.5	Mode of scores = 4

**Table 15: ASB Cohort Measure of Central Tendency: Age**

<b>Male ASB Cohort</b>	<b>Female ASB Cohort</b>	<b>All ASB Cohort</b>
Range of age = 6 to 50 years	Range of age = 2 to 46 years	Range of age = 2 to 50 years
Mean =23.67.	Mean = 17	Mean =20.3.
Median =14	Median = 13	Median = 13
Mode = 10	Mode = 13	Mode = 13

**Table 16: Control Group Measure of Central Tendency: Age**

<b>Male Control Group</b>	<b>Female Control Group</b>	<b>All Control Group</b>
Range of age = 4 to 49 years	Range of age = 6 to 46 years	Range of age = 4 to 49 years
Mean =25.77.	Mean = 23.33.	Mean =24.55.
Median =19	Median = 18	Median = 18-19
Mode = 48	Mode = none	Mode = 48 & 9

## Results: Nutritional Consumption Measures

Figure 1: ASB Cohort: All Participants Nutritional Consumption Measures

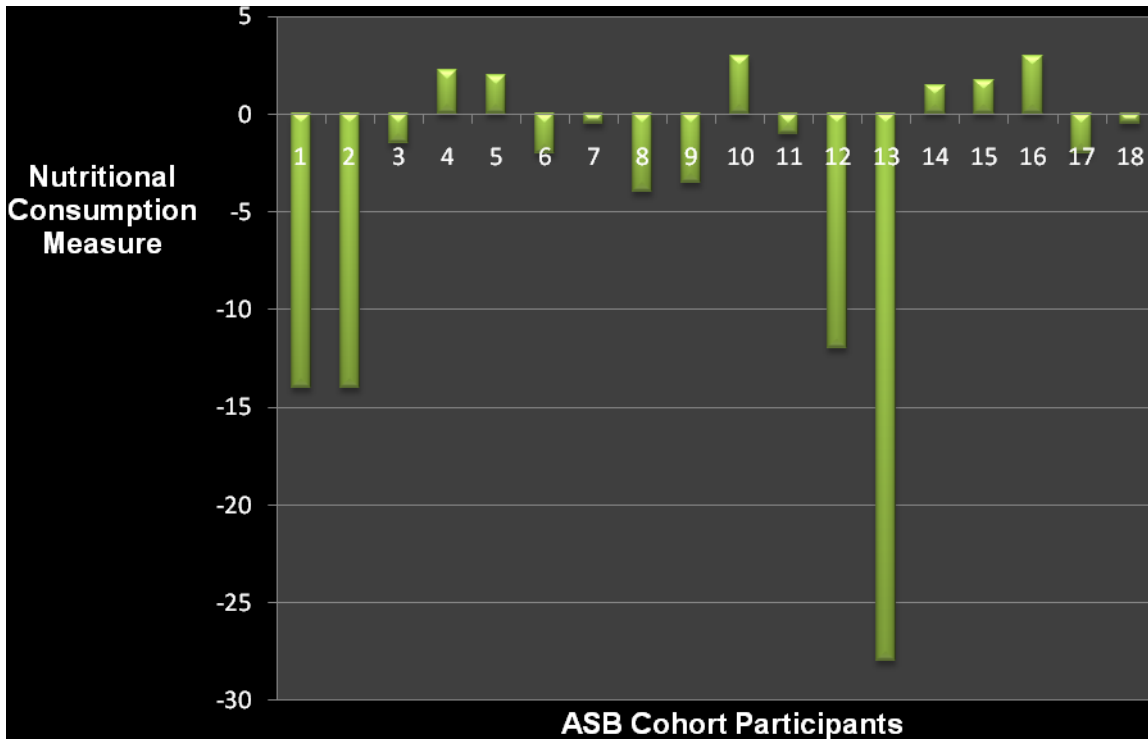
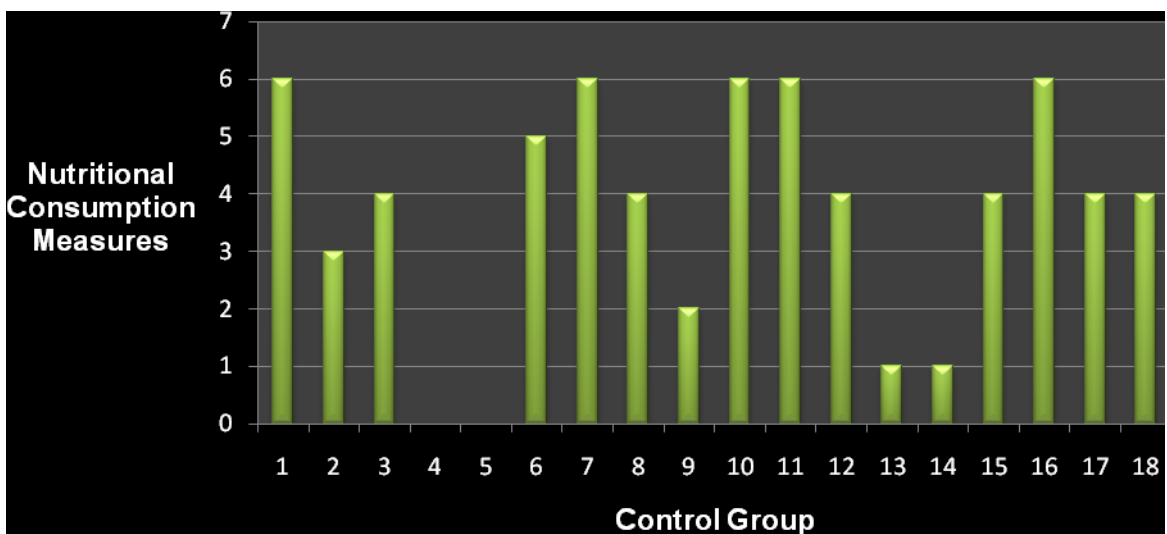
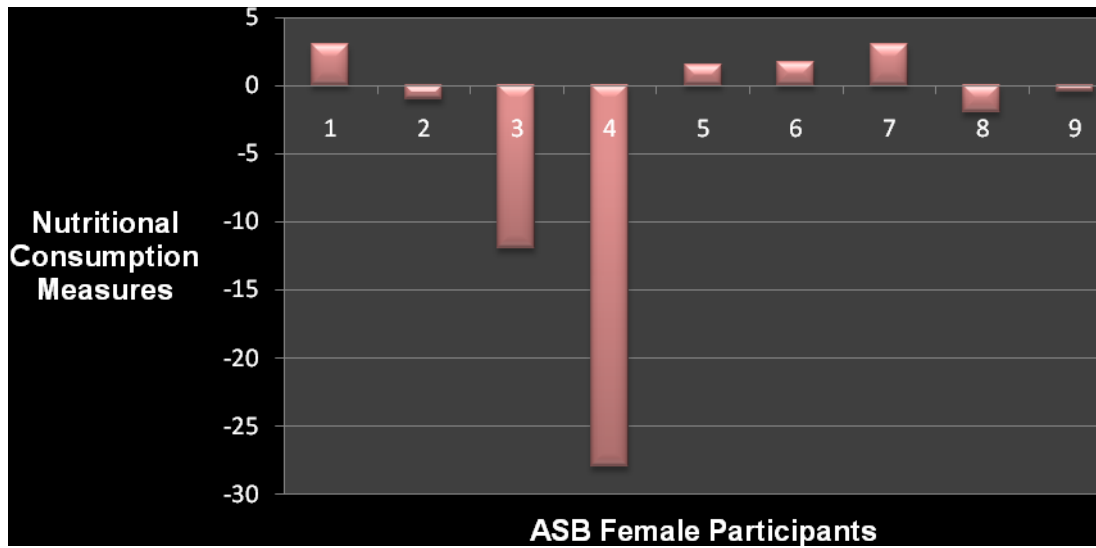


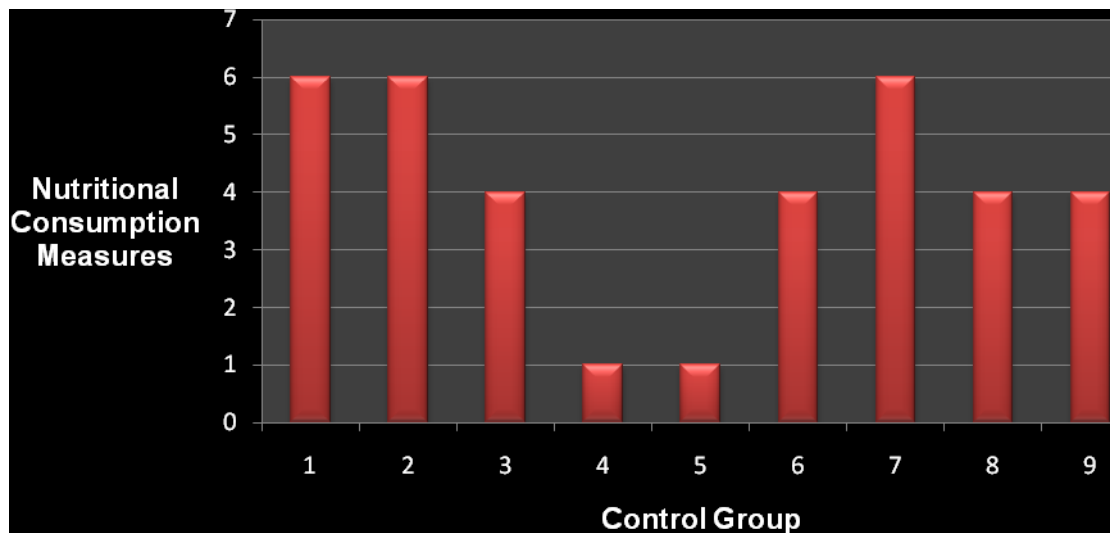
Figure 2: Control Group: All Participants Nutritional Consumption Measures



**Figure 3: ASB Cohort Female Participants Nutritional Measures**

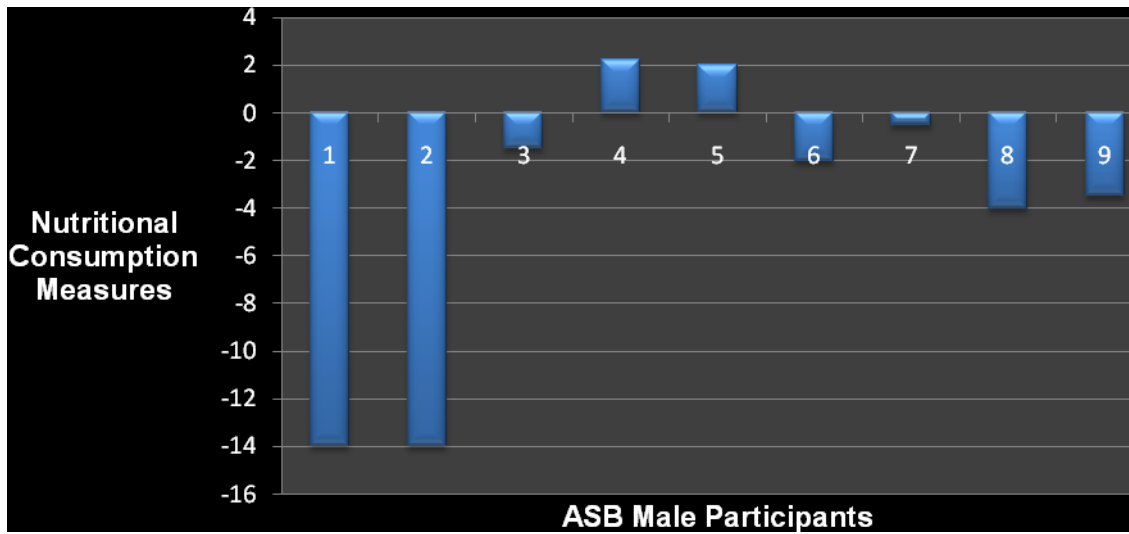


**Figure 4: Control Group Female Participants Nutritional Measures**

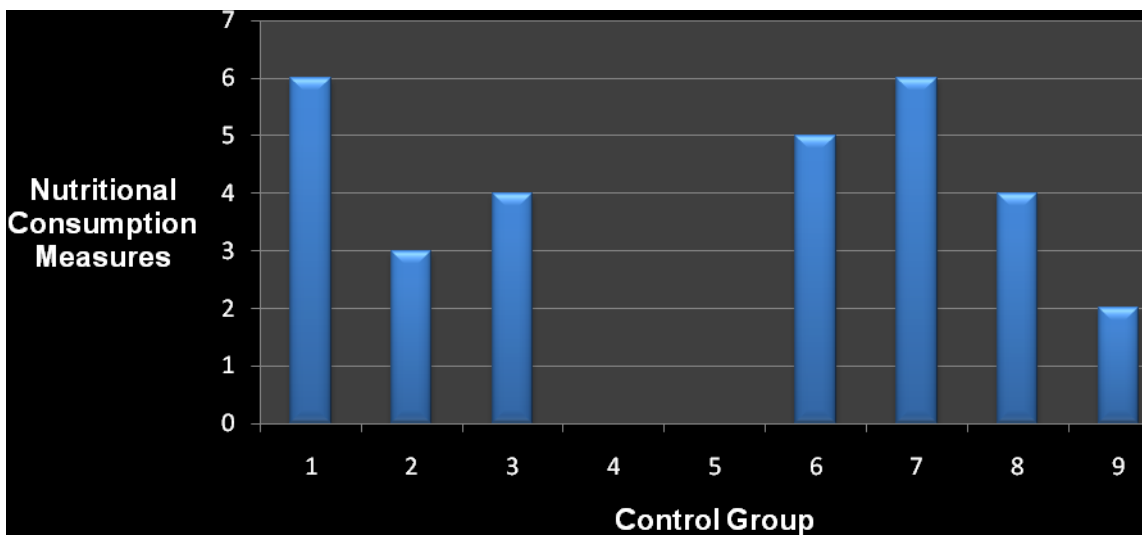




**Figure 5: ASB Cohort Male Participants Nutritional Consumption Measures**



**Figure 6: Control Group Male Participants Nutritional Consumption Measures**



## Participants Nutrition Consumption Portions

Figure 7: ASB Cohort Fruit and Vegetable (RDA 5)

