Research paper

Exploring the current working profiles of ~~Nutritional Therapists to inform Curriculum and Professional D~~nutritional therapists to inform curriculum and professional development

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Abstract

Introduction

Nutritional therapy (NT) since the mid-1980s has undergone a process of professional, regulatory and educational development. To inform the continuance of this process the Nutritional Therapy Education Commission (NTEC) initiated an exploration of practitioner profiles.

The aim was to ensure NTEC are meeting these developmental requirements by: informing a revised Core Curriculum; ensuring an evidence-based approach to professional training; establishing appropriateness of 'fit' between qualification and subsequent occupation and clarifying possible barriers to, or reasons for non-continuance of practice.

Methods

An anonymous online survey recruited 408 qualified nutritional therapists in the UK, Numerical data were analysed descriptively and statistically using SPSS (Statistical Package for the Social Science).

Results

The majority of the respondents were female, aged between 31- and 50 years and working part time, in self-employed clinical practice; almost a third of these earning a primary income. The current training provision appears to be adequate, however further training needs were identified. Barriers to practice maybe income driven or personal for a minority, however further research