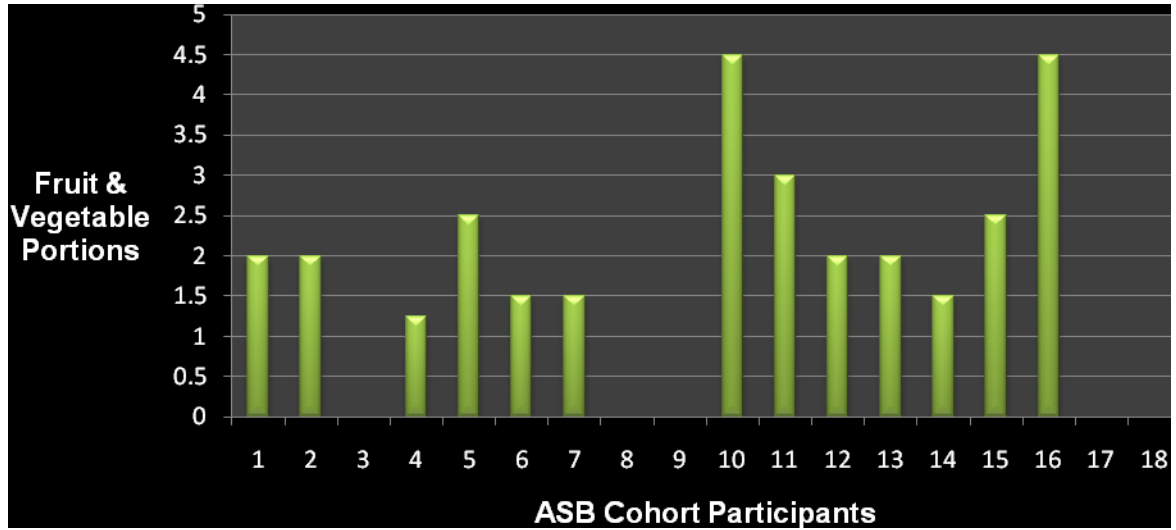
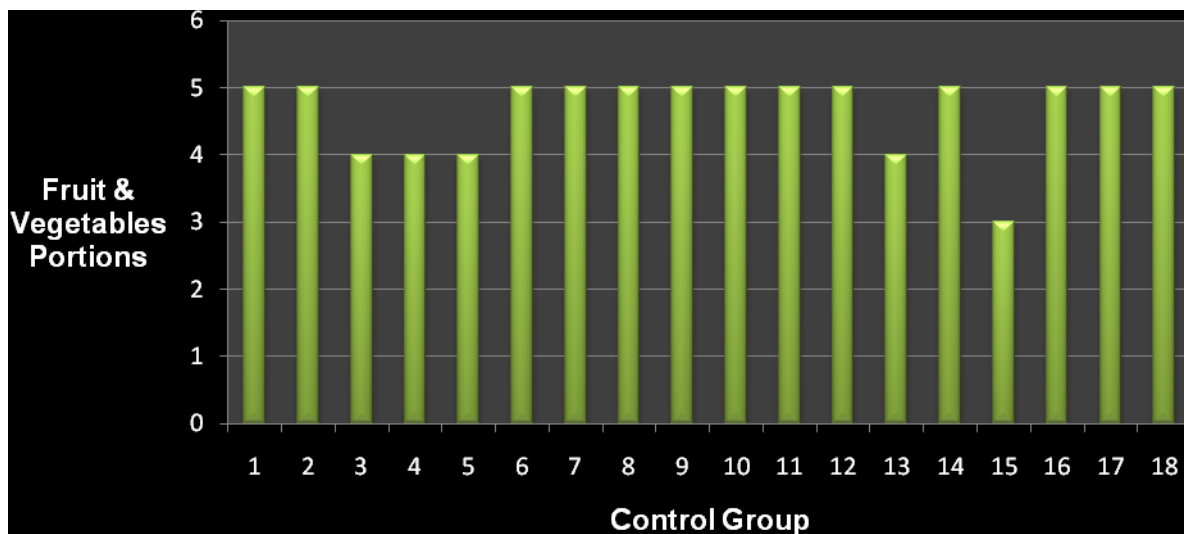
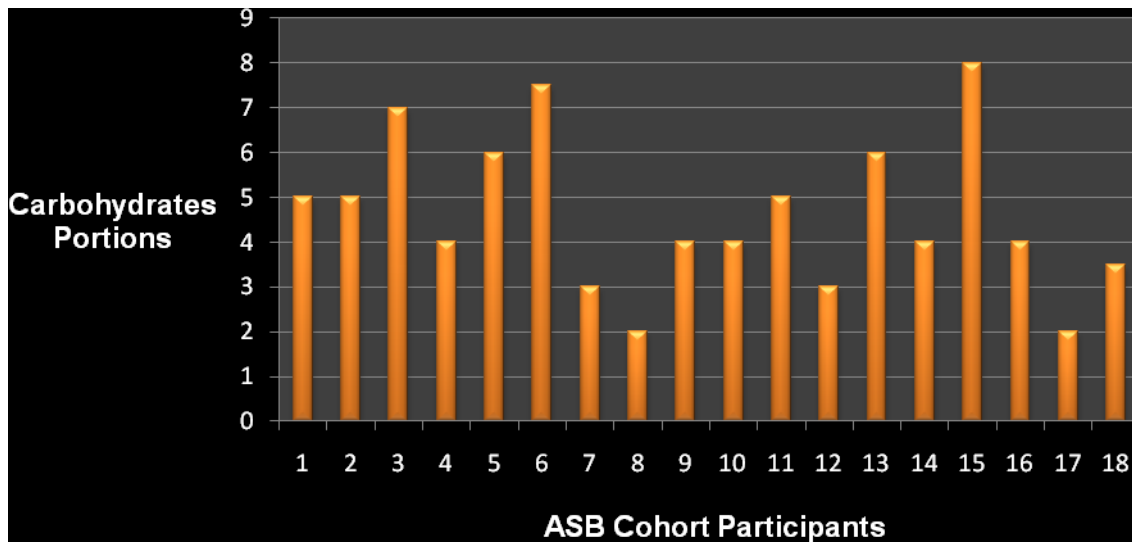


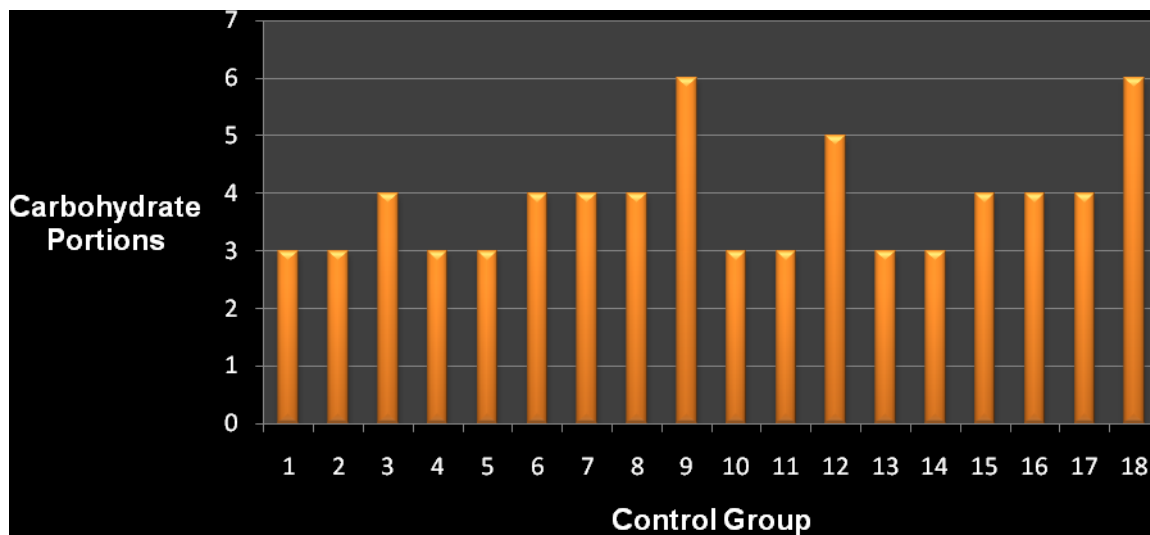
Figure 8: Control Group Fruit and Vegetable (RDA 5)



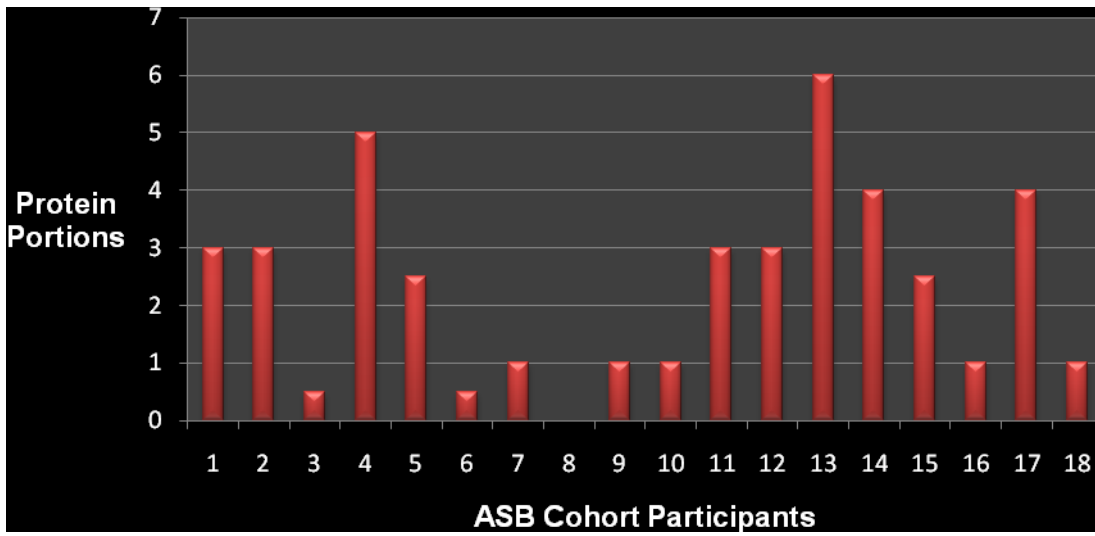
**Figure 9: ASB Cohort Carbohydrates (RDA 2-3)**



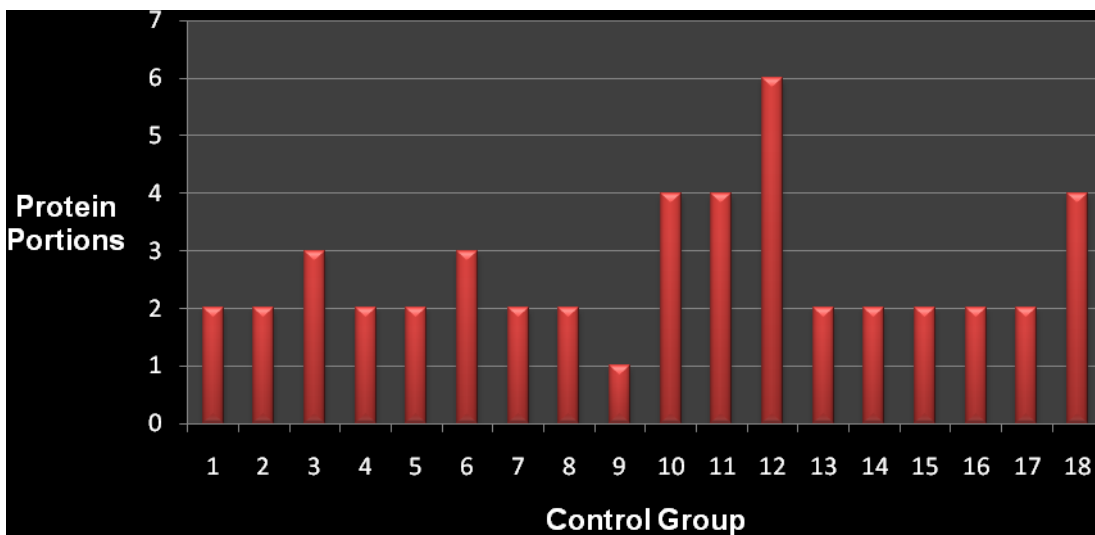
**Figure 10: Control Group Carbohydrates (RDA 2-3)**



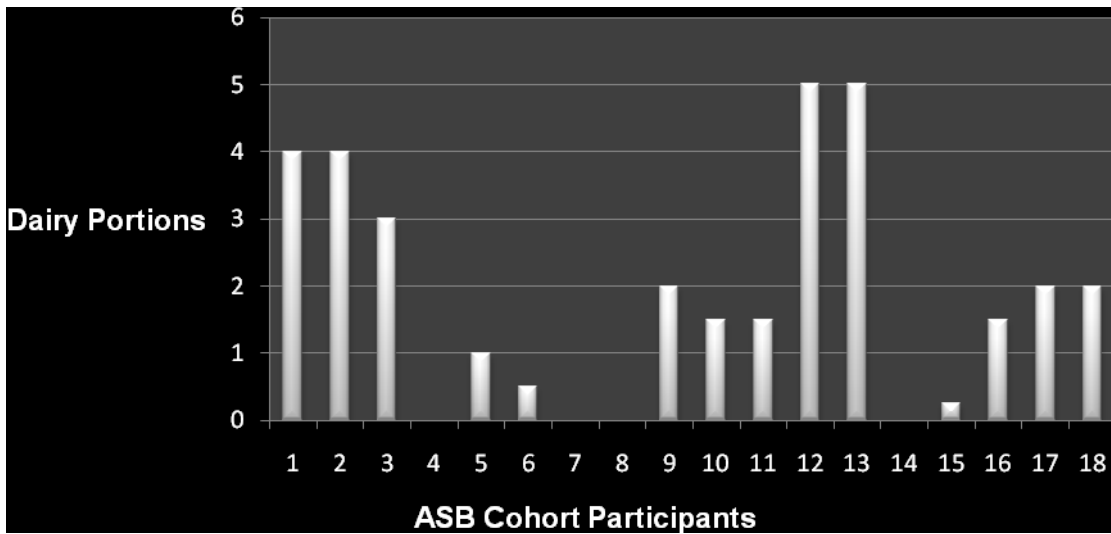
**Figure 11: ASB Cohort Proteins (RDA 2-3)**



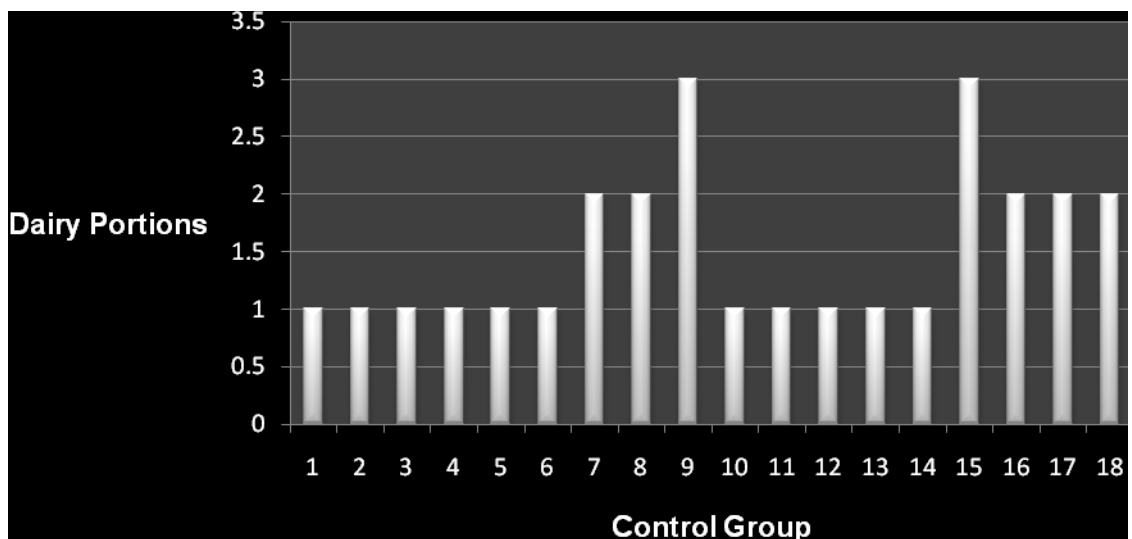
**Figure 12: Control Group Proteins (RDA 2-3)**



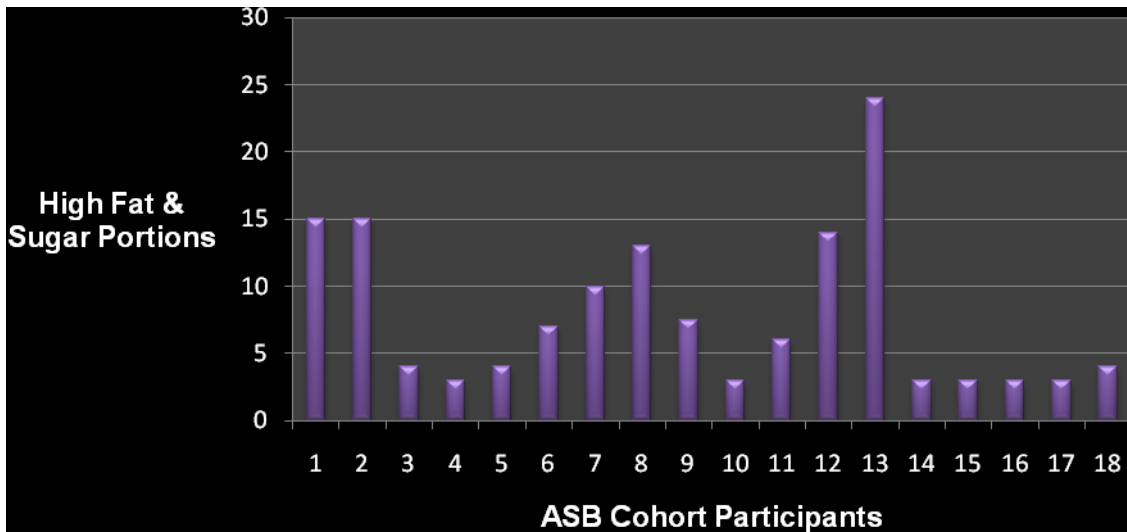
**Figure 13: ASB Cohort Dairy (RDA 2-3)**



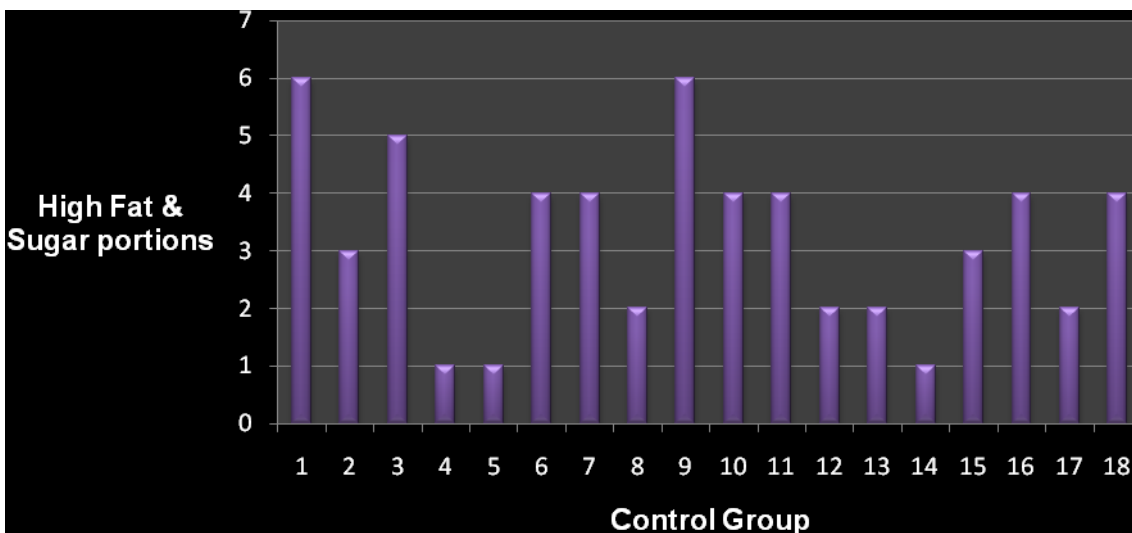
**Figure 14: Control Group Dairy (RDA 2-3)**



**Figure 15: ASB Cohort Food High in Fat and Sugar (RDA 0-3)**



**Figure 16: Control Group Food High in Fat and Sugar (RDA 0-3)**



## **Descriptive Statistics: Discussion**

All of the male participants (M= 9) of the ASB cohort, with the exception of 4 and 5 all scored within the negative range and none of the male participants scored at the optimal positive score of 6. However, the female participants (F= 9) in the ASB cohort varied more, 5 participants scored within the negative range and 4 scored within a positive range, nevertheless, none scored at the optimal positive range of 6. Moreover none of the participants (AC=18) scored a positive optimal score of 6 which would indicate the consumption of a well balanced diet.

The participants in the control group (CG=18) all scored within the 0 to 6 positive range of optimal scores, none of the control group scored in the negative range of scores and none of the control group were deducted a point for consuming too much take away food. However, although the control group did consume the RDA of fruit and vegetables they did not necessarily consume the RDA of the other food groups; this impacted on their overall score lowering it. Nevertheless 5 people in the control group (2 men and 3 women) did achieve the optimal score of 6, by consuming a varied well balanced diet.

Furthermore, participants 10 and 16 of the ASB cohort scored highest within the optimal positive range. This may be significant due to the age of the participants, being age 5 years and 2 years respectively, and would suggest that children under a certain age do not have the choice of what food they consume as this depends largely on what their parents feed them and therefore eat what is provided. The poor food choices appear to come later in life when children are of, or over, school age and are beginning to be affected by their peers and possibly media advertising of food choices 'we should eat' but are not necessarily the best food choices to make.

Although the results from both groups suggest the consumption of more than the RDA of foods high in fat and sugars, the control group counterbalance this by eating nearer the RDA of all the other food groups, therefore maintaining a more balanced diet. Whereas the ASB cohort not only consume high amounts of this food group but either too little, or too much, of the other food groups needed to sustain a well balanced diet, resulting in a diet that contains far too much carbohydrate and foods high in fat and sugar, as well as one that does not contain enough nutrients provided by the fruit and vegetable consumption.

Finally, it may also be poignant to add that whilst collating the results from the questionnaires, the researcher discovered that none of the ASB cohort listed fish, which is high in essential omega's, as part of their dietary intake, apart from one participant who listed prawns, however, this was consumed as part of a takeaway meal. Furthermore, the vegetables that were consumed by the ASB cohort mainly consisted of frozen or tinned peas and carrots, whereas the control group's listed vegetable intake was far more varied and consisted of far more fresh vegetables.

## INFERENTIAL STATISTICS

### Mann–Whitney *U* test

#### Results:

Table 17: Data with Ranks and ASB cohort and control group nutritional consumption scores

Participant ASB Cohort	Nutrition Score	RANK	Participant Control Group	Nutrition Score	RANK
1	-14	34.5	1	6	3
2	-14	34.5	2	3	14
3	-1.5	28	3	4	9.5
4	2.25	16	4	0	23.5
5	2	29.5	5	0	23.5
6	-2	29.5	6	5	6
7	-0.5	25.5	7	6	3
8	-4	32	8	4	9.5
9	-3.5	31	9	2	17.5
10	3	14	10	6	3
11	-1	27	11	6	3
12	-12	33	12	4	9.5
13	-28	36	13	1	21.5
14	1.5	20	14	1	21.5
15	1.75	19	15	4	9.5
16	3	14	16	6	3
17	-2	29.5	17	4	9.5
18	-0.5	25.5	18	4	9.5

Table 18: Rank sum results

Group AC:	Group CG:
Sample Size = 18	Sample Size = 18
Mean = 3.667	Mean = -3.861
Rank Sum = 466.5	Rank Sum = 199.5



$U_1$  is calculated using the following formula  $U_1 = N_s \cdot N_L + \frac{N_s(N_s + 1)}{2} - R$

Where;

$N_s$  = the number of scores (ranks) in sample AC;  $N_s = 18$

$N_L$  = the number of scores (ranks) in sample CG;  $N_L = 18$

$R$  = the sum of ranks in either group as they are the same size  $R = 199.5$

Therefore  $U_1 = 18 \times 18 + \frac{18(18 + 1)}{2} - 199.5$       $U_1 = 295.500$

$U_2$  is calculated using the following formula  $U_2 = N_s \cdot N_L - U_1 = U_2$

Therefore  $U_2 = 18 \times 18 - 295.5 = 28.500$

**$U = 28.500$**

Consequently this suggests that the results are highly significant at the 5% significant level - where 5% of the results are disregarded as chance - as there is still a large enough difference between the two groups to suggest that the independent variable has had an effect on the dependent variable, therefore H1 is accepted and H0 rejected.

## DISCUSSION

In conclusion there are strengths of the research as highlighted in the aforementioned methodology; however, there are also weaknesses to the methodology. With regards to internal validity the researcher's reliance on the self reporting of the data was open to bias. Furthermore the method of carrying out semi structured interviews is very time consuming, however, this method was necessary as the RDA portion controls needed to be standardised.

One area of the questionnaire that the researcher felt was high in self reporting bias was the take away food section. Part of the work carried out within the Springboard FIP focuses on budgeting and the consumption of take away food is discouraged as costly as well as being unhealthy in general. The researcher felt the respondents were not as honest in this area of self reporting for fear of being judged, moreover, the researcher also felt the control groups self reporting in this area was also biased for the same reasons. Furthermore, the wording of the questionnaire in relation to the take away scoring section was inadequate. Should further research in this area be carried out, it would be advisable to, use definitive answering as opposed to approximate answer such as, 1-2, 3-4 etc.

In selecting the participants in the ASB cohort (AC=18) a purposive sampling technique was used as all, at some point, during or prior, to being accepted in the FIP, had received a formal warning or letter, arrest, conviction or caution for ASB types of behaviour (**Table 1**). Therefore the cohort is not representative of the entire population and the results are not generalisable to the rest of the population.

Furthermore, the term ASB is ambiguous and many people during their lives will have displayed some form of ASB, whether this is playing music over an acceptable level within their homes or environmental ASB such as disposing of litter in a public place. Nevertheless, for the benefit of the study the ASB criterion used for the control group's admission into the study, was also the Home Office typology of ASB (Table 1). This was used to inform the sample and request if they had ever received a formal warning or letter, arrest, conviction or caution for this type of behaviour. Moreover the technique of convenience sampling was used for ease of selection of the control group and the researcher did not consider selecting subjects that are representative of the entire population.

Further research in this area could be carried out; however, a representative sample of the population should be selected using random sampling for use in comparison to. Moreover, a more in depth diary of dietary intake compiled over a longer timeframe would add weight to the results.

## SUMMARY

- 0% of the ASB cohort ate the RDA of fruit and vegetables compared 27.8% of the control group.
- 27.8% of the ASB cohort ate no fruit and vegetables at all.
- 100% ASB cohort ate below the RDA of fruit and vegetables compared to 100% of the control group who ate above 3 RDA.
- 72.2% of the ASB cohort ate above the RDA for foods high in fat and sugar compared to 38.8% of the control group.
- 77.8% of the ASB cohort ate over the RDA for carbohydrates compared to 38.8% of the control group.
- 27.7% of the ASB cohort ate over the RDA for protein whilst 38.8% ate under the RDA for protein, compared to 94.5% of the control group who ate within the RDA for protein.
- 0% of the control group ate over the RDA for dairy compared to 50% of the ASB cohort who ate over the RDA, however 22.2% ASB cohort who ate under the RDA compared to 88.8% of the control group
- Over 50% of the ASB cohort ate takeaway more than once a week compared to 0% of the control group.

## CONCLUSION

The action research undertaken was carried out in a social situation, as a self reflection enquiry in order for the researcher to advice the participants on the benefits of a healthy well balanced diet that contains enough essential nutrients. This in turn, the researcher hoped, would bring about social change by having a positive impact on the amount ASB displayed by the participants.

It is clear from the results that the dietary intake of the ASB cohort is not a well balanced diet and is nutrient deficient. The ASB cohort appear to eat a diet that is high in carbohydrates, fats and sugars and has very little fruit and vegetables, some of the respondents disclosed they do not eat any vegetables at all. However, further research into the dietary intake of all the clients within Blackpool's Springboard FIP would add weight to this conclusion if similar results were deduced. This would also support further interventions, in relation to eating a well balanced diet rich in essential nutrients, along with other none dietary interventions already used, that in turn could possibly impact on the amount of ASB displayed.

Nonetheless, without a reduction in ASB the health benefits of consuming a healthy diet rich in nutrients cannot be ignored and could only be beneficial to all the clients within the Blackpool Springboard FIP.

## RECOMMENDATIONS

Prior to and throughout the undertaking of the research, the researcher consulted with the Springboard FIP and it was felt that in light of the results from the literature review that it would be beneficial to implement a new project within the FIP on the benefits of eating a well balanced healthy diet that contained more fruit and vegetables. This was further compounded with the results of the ASB cohort's consumptions nutritional measures.

A healthy eating group was implemented which was undertaken by the researcher with support from another member of the FIP staff, who took a course on Health and Safety level 1, funded for by the Springboard FIP in order to facilitate the 'Healthy Eating' project. The Springboard FIP also funded all equipment and food for the project and paid for the hire of a kitchen located in 'Helping Hand' charity's building, Ripon Road, Blackpool.

The project was designed to run for three consecutive weeks and focused on introducing more fruit and vegetables in to participant's diets. Another focus of the project was to try and 'hide' vegetables within the recipes, as it was highlighted to the researcher whilst undertaking the semi structured interviews that many of the children within the ASB cohort refused to eat vegetables. Therefore, recipes (see **appendix 5**) for the group were designed, by the researcher, with techniques that showed participants how to 'disguise' vegetables in food that their children would eat.

The project went well and many of the participants said they felt more confident and better equipped to cook healthier food for their family. The project also highlighted to the participants the cost benefit analysis of cooking their own food which furthermore impacted on the benefits of eating a healthy well balanced diet.

However, further recommendations in light of the results would be for the agency to give advice under guidance from the health sector, on the benefits of taking a food supplement of vitamins, minerals and essential omega's to supplement a diet that lacks essential nutrients.

Furthermore it would also be beneficial for the agency to add further advice in relation to portion control and the consumption of carbohydrates, proteins and foods high in fat and sugar, with particular emphasis made to foods high in fat and sugar.

Words 11,141

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## **APPENDICES**

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## Appendix 1

# Picture Stories

Award-winning Southampton project helps young people steer clear of crime



An award winning project, preventing young people getting involved in crime and anti-social behaviour, continues to develop new and exciting ways to keep under-18s engaged and out of trouble.

The Southampton Baseline Project is a Youth Inclusion Project (YIP) funded by the YJB via the Wessex Youth Offending Team and other partners, and managed by the charity Crime Concern.

The project is part of a national government initiative focusing on deprived areas and targeting the young people most at risk of offending.

The project, which was highly commended in the 2006 Youth Justice Alliances Awards, works with those young people, aged between eight and 19, identified by a range of partners, including the youth offending team, police, Local Education Authority and schools, as being most at risk of offending and/or being excluded or in need of diversionary activities.

Activities run by the Baseline Project aim to give young people new skills, to build their self-esteem and confidence and to help them keep away from crime. They include education classes, youth clubs, football leagues, music workshops, anti-bullying and racism sessions, behaviour modification lessons and career guidance.

As part of a new activities programme, young people have been mountain biking in the New Forest.

The Melbourne Centre Pupil Referral Unit in Southampton, which has worked with the project since it began, supplies the bikes, and has also helped train staff from Baseline.

The day starts at the project headquarters where the young people learn the health benefits of good nutrition and exercise. They buy and prepare a healthy breakfast, learning about suitable foods, budgeting, basic cooking and hygiene.

The group are often joined by police officers from Hampshire Police and their involvement has been found to help improve understanding and relationships between the police and young people.

Gabe Boland, Project Manager, said: “The Baseline Project has been running since 2000, and we have worked with hundreds of different children and young people in that time, delivering a whole range of different activities.

“In addition to keeping them out of trouble, we aim to improve their aspirations, their confidence and their ability to communicate and interact. This then makes it even easier to keep them interested and to help them choose the right path to take.”

Graham Robb, Interim Chair of the Youth Justice Board, said: “Since 2005, the YJB has distributed nearly £45m in extra funding for preventative projects throughout England and Wales, and the Southampton Baseline has proved the value of this investment.

“Baseline offers activities and services to young people who are at risk of getting into trouble. It has been able to engage with young people and give them new skills and options, helping to stop them causing crime and disorder and make a positive contribution to their communities.”

Councillor Peter Baillie, Cabinet Member for Children’s Services and Learning at Southampton City Council, said: “Projects like Baseline are doing an excellent job to capture the imagination and energy of young people in some of our most deprived communities. Their work is not only helping to reduce crime and disorder, it is giving young people a future.”

## Appendix 2

Source: <http://news.bbc.co.uk/1/hi/uk/4598664.stm>

### Respect action plan: At-a-glance

**The government has published an "action plan" designed to deal with what it calls a lack of respect among a minority of Britons.**

In large letters, the front page of the 44-page document declares: "The only person who can start the cycle of respect is you."

The measures announced in the plan - many of which are projects and legislation already launched - are as follows:

**Young people**  
**Schools**  
**Parenting**

**Problem families**  
**Communities and policing**  
**Enforcement**

#### YOUNG PEOPLE

- A national youth volunteering service to fund gap year volunteering in the UK and abroad for youngsters who otherwise could not afford it. Money had already been committed to increase the number of young volunteers.
- Introduce proposals set out in Youth Matters Green Paper, including looking into facilities available for young people in their area and making sure they are adequate.
- There are plans to pilot a new Youth Opportunity Card, which can be used for discounts on activities - they will be topped up with financial credits to encourage youngsters, but docked for anti-social behaviour.
- Target disadvantaged young people through sport and art, by working with organisations like Sport England and Arts Council England.
- Expand existing mentoring projects, such as the Sports Champions programme.

#### SCHOOLS

- The Education Bill, due out this year, includes plans to tackle bad behaviour, such as giving clear legal rights for school staff to discipline pupils, enabling schools and councils to use parenting contracts before a pupil has been excluded, and letting schools apply for parenting orders.
- Behaviour and truancy partnerships will be in all secondary schools by September 2007, the plan reiterates. In the existing scheme, funds are handed over from local authorities to schools, to help them buy the services they need to help.
- A project targeting 146 secondary schools with 8,000 of the most persistent truants is to be extended to a total of 200 schools (13,000 persistent truants). It includes individual action plans with support from youth and social services, plus penalty notices or prosecution for non-compliance.
- Guidance planned for Spring 2006, to prevent "unofficial

exclusions" where teachers send pupils home for disciplinary reasons without following the rules for exclusion.

- The Education Bill also includes new duties for local authorities to have someone responsible for identifying children missing from school, plus proposals for improving services for children who have been excluded.

## **PARENTING**

- Increase support for parents of children at risk - pathfinder projects, from April, will aim to provide better "support packages" for individual cases.
- Help prevent youth crime and anti-social behaviour, with £45m over three years for the Youth Justice Board, which advises the home secretary, oversees and monitors the youth justice system and works to prevent offending and reoffending. It will be spent on projects that include intervening in parenting.
- Increase availability of parenting classes for teenage parents, and provide better incentives such as money for education and childcare.
- Expand the use of parenting orders - court orders currently used by local education authorities and youth offending teams.
- A new category of "serious misbehaviour" will trigger an order, before a child is excluded from school; schools will now be able to seek the orders directly; and councils have new powers to use more agencies to help fulfil parenting contracts and orders, such as community safety and housing officers.
- Increase the consideration of parenting issues used in court pre-sentence reports and youth offending work.

## **PROBLEM FAMILIES**

- Sanctions for those evicted for anti-social behaviour, who refuse help, such as fines or curbing housing benefit.
- Set up a national network of "intensive family support schemes", which will include job centres and health services.
- Write a cross-government strategy on problem families. This could include designing a model response to problem households, researching where the gaps in services are, and simplifying how funding is sought.

## **COMMUNITIES AND POLICING**

- More power for communities over policing of their area, including the right to formally request action is taken and to demand to know why if it is not. Councillors can refer police to local scrutiny committees to investigate and give deadlines for action.
- "Face the public" sessions where senior representatives from the police and council answer for their actions. They can also raise with the public anything they could do to help with anti-social behaviour.
- Extend the neighbourhood wardens scheme, which the government says has had success in reducing crime.
- Ensure all government housing regeneration schemes include ways to tackle bad behaviour such as neighbourhood wardens,

- "assertive" housing management and parenting programmes.
- This also includes new protocols for the nine Pathfinder schemes - which are trying to revive unpopular places where the housing market has collapsed - to make sure they also deliver on "respect".
  - New contracts (Local Area Agreements) already in use between local authorities and central government - which the plan says will be in all councils by 2007 - will include a compulsory requirement to get results on respect and anti-social behaviour.
  - Neighbourhood policing teams to co-operate with residents over what the priorities should be. Better local access to police via a named contact.
  - A national non-emergency phone number for community safety advice and action. Five areas due to go live with it in summer; to go across England and Wales during 2008.
  - Social landlords and tenants to work together to set standards of behaviour and uphold them, via a "respect standard for housing management". Incentives for those who behave, protection for complainants and witnesses and fast action against perpetrators are among the measures.
  - Neighbourhood Charters, explaining what people in an area expect from each other and from those who provide their services.

## **ENFORCEMENT**

- The government will consult on new powers to close and board up properties where anti-social behaviour is persistent. These are already used for drug-related problems, such as crack houses. They would be for a set period and would apply to both owned and rented houses.
- Research on how to strengthen summary powers - immediate solutions, such as fines, that do not require going to court. Review of current fixed penalty notices.
- Increase Penalty Notices for Disorder (PNDs) - fines given out for unacceptable behaviour - from £80 to £100. These will also be piloted on under-16s, and it will be made easier for trading standards officers to issue them to people who sell alcohol or fireworks to those under-age.
- Bring in new ways of carrying out "conditional cautions" for low-level offending, which could include community work. Currently they only require payment of compensation.
- Improve Asbos (anti-social behaviour orders) by updating guidance on effective use. Asbos are the key power in the respect agenda because they give authorities the ability to try and control an individual's behaviour in a manner that they see fit.
- The Environment Agency will also be able to apply for Asbos to tackle crimes like vandalism, noise nuisance and fly-tipping.
- Also consulting on delegating council Asbo powers to other bodies which manage their housing, such as PFI schemes or Tenant Management Organisations.
- Improve Asbis (anti-social behaviour injunctions). These are

similar to Asbos but can be used by social landlords to tackle nuisance tenants, or people creating havoc on estates that they manage.

- Injunctions can be sought by the landlord (such as a housing association) to deal with drug dealing, barking dogs, violence against housing workers and so on. It can also be used to exclude people from certain areas of an estate.
- The plan says the courts have been interpreting them too narrowly, which gives inadequate protection to victims and witnesses.
- Change Local Government Injunctions - used to break up major drug activity - so that those suspected of breaching one can be brought before the courts within 24 hours of arrest.
- More rights for lay people working on tackling anti-social behaviour to appear in civil court actions. The plan says legal costs are currently a barrier to smaller groups taking action or are used as an "excuse for inaction".
- Reduce the threshold on seizing cash made from the proceeds of crimes such as drug dealing, from £5,000 to £1,000.
- Increase protection for public service workers, for example with a new offence of obstructing the progress of ambulance workers. The plan will also look at giving courts guidance to deal "robustly" with assaults on people serving the public, and whether NHS trusts need better powers to remove people from their units.
- Under the banner of "improving community justice", the plan cites existing work being done to set up special anti-social behaviour response courts, and to train specialist prosecutors in anti-social behaviour.
- The plan intends to extend these initiatives to civil courts, with special advocates to help increase understanding of anti-social behaviour cases and work with victims and witnesses.
- Make unpaid community work being done by offenders "visible" to others to increase credibility of community sentences, via the existing Community Payback scheme.

## **APPENDIX 3**

### **5 A DAY SHOPPING PLANNER SOURCE: (NHS, 2010)**

These tasty recipes make it easy to get your 5 A DAY.

#### **Lunch and dinner recipes**

##### **Apricot and cottage cheese sandwiches**

Dried apricots x 1 handfuls  
Cottage cheese x 3 tbsp  
Lettuce x 1 cups  
Wholemeal bread (sliced) x 4 slices

1. Thinly slice the dried apricots and stir into the cottage cheese.
2. Shred the lettuce.
3. Top the slices of wholemeal bread with the cottage cheese mixture and shredded lettuce.

##### **Avocado and prawn pasta salad**

Prawns - fresh or frozen x 50 gram(s)  
Avocado x 1  
Little gem lettuce x 1  
Plain low-fat yoghurt x 2 tbsp  
Tomato puree x 0.25 tbsp  
Pasta x 100 gram(s)

1. Add pasta shells to a pot of boiling water and cook according to instructions - about 10 mins.
2. Meanwhile, remove the peel and the stone from the avocado and chop flesh into small chunks.
3. In a separate bowl mix together the tomato puree and yoghurt.
3. Once the pasta is cooked, drain and run under a cold tap to cool.
4. Combine pasta, prawns and avocado with the yoghurt dressing.
5. Season to taste and serve with lettuce leaves.

##### **Bacon, lettuce and tomato baguette**

Bacon x 100 gram(s)  
Tomato(es) x 1  
Lettuce x 1 cups  
Plain low-fat yoghurt x 1 tbsp  
Wholemeal baguette x 0.5

1. Grill the bacon under a pre-heated grill.
2. Slice the tomatoes and prepare the lettuce.
3. Slice open the wholemeal French bread and spread on the yoghurt.
4. Fill the bread with a layer of lettuce, then the tomato and bacon.

##### **Bean salad with jacket potato**

Onion(s) x 0.5  
Cucumber x 0.25

Tomato(es) x 2  
Haricot beans x 2 tbsp  
Kidney beans x 2 tbsp  
Jacket potato x 1  
Lettuce x 1 cups  
Olive oil x 1 tbsp

1. Scrub the potato, then dry and prick several times with a sharp knife.
2. To microwave: cook one potato (225g/8oz) for 6 min on full power (800W), turn halfway through cooking. Allow to stand for 1-2 min before serving.
3. To oven bake: rub a few drops of olive oil into the potato skin, place the potato in a pre-heated oven at 200°C or gas mark 6 on a baking tray. Bake for 90 min or until soft.
4. Create a bean salsa by combining chopped onion, cucumber and tomato with the drained and rinsed beans.
5. Serve the salsa with a jacket potato and a green salad.

### **Cheese, ham and salad bagel with veggie sticks**

Bagel(s) x 1  
Cheese x 50 gram(s)  
Sliced cooked ham x 100 gram(s)  
Celery (sticks) x 2  
Baby sweetcorn x 80 gram(s)  
Red pepper x 0.5  
Lettuce x 1 cups

1. Slice the cheese and place in the bagel along with the ham and lettuce.
2. Serve with baby sweetcorn, strips of pepper and celery sticks.

### **Chicken and roasted veg fajitas**

Skinless chicken breast x 4 fillets  
Mushrooms x 2 handfuls  
Green pepper x 1  
Red pepper x 1  
Soft flour tortilla x 8  
Lettuce x 2 cups  
Tomato(es) x 4  
Cucumber x 0.5  
Olive oil x 1 tbsp  
Onion(s) x 1  
Fajita seasoning (packet) x 30 gram(s)

1. Pre-heat oven to 200°C or gas mark 6.
2. Slice the chicken, onions, mushrooms, red and green pepper into even strips, place in a large roasting tray and drizzle with olive oil.
3. Sprinkle fajita mix over the chicken and vegetables, and stir everything to evenly coat with mix and olive oil. Place in the pre-heated oven for 20-30 min.
4. Meanwhile, prepare the mixed salad of tomatoes, cucumber and lettuce leaves.
5. Once the chicken and vegetables are ready, warm the tortillas in the oven for 3 min or a microwave for 1 min.
6. Serve roasted vegetables and chicken in a warm serving dish alongside warm tortillas.



### **Chicken and vegetable noodles**

Baby sweetcorn x 160 gram(s)  
Skinless chicken breast x 4 fillets  
Sugar snap peas x 2 handfuls  
Mange tout x 2 handfuls  
Rice noodles x 200 gram(s)  
Chilli dipping sauce x 2 tbsp  
Roasted peanuts x 2 tbsp

1. Cut the chicken breast into strips and slice the baby sweetcorn, sugar snap peas and mange tout in half.
2. Heat the oil in a large pan, add chicken and stir fry for about 5 min.
3. Meanwhile, pour boiling water over the noodles and set aside for 4 min.
4. Add the vegetables to the pan while the noodles are set aside.
5. After 4 min, drain the noodles and add to the pan with the chicken and veggies.
6. Mix together with the chilli dipping sauce and serve sprinkled with chopped roasted peanuts.

### **Chicken, cherry tomato and new potato salad**

New potatoes x 500 gram(s)  
Skinless chicken breast x 4 fillets  
Cherry tomatoes x 160 gram(s)  
Cucumber x 0.5  
Olive oil x 2 tbsp  
Honey x 1 tbsp  
Red wine vinegar x 1 tbsp  
Fresh spinach x 8 cups

1. Combine vinegar, honey and oil in a bowl and stir in the chicken to marinate.
2. Place the new potatoes in a saucepan of boiling water. Cover and simmer for 15 min or until tender. Drain and allow to cool slightly.
3. In a separate bowl, mix potatoes with the tomatoes, cucumber and spinach.
4. Heat a little oil in a large frying pan, remove the chicken from the marinade and stir fry for 8-10 min or until cooked through and browned. Add to salad.
5. In the frying pan, heat the remaining vinegar marinade, honey and oil, bring to the boil to reduce and thicken for about 3 min.
6. Pour over the salad and toss well.

### **Chicken, tomato and courgette kebabs**

Cherry tomatoes x 320 gram(s)  
Skinless chicken breast x 4 fillets  
Courgettes x 2  
Olive oil x 1 tbsp  
Wholemeal pitta bread (s) x 4

1. Soak eight wooden skewers in water for 20 min. You can also use metal skewers.
2. Roll the tomatoes, chicken breast strips and courgette slices in olive oil and thread on to the skewers, alternating the colours. Season with black pepper.
4. Place under a hot grill for approximately 4-5 min on each side until the chicken is thoroughly cooked.
5. Serve with warmed pitta bread.

### **Chicken, tomato and lettuce salad bagel**

Bagel(s) x 1  
Sliced cooked chicken x 2 slices  
Tomato(es) x 1  
Mustard x 1 tspn  
Lettuce x 1 cups

1. Slice open the bagel.
2. Spread a little mustard over the bottom half.
3. Layer the filling starting with the lettuce, followed by the tomato and chicken.

### **Courgette pasta with cherry tomatoes**

Pasta x 300 gram(s)  
Courgettes x 4  
Cherry tomatoes x 160 gram(s)  
Low-fat cr me fraiche x 2 tbsp  
Cheese x 50 gram(s)  
Olive oil x 3 tbsp

1. Cook the pasta in boiling water for 10-12 min until tender. Drain.
2. Meanwhile, cut the courgettes in half lengthways and then slice.
3. Heat the oil in a frying pan and fry the courgettes for 2-3 min. Add the tomatoes and continue cooking for a further minute.
4. Stir the cr me fraiche into the pasta and serve immediately topped with the courgette and tomato mixture and freshly grated cheese.

### **Creamy mushroom pasta**

Onion(s) x 1  
Mushrooms x 8 handfuls  
Garlic x 1  
Low-fat cr me fraiche x 4 tbsp  
Olive oil x 1 tbsp  
Pasta x 200 gram(s)

1. Cook pasta according to the instructions on the packet.
2. Gently fry the chopped onion in a pan with a bit of oil.
3. Next, add the finely chopped garlic and sliced mushrooms, cooking until the onion and mushrooms are starting to soften.
4. Stir in 2 tbsp of low-fat creme fraiche.
5. Serve with pasta of your choice.

### **Curried pumpkin soup with crusty bread**

Small pumpkin x 2  
Olive oil x 2 tbsp  
Onion(s) x 1  
Curry paste (mild) x 1 tbsp  
Vegetable stock x 1000 ml  
Plain low-fat yoghurt x 4 tbsp  
Wholemeal baguette x 1

1. Heat the oil in a large non-stick saucepan and cook the onion over a medium heat for 5 min until soft.
2. Add the curry paste, and deseeded and chopped pumpkin. Cook, stirring for 2-3 min.
3. Add the vegetable stock and simmer for 20 mins or until pumpkin is tender.
4. Allow the mixture to cool slightly and then put it in a blender and blend until smooth.
5. Return to the saucepan and stir in the yoghurt. Add ground black pepper to taste and spoon into bowls and serve with bread.

### **Easy vegetable curry with rice**

Onion(s) x 1  
Curry paste (mild) x 2 tbsp  
Courgettes x 2  
Carrot(s) x 2  
Red pepper x 1  
Cooking apple(s) x 1  
Pepper to taste x 1  
Vegetable stock x 600 ml  
Canned chopped tomatoes x 400 gram(s)  
Mushrooms x 2 handfuls  
Rice x 200 gram(s)  
Garlic x 1

1. Heat a small amount of olive oil in a large pan and fry the finely chopped onion for 2 min. Add two crushed cloves of garlic to the onion and continue to fry gently for 2 min.
2. Add the curry paste to the pan and cook for 2 minutes more.
3. Add tomatoes, stock and seasoning, then add the chopped vegetables and apple. Bring to the boil.
4. Put the lid on the saucepan, reduce the heat and simmer for 15-25 min or until the vegetables are cooked.
5. Serve with rice.

### **Egg, lettuce and tomato roll with carrot sticks**

Egg(s) x 1  
Lettuce x 1 cups  
Tomato(es) x 1  
Wholemeal roll(s) x 2  
Carrot(s) x 1

1. Boil the egg for 10 mins.
2. Slice the egg and tomatoes.
3. Layer the egg, tomatoes and lettuce leaves within the wholemeal roll.
4. Serve with carrot sticks.

### **Fish fillet with cherry tomatoes and veggies**

Fresh fish of your choice x 4 fillets  
Olive oil x 3 tbsp  
Onion(s) x 1  
Garlic x 2  
Cherry tomatoes x 160 gram(s)  
Olives x 2 tbsp  
Broccoli x 160 gram(s)

Green beans x 4 handfuls  
New potatoes x 400 gram(s)

1. Heat the oven to 190°C or gas mark 5.
2. Brush the base of a shallow ovenproof dish with a little olive oil. Arrange the fish fillets in the dish, spacing them slightly apart and season with salt and pepper. Bake for 10 min.
3. While the fish is cooking, heat 1 tbsp of the oil in a frying pan and gently fry the onion for 5 min until golden brown.
4. Chop the garlic, cherry tomatoes and olives, and mix together with onion.
5. Pile the tomato mixture over each fish fillet and pour over the remaining oil. Bake for a further 8-10 min or until the fish flakes apart easily when cut with a knife.
6. Serve with broccoli, green beans and new potatoes.

### **Green salad with crusty bread**

Lettuce x 2 cups  
Cucumber x 0.5  
Tomato(es) x 2  
Wholemeal baguette x 0.5  
Spring onions x 2  
Olive oil x 1 tbsp

1. Using a potato peeler, peel a cucumber into strips. Keep going until it is all in ribbons.
2. Chop the tomatoes, spring onions and lettuce.
3. Combine all the ingredients and add a drizzle of olive oil and season.
4. Serve with wholemeal French bread.

### **Grilled vegetable and mozzarella rolls**

Red pepper x 0.5  
Courgettes x 0.5  
Mozzarella (ball) x 0.5  
Tomato(es) x 2  
Wholemeal roll(s) x 2

1. Slice courgettes, tomatoes and peppers.
2. Grill under a hot grill until soft.
3. Layer roasted vegetables with slices of mozzarella on fresh bread rolls.

### **Guacamole with veggie dippers**

Avocado x 2  
Red onion(s) x 1  
Garlic x 1  
Red pepper x 1  
Yellow pepper x 1  
Celery (sticks) x 4  
Lemon(s) x 1

1. Peel two small ripe avocados and remove the stones.
2. Chop one small onion, and crush and chop one clove of garlic.
3. Mash the avocado in a bowl, then add the onion, garlic and finally a tbsp of lemon juice.
4. Serve in a bowl with strips of pepper and celery for dipping.

### **Ham and veggie omelette**

Egg(s) x 2  
Frozen peas x 1 cups  
Green beans x 1 handfuls  
Mushrooms x 1 handfuls  
Low-fat margarine or butter x 5 gram(s)  
Lettuce x 1 cups  
Cherry tomatoes x 80 gram(s)  
Sliced cooked ham x 50 gram(s)

1. Melt a little of the low-fat margarine in a frying pan.
2. Chop ham and beans into small pieces and thinly slice mushrooms.
3. Add beans, mushrooms and peas to frying pan and gently cook.
4. Once mushrooms are soft, add the eggs and cook until the eggs are set.
5. Flip omelette over and serve with salad on the side.

### **Ham with parsnip chips and peas**

Sliced cooked ham x 400 gram(s)  
Garlic x 2  
Olive oil x 2 tbsp  
Parsnips x 6  
Frozen peas x 2 cups  
Honey x 1 tbsp

1. Preheat the oven to 180°C or gas mark 4.
2. Scrub but dot peel the parsnips. Top and tail them and cut them in half lengthways. Remove the cores with a pairing knife just as you might with an apple. Cut the parsnips into bite-size pieces.
3. Mix together the garlic, honey and oil, then cover the parsnips with it. Line a baking tray and roast 30 min or until the chips are golden and tender.
4. Serve with cooked peas and slices of cooked ham.

### **Ham, cheese and salad potato cakes**

Cheese x 50 gram(s)  
Sliced cooked ham x 100 gram(s)  
Cherry tomatoes x 80 gram(s)  
Little gem lettuce x 0.5  
Potato cake(s) x 2  
Cucumber x 0.25  
Tomato(es) x 1

1. Heat the potato cakes in a pan - approximately 3-5 min each side.
2. Slice the potato cakes open and fill with slices of ham, tomato and cheese.
3. Serve with a salad of cherry tomatoes, cucumber and little gem lettuce leaves.

### **Hearty sausage hotpot**

Olive oil x 1 tbsp  
Baked beans x 400 gram(s)  
Canned chopped tomatoes x 400 gram(s)  
Sausages x 8  
Frozen peas x 4 cups

Onion(s) x 1  
Wholemeal baguette x 1

1. Chop the onion and fry gently until golden brown.
2. Add the beans and tomatoes and simmer for 5-6 min.
3. Meanwhile, grill the sausages until browned.
4. Cut sausages into chunks then add to the beans. Continue to simmer for 10-15 min or until cooked.
5. Serve with warmed peas and a chunk of wholemeal baguette.

### **Homemade fish fingers with beans and potato wedges**

Egg(s) x 2  
Oatmeal or breadcrumbs x 50 gram(s)  
Fresh fish of your choice x 4 fillets  
Potatoes x 320 gram(s)  
Olive oil x 1 tbsp  
Baked beans x 400 gram(s)

1. Preheat the oven to 200°C or gas mark 5.
2. Lightly oil two baking trays.
3. Cut the potatoes into wedges, place on the baking tray and pop in the oven. These will take about 15 min to cook.
4. While the wedges start to cook, slice the fish fillets into chunky fingers about 2cms thick.
5. Beat the eggs in a bowl and pour the oatmeal or breadcrumbs out onto a large plate.
6. Dunk each fish finger into the egg and then roll in the oatmeal or breadcrumbs, before placing onto the oiled baking tray.
7. Once all the fish fingers are coated, pop them into the oven with the wedges.
8. The fish fingers will take about 10 min to cook and need turning after 5 min.
9. Serve with spoonfuls of warm baked beans.

### **Houmous and red pepper wrap with salad**

Houmous x 50 gram(s)  
Red pepper x 0.5  
Tortilla wrap(s) x 1  
Fresh spinach x 1 cups  
Cherry tomatoes x 80 gram(s)  
Cucumber x 0.25

1. Spread houmous over the wrap.
2. Top with thinly sliced pepper and spinach leaves, before wrapping tightly.
3. Serve with cucumber sticks and cherry tomatoes.

### **Lamb chops with new potatoes and vegetables**

Carrot(s) x 4  
Lamb chop(s) x 8 steaks  
Fresh mint x 1 tbsp  
Green beans x 4 handfuls  
Potatoes x 200 gram(s)

1. Place lamb chops under a pre-heated grill and cook for approximately 15-20 min, turning once.
2. Put the potatoes in a saucepan of boiling water or a steamer and cook for 10 min. Add the carrots

and cook for a further 5 min.

3. Just as the carrots are starting to soften, add the green beans.
4. While the carrots are cooking, in a bowl, mix the butter, mint and a little salt and pepper. Beat together until combined.
5. Once the vegetables are cooked, tip into a warmed serving dish and dot with the herby butter and serve with lamb chops.

### **Marrow stuffed with tomatoes**

Marrow x 1  
Semi-skimmed milk x 100 ml  
Cheese x 200 gram(s)  
Tomato(es) x 4  
Oatmeal or breadcrumbs x 50 gram(s)

1. Preheat the oven to 190°C or gas mark 5.
2. Slice the marrow into 3cm thick rounds. Cut away and discard the seeds from the centre to form rings. Place in a greased ovenproof dish in a single layer.
3. Add oatmeal or breadcrumbs to milk and mix with 175g grated cheese and tomatoes chopped very finely. Season to taste.
4. Fill the marrow with the stuffing and sprinkle with the remaining cheese. Bake in the oven for 35-40 min until the marrow is tender and the cheese is browned.

### **Muffin pizza with green salad**

Bacon x 50 gram(s)  
Cheese x 50 gram(s)  
Tomato(es) x 1  
Wholemeal muffin(s) x 1  
Lettuce x 1 cups  
Celery (sticks) x 1  
Apple(s) x 0.5

1. Cut the muffin in half and grill both halves lightly on the bottom.
2. Grate the cheese and chop the tomato and cooked bacon into small pieces.
3. Pile the mixture on top of the muffin and pop under a hot grill until golden brown.
4. Meanwhile, prepare the salad by slicing the cucumber, apple and celery thinly, and combining with the lettuce leaves.

### **Mushroom omelette with sweetcorn**

Egg(s) x 2  
Onion(s) x 0.5  
Sunflower oil x 1 tbsp  
Mushrooms x 3 handfuls  
Sweetcorn (canned) x 3 tbsp  
Lettuce x 1 cups  
Cheese x 50 gram(s)  
Cherry tomatoes x 80 gram(s)

1. Chop the onion and tomatoes and fry in a little oil until soft.
2. Beat the eggs and add them along with the sweetcorn to the pan.
3. Gently stir the eggs, pulling the mixture away from the edges of the pan. This will allow all the mixture to reach the bottom of the pan and ensure the omelette is evenly cooked.

4. Once the eggs have started to set, sprinkle with grated cheese.
5. Pop the omelette under a preheated grill for a minute to crisp up the cheese, and then serve with lettuce.

### **One-pot vegetable wonder**

Onion(s) x 2  
Carrot(s) x 4  
Small swede x 1  
Parsnips x 2  
Garlic x 1  
Vegetable stock x 300 ml  
Plain flour x 0.25 cups  
Potatoes x 320 gram(s)  
Low-fat margarine or butter x 10 gram(s)  
Fresh rosemary x 1

1. Preheat the oven to 190°C or gas mark 5.
2. Chop the vegetables into chunks and arrange in layers in a large casserole dish (except the potatoes). If you don't have a casserole dish, you can put them into a saucepan and cook on the hob.
3. Season the vegetable layers lightly with black pepper and sprinkle three cloves of crushed garlic and a handful of rosemary leaves over them.
4. Boil 300ml water and add the stock cube. Add the flour to the stock and pour over the vegetables.
5. Arrange the potatoes in overlapping layers on top. Dot with a small amount of low-fat margarine and cover tightly.
6. Cook in the oven (or on the hob) for about an hour, or until the vegetables are tender.
7. Remove the lid from the dish and cook for a further 15 min until the top layer of potatoes is golden and crispy at the edges.

### **Pak choi with bean mash**

Olive oil x 4 tbsp  
Lemon(s) x 0.25  
Garlic x 1  
Pak choi x 4  
Butter beans x 12 tbsp

1. Place the butter beans in a pan with three tablespoons olive oil, two tablespoons of lemon juice and a clove of crushed garlic. Heat through and lightly mash until the beans start to break up. Season and cover.
2. Heat the remaining olive oil in a wok or frying pan over a medium heat. Add the pak choi and stir fry for 8-10 min.
3. Pile the mashed beans onto four plates, top with the pak choi and drizzle over a little olive oil and a squeeze of lemon juice before serving.

### **Quick chicken and pepper stir fry**

Green pepper x 1  
Red onion(s) x 2  
Red pepper x 1  
Rice x 200 gram(s)  
Yellow pepper x 1  
Skinless chicken breast x 4 fillets  
Cashews x 1 gram(s)



Sunflower oil x 1 tbsp  
Soy sauce x 2 tspn

1. Cook the rice according to the pack instructions.
2. While the rice is cooking, heat the oil in a large pan or wok, and add the sliced onion and chicken, cooking for 5 min.
3. Add the remaining vegetables and cashew nuts to the pan and stir.
4. Add a little water and a dash of soy sauce to flavour.
5. Continue to stir until vegetables start to soften a little.
6. Drain the cooked rice and serve with the stir fry.

### **Red peppers with rice**

Red pepper x 4  
Rice x 100 gram(s)  
Frozen peas x 1 cups  
Tomato puree x 1 tbsp  
Sweetcorn (canned) x 4 tbsp

1. Cook and drain the rice according to instructions on the packet.
2. While the rice is cooking, cut the tops off the peppers and remove the seeds.
3. Mix the cooked rice with the tomato puree, peas and sweetcorn and stuff inside the hollowed peppers.
4. Put the tops back on again like a lid.
5. Bake in the oven for 30 mins.

### **Rice cakes with vegetable dippers**

Carrot(s) x 1  
Celery (sticks) x 2  
Cucumber x 0.25  
Green pepper x 0.5  
Red pepper x 0.5  
Rice cakes x 4  
Low-fat soft cheese x 2 tbsp

1. Cut the carrots, celery, cucumber and pepper into strips.
2. Spread the cream cheese onto the rice cakes.
3. For added bite, serve with sweet chilli dipping sauce.

### **Roasted vegetable pasta**

Onion(s) x 2  
Courgettes x 3  
Aubergine x 1  
Pasta x 400 gram(s)  
Olive oil x 2 tbsp  
Cherry tomatoes x 160 gram(s)  
Green beans x 4 handfuls

1. Pre-heat the oven to 180°C or gas mark 4.
2. Roughly chop vegetables of your choice into large chunks and place in an ovenproof dish or roasting tin. Drizzle a little olive oil and put them in the oven for about 30 mins.

3. About 10 min before the roasted vegetables are ready, add the cherry tomatoes cut in half and place back in the oven.
4. Next, start to cook your favourite pasta according to the instructions on the packet.
5. When the pasta and roast veggies are cooked, stir together in the roasting dish and serve.

### **Roasted vegetable risotto**

Frozen peas x 4 cups  
Onion(s) x 2  
Garlic x 1  
Arborio rice x 3 cups  
Vegetable stock x 1000 ml  
Olive oil x 1 tbsp  
Low-fat margarine or butter x 20 gram(s)  
Carrot(s) x 6  
Courgettes x 1  
Yellow pepper x 1

1. Preheat the oven to 220°C, gas mark 8.
2. Wash and chop the vegetables into medium-sized chunks.
3. Place them into a large roasting tin and drizzle with 1 tbsp olive oil and season. Toss well and place in the oven for 15-20 min uncovered, until the veggies are soft and lightly golden, turning halfway through cooking.
4. Meanwhile, heat 1 tbsp olive oil and the margarine in a large pan. Add the onion and one clove of crushed garlic, and fry for 3-4 min, until softened. Stir in the risotto rice and stir to coat well.
5. Add the hot vegetable stock a quarter at a time, adding each quarter after the previous stock has been absorbed by the rice. This should take approximately 25 min by which time the rice should be firm but cooked. Add the peas in the last minute.
6. Remove the vegetables from the oven and stir into the rice. Serve immediately.

### **Salmon and salad baguette**

Pink salmon (canned) x 80 gram(s)  
Cucumber x 0.25  
Lettuce x 1 cups  
Plain low-fat yoghurt x 3 tbsp  
Wholemeal baguette x 0.5  
Lemon(s) x 1

1. Chop cucumber into small pieces.
2. Combine cucumber, salmon and yoghurt with a squeeze of lemon.
3. Pile up the mixture in the baguette and top with lettuce.

### **Salmon fishcakes with carrots and peas**

Pink salmon (canned) x 200 gram(s)  
Potatoes x 400 gram(s)  
Tomato(es) x 2  
Chopped parsley x 4 tbsp  
Plain low-fat yoghurt x 2 tbsp  
Cheese x 50 gram(s)  
Egg(s) x 1  
Frozen peas x 4 cups

Carrot(s) x 4  
Oatmeal or breadcrumbs x 50 gram(s)

1. Heat the oven to 200°C, or gas mark 6.
2. Place the potatoes on to boil and once cooked, mash.
3. Meanwhile, chop the tomatoes finely.
4. Combine the tomatoes, salmon, half the chopped parsley, half the oatmeal and the yoghurt before adding the mashed potato.
5. In a separate bowl combine the remaining breadcrumbs with the rest of the parsley and grated cheese.
6. Divide the fish and potato mixture into eight then shape into rounds.
7. Coat each one in egg and then roll in the breadcrumb and cheese mixture.
8. Place on a lightly greased baking tray and bake for 15 min.
9. Serve with your choice of veggies.

### **Salmon parcels with rice and peas**

Cherry tomatoes x 160 gram(s)  
Red onion(s) x 1  
Olive oil x 1 tbsp  
Salmon fillets x 2  
Rice x 100 gram(s)  
Frozen peas x 2 cups

1. Start cooking the rice according to the pack instructions. Pre-heat the oven to 200°C or gas mark 6.
2. Halve the cherry tomatoes and finely chop the red onion.
3. Place each salmon fillet on a large square of oiled tin foil.
4. Top with the cherry tomatoes and onion and pour a little olive oil over the top.
5. Close up the tin foil to make a small parcel.
6. Bake in the oven for 15-20 min, depending on how you prefer your fish.
7. Once rice is cooked, stir in peas and leave to stand. The peas will cook in the heat of the rice.
8. Serve the salmon with the cherry tomatoes and onions on top of the rice and peas.

### **Sardine bagel with pepper and carrot sticks**

Sardines x 60 gram(s)  
Bagel(s) x 1  
Carrot(s) x 1  
Yellow pepper x 0.5

1. Mash the sardines into a spreadable paste.
2. Use sardine mixture to fill the bagel.
3. Serve with pepper strips and carrot sticks.

### **Sausage meatballs with parsnips**

Sausages x 8  
Garlic x 1  
Red onion(s) x 0.5  
Parsnips x 4  
Olive oil x 1 tbsp  
Sprouts x 4 handfuls

1. Preheat the oven to 180°C or gas mark 4.
2. Chop the parsnips into large chunks and drizzle with olive oil before placing in the oven for about 20 min.
3. Remove the sausage meat from its casing and mix with the finely chopped onion and one clove of garlic.
4. Divide into eight and roll into balls.
5. Place on a greased baking tray and bake for 12-15 min until thoroughly cooked.
6. While the meatballs and parsnips are cooking, steam or boil some broccoli for 8-10 min. Serve the meatballs with the veggies, along with your favourite sauce for dipping.

### **Sausage, tomato and pumpkin bake**

Small pumpkin x 2  
Sausages x 8  
Olives x 2 tbsp  
Lemon(s) x 1  
Chilli dipping sauce x 4 tbsp  
Mange tout x 4 handfuls  
Cherry tomatoes x 160 gram(s)

1. Cut the pumpkin into small chunks, discarding the skin and seeds. Cut the sausage into small pieces.
2. Mix together 1 tbsp of oil, 1 tbsp of lemon juice and the chilli sauce.
3. Heat the remaining oil in a large frying pan and gently fry the pumpkin for 5 min, stirring. Add the sausage and fry gently for a further 6-8 min until the pumpkin is tender.
4. Add the cherry tomatoes, olives and mange tout and mix together, heating for 1 min.
5. Place into a large bowl, pour over the dressing and mix the ingredients together.

### **Sausages with sweet potato mash and veggies**

Sweet potato(s) x 4  
Sausages x 8  
Broccoli x 320 gram(s)  
Frozen peas x 4 cups  
Low-fat margarine or butter x 20 gram(s)

1. Peel and chop the sweet potatoes into small chunks and add to a saucepan of boiling water to cook.
2. Place sausages under a hot grill and turn regularly until cooked.
3. While they are cooking, cut the broccoli into smaller pieces and add to saucepan of boiling water, cooking for 5 min.
4. Add the peas to the broccoli about 3 min later.
5. Drain sweet potatoes then mash with margarine. Serve with sausages and green veggies.

### **Simple tomato pasta with broccoli**

Onion(s) x 1  
Low-fat margarine or butter x 20 gram(s)  
Canned chopped tomatoes x 800 gram(s)  
Broccoli x 240 gram(s)  
Pasta x 400 gram(s)  
Sugar x 3 tspn

1. Peel and chop an onion into four and gently brown in a saucepan in a little oil.
2. Add canned tomatoes, low-fat margarine or butter, and sugar.
3. Simmer very gently for about 20 min. Keep stirring so it doesn't stick to bottom of the saucepan. (The sauce is done when the large chunks of onion are soft.)
4. Start to cook the pasta according to instructions on the packet.
4. Meanwhile, steam or boil your broccoli for approximately 3-5 min.
5. Combine broccoli and tomatoes with the pasta in a large bowl and serve.

### **Simply roast chicken with veggies**

Carrot(s) x 5  
Parsnips x 3  
Red onion(s) x 2  
Garlic x 1  
Olive oil x 2 tbsp  
Potatoes x 320 gram(s)  
Small swede x 1  
Low-fat margarine or butter x 10 gram(s)  
Semi-skimmed milk x 100 ml  
Green beans x 4 handfuls  
Free range chicken thighs x 720 gram(s)

1. Preheat the oven to 200°C or gas mark 6.
2. Put the chicken pieces in a large roasting tin.
3. Peel and chop carrots, parsnips and red onions and add to the roasting tin.
4. Peel and crush four cloves of garlic and add to the tin.
5. Pour the olive oil over the chicken and vegetables, and put the whole lot in the oven.
6. Cook for around 40 min (add the green beans in the last 25 min) or until the juice runs clear when you put a skewer into the chicken pieces.
7. For the mash: peel and chop the potatoes and swede and put together in a large saucepan of boiling water for 20 min or until they are soft.
8. Drain the water from the potatoes and swede.
9. For minimum washing up, in the same pan mash the potato and swede together with a little warm milk, a small knob of butter and seasoning.
10. Serve chicken and vegetables with mash on the side.

### **Simply sweet pepper pizza**

Basic cheese and tomato pizza x 400 gram(s)  
Green pepper x 1  
Red pepper x 1  
Yellow pepper x 1  
Sweetcorn (canned) x 4 tbsp

1. Take a red, green or yellow pepper, remove the seeds and cut into strips.
2. Scatter the sweetcorn and strips of pepper over a pizza and bake according to the manufacturer's instructions. Serve immediately.

### **Sizzling beef with tasty greens**

Cabbage x 8 handfuls  
Cashews x 1 gram(s)  
Spring onions x 4  
Steak x 200 gram(s)

Red pepper x 1  
Sunflower oil x 2 tbsp  
Soy sauce x 8 tspn  
Garlic x 1  
Honey x 2 tbsp

1. Cut the beef into long strips then cut lengthways again into thin strips.
2. Combine the soy sauce, one clove of crushed garlic and honey in a small bowl.
3. Mix half of this sauce with the meat, stirring until the meat is evenly coated. Set aside for 5 min.
4. Meanwhile, finely shred the spring onions and cabbage. Halve and de-seed the pepper then cut into fine shreds.
5. Now place a wok or large frying pan over a high heat, without adding any oil at first. As soon as it's very hot, add 1 tbsp of oil, let it sizzle, then add the cashew nuts and stir fry for about 2 min.
6. Add the remaining oil, let it sizzle then add the cabbage, spring onions and red pepper. Stir fry these over a high heat for about 1 min then add the remaining sauce and fry for a further 1 min until the marinade is bubbling and the cabbage is sizzling.
7. Serve immediately.

### **Smoked mackerel and new potato salad**

Smoked mackerel x 1  
New potatoes x 100 gram(s)  
Spring onions x 2  
Mushrooms x 3 handfuls  
Pine nuts x 10 gram(s)  
Lettuce x 1 cups  
Cherry tomatoes x 80 gram(s)  
Plain low-fat yoghurt x 1 tbsp

1. Boil or steam the potatoes until cooked - about 15 min depending on size.
2. Meanwhile, remove the mackerel skin and lightly flake the fillet in a bowl.
3. Slice the mushrooms, spring onions, tomatoes and lettuce.
4. Combine the mackerel and salad vegetables with the potatoes and yoghurt.
5. Sprinkle with pine nuts.

### **Spaghetti bolognese with salad**

Canned chopped tomatoes x 400 gram(s)  
Onion(s) x 1  
Carrot(s) x 4  
Tomato puree x 1 tbsp  
Garlic x 1  
Lean beef mince or quorn x 400 gram(s)  
Frozen peas x 2 cups  
Mushrooms x 1 handfuls  
Spaghetti x 400 gram(s)  
Little gem lettuce x 1

1. Heat the oil in a large pan, add the onion and one or two cloves of crushed garlic and cook for 2 min.
2. Add the mince/quorn and cook over a high heat, stirring for a further 3 min or until the meat is brown.
3. Add the carrots and cook for 2 min.
4. Add mushrooms, tomatoes and tomato puree, cover and simmer for approximately 25 min. Add the

peas in the final 5 min.

5. Boil spaghetti for 8 min or according to the pack instructions.

6. Drain the pasta and stir in the sauce, before serving in large bowls with the lettuce leaves.

### **Spicy bean and rice salad**

Brown rice x 100 gram(s)

Kidney beans x 8 tbsp

Yellow pepper x 1

Spring onions x 4

Celery (sticks) x 4

Chilli dipping sauce x 2 tbsp

1. Cook the brown rice according to the instructions - this will take about 20 min.
2. Meanwhile, chop up the spring onions, celery and pepper.
3. Once the rice is cooked, drain and cool down under a running tap.
4. Combine rice with rinsed kidney beans and chopped salad ingredients.
5. Lastly, stir in the sweet chilli dipping sauce according to your taste.

### **Spicy chilli con carne**

Mushrooms x 1 handfuls

Carrot(s) x 4

Sunflower oil x 1 tbsp

Onion(s) x 1

Canned chopped tomatoes x 400 gram(s)

Garlic x 1

Lean beef mince or quorn x 400 gram(s)

Tomato puree x 2 tbsp

Rice x 200 gram(s)

Kidney beans x 8 tbsp

Chilli powder x 0.5 tspn

1. Heat the oil in a large pan, add the onion, one clove of garlic and chilli powder and cook for 2 min or until onion softens.
2. Add the mince or quorn and cook over a high heat, stirring for a further 3 min or until the meat is brown.
3. Add the carrots and cook for 2 min.
4. Add mushrooms, tomatoes and tomato puree, cover and simmer for approximately 25 min.
5. Meanwhile, start to cook the rice according to the pack instructions.
6. Serve the chilli hot, in bowl, with the rice.

### **Spicy vegetarian curry**

Canned chopped tomatoes x 400 gram(s)

Cashews x 2 gram(s)

Curry paste (mild) x 2 tbsp

Garlic x 2

Plain low-fat yoghurt x 4 tbsp

Aubergine x 2

Onion(s) x 1

Olive oil x 2 tbsp

Rice x 200 gram(s)

1. Cut the aubergine into large chunks.
2. Heat the oil in a large saucepan over medium heat. Add the onion and gently fry for 2 min. Stir in the curry paste and cook for another 2 min.
3. Stir in the tomatoes and the aubergines. Season to taste. Cover and simmer for 15 min.
4. Add the cashew nuts and simmer for 2-3 min.
5. Serve with plain rice and a spoonful of yoghurt.

### **Spring green spaghetti**

Spring greens x 320 gram(s)  
Spaghetti x 400 gram(s)  
Pesto x 4 tbsp

1. Cook spaghetti according to instructions on the packet.
2. Pile all the spring green leaves together and chop, shredding into thin strips.
3. Cook in about an inch of boiling water about 5-6 min, and drain.
4. Stir the greens, spoonfuls of pesto and drained spaghetti together in a large bowl.
5. Serve immediately.

### **Stuffed tomato with green beans**

Beef tomato(es) x 4  
Onion(s) x 1  
Olive oil x 1 tbsp  
Pesto x 1 tbsp  
Frozen peas x 2 cups  
Green beans x 4 handfuls  
Cheese x 50 gram(s)  
Brown rice x 100 gram(s)

1. Preheat the oven to 180°C or gas mark 4.
2. Cook the rice in boiling water for 10-12 mins, then drain.
3. Slice the top off the tomatoes but keep the tops to one side. Using a spoon, scoop out the flesh, chop it and place in a bowl. Drain off the excess juice.
4. Heat the oil in a pan and gently fry the onion for 3-4 mins or until soft and golden.
5. Combine the rice, onions, peas, pesto and tomato flesh. Add the cheese and season.
6. Fill the tomatoes with the mixture and replace the lids.
7. Place the tomatoes in an ovenproof dish and cook for 20-25 mins until completely heated through and the tomatoes are just softening.

### **Sweet potato shepherd`s pie**

Lean lamb mince or quorn x 450 gram(s)  
Sunflower oil x 1 tbsp  
Onion(s) x 1  
Leek(s) x 3  
Carrot(s) x 1  
Plain flour x 0.25 cups  
Vegetable stock x 275 ml  
Tomato puree x 1 tbsp  
Sweet potato(s) x 4  
Low-fat margarine or butter x 50 gram(s)



1. Heat the oil in a large pan and cook the onion until soft but not coloured. Add the mince, sliced leeks and carrots and cook until the meat is nicely browned.
2. Stir in the flour and gradually add the stock to the mince.
3. Stir in the tomato puree. Cover the saucepan, turn down the heat and simmer for 30-35 min, stirring occasionally.
4. Meanwhile, peel the sweet potatoes and cut into chunks. Place in a saucepan of boiling water and cook for 10-12 min or until tender. Drain and return to the pan, but away from the heat. Add the low-fat margarine and mash until smooth.
5. When the mince is cooked, spoon into an ovenproof dish. Spread the mash sweet potato over the meat.
6. Bake for 15 min at 200°C or until the top is beginning to colour brown and piping hot.

### **Sweet potato wedges with dip**

Sweet potato(s) x 4  
Olive oil x 1 tbsp  
Plain low-fat yoghurt x 4 tbsp  
Cucumber x 0.25  
Fresh mint x 1 tbsp

1. Preheat oven to 220°C or gas mark 8.
2. Scrub and slice each sweet potato in half lengthways then each half into three lengthways again to make fat wedges.
2. Brush the oil over the flesh of the sweet potatoes.
3. Transfer the sweet potatoes to a non-stick roasting tin and bake for 15-20 min.
4. Meanwhile, grate the cucumber and combine with mint and yoghurt in a bowl.
5. Serve alongside the wedges.

### **Tasty cheese pitta with apple slices**

Cheese x 50 gram(s)  
Apple(s) x 1  
Wholemeal pitta bread (s) x 1

1. Thinly slice the apple and cheese, then open and fill the pitta bread.

### **Tuna and crunchy salad sandwich**

Plain low-fat yoghurt x 1 tbsp  
Tomato(es) x 1  
Green pepper x 0.5  
Sweetcorn (canned) x 1 tbsp  
Tuna x 0.5 cans  
Cucumber x 0.25  
Wholemeal bread (sliced) x 4 slices

1. Chop green pepper into small pieces.
2. Combine tuna, sweetcorn and green pepper with yoghurt.
3. Use tuna mixture to fill sandwiches, topping with slices of tomato and cucumber.

### **Tuna and cucumber sandwich**

Low-fat soft cheese x 1 tbsp  
Cucumber x 0.25  
Cherry tomatoes x 80 gram(s)  
Wholemeal bread (sliced) x 2 slices  
Tuna x 0.5 cans

1. Mash the tuna to make it easy to spread on the bread.
2. Spread cream cheese onto the bread and top with the tuna.
3. Finish with thin slices of cucumber.
4. Serve with cherry tomatoes on the side.

### **Vegetable and tomato couscous**

Courgettes x 2  
Red pepper x 1  
Red onion(s) x 1  
Couscous x 250 gram(s)  
Olive oil x 2 tbsp  
Vegetable stock x 400 ml  
Cherry tomatoes x 160 gram(s)  
Broccoli x 160 gram(s)

1. Preheat the oven to 220°C or gas mark 8.
2. Break the cauliflower into smaller pieces and slice the peppers and courgettes into even-sized chunks.
3. Place all the vegetables in a large roasting tin in a single layer and drizzle with 1 tbsp olive oil. Place in the oven for 20-25 min until tender and starting to brown, turning halfway through cooking.
4. Meanwhile, place the couscous in a large bowl and pour over the stock. Cover and leave to stand for 5 min.
5. When ready, stir the couscous to break up, then add to the vegetables from the roasting tin.
6. Season and stir in the remaining 1 tbsp olive oil, combining well.

### **Vegetable dippers with houmous**

Baby sweetcorn x 80 gram(s)  
Carrot(s) x 1  
Celery (sticks) x 1  
Cherry tomatoes x 80 gram(s)  
Houmous x 50 gram(s)

1. Cut carrots, baby sweetcorn and celery sticks into handy strips and use as dippers for houmous.

### **Vegetable soup**

Olive oil x 1 tbsp  
Onion(s) x 1  
Garlic x 1  
Carrot(s) x 2  
Small swede x 0.5  
Leek(s) x 1  
Sweet potato(s) x 2

Frozen peas x 2 cups  
Vegetable stock x 1000 ml  
Wholemeal baguette x 0.5

1. Heat the oil in a large pan and cook the finely chopped onion and garlic until softened.
2. Peel and dice all the vegetables, except the peas. Make as chunky as you like, but finer works better. Add to pan and cook for about 5 min.
3. Add vegetable stock to cover the veggies by a good inch and season with pepper.
4. Bring to boil, reduce heat and simmer for 30-45 min until vegetables are cooked.
5. A minute before serving add the peas and stir.
6. Serve with chunks of wholemeal baguette warmed in the oven

Puddings and snacks

### **Apple crumble with yoghurt**

Cooking apple(s) x 2  
Raspberries x 160 gram(s)  
Soft brown sugar x 50 gram(s)  
Plain low-fat yoghurt x 4 tbsp  
Oats x 70 gram(s)

1. Pre-heat oven to 180°C or gas mark 4.
2. Peel, core and slice the apples.
3. Stew apples in 2 tablespoons of water until soft.
4. Meanwhile, mix the rolled oats and soft brown sugar in a bowl.
5. When apples are soft, transfer to an ovenproof dish and add raspberries.
6. Top with the rolled oats mix and bake for 10-15 min or until the top is golden.
7. Serve with yoghurt.

### **Banana and walnut bread**

Self raising flour x 100 gram(s)  
Wholemeal flour x 100 gram(s)  
Cinnamon x 1 tspn  
Bicarbonate of soda x 0.5 tspn  
Soft brown sugar x 100 gram(s)  
Sunflower oil x 5 tbsp  
Plain low-fat yoghurt x 4 tbsp  
Egg(s) x 2  
Sultanas x 3 handfuls  
Walnuts x 40 gram(s)  
Small pumpkin x 1  
Banana(s) x 2

1. Preheat oven to 180°C or gas mark 4. Lightly grease and line the base of a 2lb loaf tin with greaseproof paper.
2. Sift both types of flour, bicarbonate of soda and cinnamon into a large bowl. Stir in the sugar. Place the oil, yoghurt and eggs in a separate bowl and whisk to combine. Pour the liquid mixture into the flour and beat with an electric whisk for 1 min.
3. Peel and remove the seeds from the pumpkin, then grate.
4. Stir the pumpkin, banana, sultana and walnuts in with the liquid and transfer the mixture to the [www.internetjournalofcriminology.com](http://www.internetjournalofcriminology.com)

prepared tin.

5. Bake for 1 hour or until a skewer inserted into the middle comes out clean.

6. Allow to cool in the tin for 5-10 min then carefully transfer to a wire rack to cool completely.

### **Banana energy squares**

Low-fat margarine or butter x 100 gram(s)

Golden syrup x 3 tbsp

Oats x 150 gram(s)

Banana(s) x 2

Dried apricots x 4 handfuls

Pumpkin seeds x 25 gram(s)

Sunflower seeds x 25 gram(s)

Sesame seeds x 25 gram(s)

1. Preheat the oven to 180°C or gas mark 4. Lightly grease a 19x19cm baking tin and line the bottom with greaseproof paper.

2. Melt the low fat margarine and syrup in a heavy-based saucepan until dissolved. Remove from the heat, add the remaining ingredients and mix well.

3. Spoon the mixture into the prepared tin, level the surface and bake in the oven for 20-30 mins or until golden brown. The mixture will still be very soft in the centre.

4. Leave to cool in the tin for 10 mins, then cut into nine squares. When cold, transfer to an airtight container. Don't try to remove the bars from the tin while they are still warm because they will break.

### **Banana milkshake**

Banana(s) x 2

Semi-skimmed milk x 400 ml

Oats x 50 gram(s)

Honey x 1 tbsp

1. In a blender, add banana, oats and honey first.

2. Slowly add milk before serving in glasses with ice.

### **Bananas and custard**

Banana(s) x 4

Custard - ready to serve x 400 gram(s)

1. Heat custard gently in a saucepan.

2. Slice bananas.

3. Pour warmed custard over the bananas.

### **Blueberry muffins**

Caster sugar x 50 gram(s)

Egg(s) x 1

Semi-skimmed milk x 75 ml

Olive oil x 5 tbsp

Blueberries x 160 gram(s)

Apple(s) x 2

Wholemeal flour x 75 gram(s)

Self raising flour x 75 gram(s)

1. Heat the oven to 190°C or gas mark 5. To avoid the muffins sticking, use tin liners or grease with a little oil.
2. Peel, de-core and chop up apples.
3. In a large bowl, mix together the flours and sugar. In a measuring jug beat the egg, milk and oil lightly with a fork.
4. Pour all of the liquid ingredients into the dry ingredients and stir with a tablespoon until only just combined, scraping the sides and bottom of the bowl as you stir. The batter should look lumpy.
5. Using a dessert spoon, three-quarter fill each muffin case. Bake for 15-20 min. The muffins are cooked when they are lightly browned and they spring back when touched.

### **Cherries with yoghurt**

Cherries (canned) x 400 gram(s)  
Plain low-fat yoghurt x 8 tbsp  
Honey x 1 tbsp

1. Simply divide the cherries into each dish and top with yoghurt and a drizzle of honey.

### **Dried fruit and nut selection**

Dried apricots x 2 handfuls  
Banana chips x 1 gram(s)  
Sultanas x 1 handfuls  
Dried apple rings x 2 handfuls  
Cashews x 50 gram(s)

1. Mix all the ingredients together and store in an airtight jar.

### **Dried fruit compote**

Dried apple rings x 25 handfuls  
Dried apricots x 1 handfuls  
Prunes in juice x 100 gram(s)  
Apple juice x 100 ml

1. Soak dried fruit with prunes in fruit juice overnight.
2. Spoon over porridge, muesli or, if you prefer, yoghurt.

### **Homemade fruity juicy ice lollies**

Fruit juice of your choice x 500 ml

1. Pour your favourite fruit juice into ice lolly moulds and freeze.

### **Homemade popcorn**

Dried popping corn x 10 gram(s)  
Sunflower oil x 0.25 tbsp

1. Heat a little oil in a heavy based saucepan, which has a tight fitting lid.
2. Add the popping corn.
3. Place lid on tightly and shake.
4. After a couple of minutes you will start to hear popping, this is the corn starting to cook.

5. Keep the lid on and shake every minutes - the whole process takes about 3 to 5 minutes.
6. The corn is ready when it has stopped popping.
7. Serve with a sprinkling of sugar or for added kick some paprika or chilli powder.

### **Peach smoothie**

Lemon(s) x 0.25  
Peaches (canned) x 320 gram(s)  
Orange juice x 400 ml  
Pineapple chunks in juice x 160 gram(s)

1. Combine all the ingredients and blend until smooth and creamy. Chill and serve.

### **Pineapple smoothie**

Pineapple x 0.5  
Banana(s) x 2  
Coconut milk x 100 ml

1. Take half a fresh pineapple, or use one large tin of pineapple pieces in juice.
2. Add the banana and coconut milk and blend together.
3. Serve with ice.

### **Satsuma, kiwifruit and melon kebab**

Melon x 1  
Satsuma(s) x 4  
Kiwifruit x 2

1. Peel and de-seed the melon and cut into large cubes.
2. Peel the satsumas and kiwi fruit and cut the kiwi fruit into cubes.
4. Alternating for colour, thread the fruit onto wooden skewers.
5. Serve lightly chilled.

### **Strawberries and yoghurt**

Strawberries x 320 gram(s)  
Plain low-fat yoghurt x 8 tbsp  
Honey x 1 tbsp

1. Wash stawberries and take off the green stem. Slice evenly.
2. Serve with yoghurt, drizzled with honey.

### **Strawberry smoothie**

Strawberries x 160 gram(s)  
Banana(s) x 2  
Orange juice x 200 ml

1. Blend the strawberries and bananas together.
2. Add the orange juice, some ice and blend.
3. Pour into glasses.

8. Steam or boil the green beans for about 4-5 mins and serve.

### **Sweet pancakes with berries**

Semi-skimmed milk x 250 ml  
Egg(s) x 2  
Orange(s) x 1  
Low-fat margarine or butter x 75 gram(s)  
Soft brown sugar x 25 gram(s)  
Plain flour x 3 cups  
Raspberries x 160 gram(s)  
Blueberries x 160 gram(s)  
Baking powder x 1 tspn  
Plain low-fat yoghurt x 4 tbsp

1. Melt the low-fat margarine in a frying pan.
2. Grate the zest of the orange.
3. Whisk together the milk, eggs, melted margarine and orange zest
4. Whisk in the baking powder and sugar, add half the flour and whisk well until all the ingredients are mixed, then whisk in the remaining flour.
5. Heat the pan. Wipe with a little melted margarine using kitchen paper. Lower the heat to medium.
6. Pour in tablespoons of the batter until the pan is full of pancakes, but they must not touch.
7. Cook for approximately 40 seconds on each side until golden brown. Continue with the process until the batter is used.
8. Serve the pancakes with the fresh berries and yoghurt, sprinkled with a little sugar to taste.

### **Tasty melon ices**

Melon x 1

1. Chop up a melon into large chunks and place in a small bag or container.
2. Pop into the freezer.
3. Take out when you or the kids fancy a treat and enjoy frozen.

## Appendix 4

### CONSENT FORM

Client Reference.....M.....F..... Age.....

To whom it may concern,

On behalf of a third year BA Honours degree student, I have been asked to carry out a survey on their chosen topic of nutrition. Therefore, I would greatly appreciate your co-operation by completing a short questionnaire. There are no right or wrong answers within the questionnaire and guidance notes have been provided. However, if you prefer I am happy to talk you through the questionnaire whilst you complete it, answering any questions or queries you may have along the way.

May I also take this opportunity to advise you that participation in this study is voluntary and you are under no obligation to take part; however, should you wish to take part your participation will be kept completely confidential. You may also withdraw from the study, or withdraw all of your data, at any time during the study.

May I also take this opportunity, on behalf of the student, to thank you for your interest and co-operation. Should you require any more information on the study or the outcomes please feel free to contact me.

Many thanks

Emma Gordon

.....Tear off slip.....

**Signed Consent Client Reference.....**

I..... understand that I am taking part in a research project and have given my consent. The researcher has explained fully what I am required to do; I also understand that participation is voluntary, that I can withdraw, or withdraw data, at any time, and that all information gathered is confidential.



## Guidance Notes

### Introduction

The Food Standards Agency (FSA) and National Health Service (NHS) advise that the recommended daily intake (RDI) of calories for an average adult is 2000 calories (kcal) per day and 1800 kcal per day for children aged between 5 and 10 years. These calories should be made up with a recommended dietary allowance (RDA) of the following;

- 400 grams of fruit and vegetables per day, either fresh, tinned or frozen, cooked or raw
- 400 grams of carbohydrates per day, such as bread, potato's, rice and pasta
- 135 grams of protein per day, such as lean meat, fish, eggs and beans
- 135 grams of milk or dairy foods such as, cheese, yoghurt, milk
- 135 grams of foods high in fat and/or sugar, such as butter, cream, oils, sweets, cakes, crisps, biscuits, chocolate and food cooked or fried in fat products

### Vegetables/Fruit

One portion of vegetables is equivalent to 80 grams or approximately 3 heaped table spoons.

One portion of fruit is equivalent to 80 grams or 1 eighth of a large fruit such a melon or pineapple; one medium size fruit such as, an apple, banana or pear; 2 small fruits such as plums or apricots; one handful of berries such as grapes or raspberry.

- 5 portions should be consumed per day (approx 600 calories)

NB. Water soluble vitamins found in fruit and vegetables are not stored in the body so to maintain a healthy function these types of food stuffs should be consumed every day

### Carbohydrates (Starchy Foods)

One portion is equivalent to approximately 135 grams or potatoes, bread (2 slices), cooked pasta or rice; each portion should be approximately 200 Kcal.

- 2 – 3 portions should be consumed a day (approximately 600 calories)

NB. Gram for gram starchy foods contain half the calories of fat, however, care should be taken not to add to the calorie content by adding too much fatty foods such as cream, cheese and butter, to starchy food

## **Guidance Notes continued.....**

### **Protein**

One portion is equivalent 45 grams of lean meat or fish, which is approximately 2 heaped tablespoons or 2 medium slices of cooked meat or fish, or 1 egg, or approximately 2 heaped tablespoons of beans.

- 2 – 3 portions should be consumed per day (approx 300 calories)

### **Milk and Dairy Products**

One portion is equivalent to 45 grams or, for example, 1 glass of milk or, 1 matchbox size piece of cheese.

- 2 – 3 portions should be consumed per day (approx 200 calories)

### **Foods High in Fat and/or Sugar**

One portion is equivalent to 45 grams or, for example 1 standard size bag of crisps is 35 grams, 1 chocolate digestive (85 kcal) or 2 plain biscuits (90 kcal) is approximately one portion, and 1 standard chocolate bar (250 kcal) is 3 portion. ¼ of a medium frozen thin crust cheese pizza (265 kcal) is approximately 3 portions.

- 0 – 3 portions per day (approx 200 calories)

NB. Foods high in fat and sugar for example are cream, butter, animal fats, oils, cakes, biscuits, fizzy pop, chocolate, crisps and sweets. Some breakfast cereals can have very high sugar content, as does most alcohol. Although some fat soluble vitamins, found in fatty foods, are needed to maintain a healthy function of the body, it should also be noted that the body stores fat so does not need a daily intake to maintain a healthy function.

**THE FOLLOWING SURVEY SHOULD BE FILLED IN AS IF  
IT WAS A NORMAL AVERAGE DAY IN YOUR  
HOUSEHOLD.**

**Thank You**

### Vegetables & Salad Vegetables

Type of Vegetable	Portions Per Day	Fresh	Frozen	Tinned	Raw

## Fruit

Type of Fruit	Portion Per Day	Fresh	Frozen	Tinned	Cooked

## Carbohydrates (starchy food)

Type of Carbohydrate	Portion Per Day	Cooked in fat or oil	Boiled or steamed

**Proteins (Lean meat, fish, eggs & beans)**

Type of Protein	Portion Per Day	Fried	Grilled	Roasted	Boiled

**Milk and Dairy Products**

Type of product	Portion Per Day	Eaten alone	Eaten with/in another product

### Foods High in Fat and/or Sugar including alcohol

Food Product	Portions Per Day

Please tick which mostly applies to you, I eat take away or fast food;

<b>More than once a day</b>	<b>Once a day</b>	<b>3 or 4 times a week</b>	<b>2 or 3 times a week</b>	<b>1 or 2 times a week</b>	<b>Once a week</b>	<b>Never</b>

## Appendix 5

### Springboard FIP 'Healthy Eating Project'

#### Recipes devised, written and produced by Emma Gordon

##### Healthy Eating Group

##### Recipe Sheet

##### Ingredients

##### Tomato Sauce

Serves 4 to 6

2 Cartons/bottles of passata (sieved tomatoes) or 2 cans of chopped tomatoes

2 stalks of celery, finely chopped or grated

2 small carrots, finely chopped or grated

1 med. onion, finely chopped

2 large garlic cloves, minced either fresh or dried

1 Tablespoon of oil

½ teaspoon of salt and pepper

1 teaspoon of sugar

STEP 1. Saute (sweat) in a large pan the onion celery and carrot until softened then add the garlic stirring for another minute or two.

STEP 2. Add the tomatoes and the equivalent amount of water leave to simmer for 30 minutes and until the sauce reduces to half and thickens.

This is a basic tomato sauce for pasta and other dishes.

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##### Variations Sauces

Bell Pepper sauce add chopped or grated red pepper at stage 1

Tomato and cream sauce add 250ml of double cream at the end and simmer for another five minutes

Arrabiata sauce add 1 small chopped fresh chilli pepper or half teaspoon of dried chilli when you add the garlic or to taste as much or as little as you like

## **Soups**

### **Tomato Soup**

Do step 1 and 2 of the tomato sauce then add 200ml of chicken or vegetable stock made from a stock cube

### **Cream of Tomato Soup**

As tomato soup but add 100ml of double cream

### **Minestrone Soup**

Add any finely diced vegetables (green beans, cabbage, carrot, celery, courgette etc) to tomato soup and simmer until all vegetables are tender then add two handfuls of small pasta shapes or broken up spaghetti simmer until cooked.

### **Tomato and Rice soup**

Add a handful of long grain rice to tomato soup recipe 10 minutes before the end of cooking

## **Recipe for Healthy Eating Group Casseroles**

500g of chicken (any type) or sausages or meat in large chunks

1 large onion

2 large carrots

2 sticks celery

1 courgette

2 large potatoes

(any other vegetables that you wish to add cut in to small chunks or grate to disguise)

1 chicken stock cube (use beef if meat is beef, etc)

1 tin chopped tomato

Salt and pepper to taste

Herbs optional

Table spoon of flour

oil

Stage 1. Heat a large pan and add oil and chicken, brown all over and remove with a slotted spoon put to one side.

Stage 2. Grate the celery, carrot, courgette and finely dice the onion, add to the pan and brown well

Stage 3. Add chicken back to pan and put in flour combine well (the mix will look a bit congealed don't panic) over the heat.

Stage 4. Make stock with hot water and add to pan, bring to boil stir all the time.

Stage 5. Add chopped tomato and potato cut in to large chunks.



Stage 6. Transfer to oven dish and cover with tin foil and bake in a moderate oven (gas mark 6) for one hour.

If using cheaper cuts of meat such as stewing steak cook for extra 30 minutes or until the meat is really tender.

Serve with rice or root vegetable mash or tagliatelle or new potatoes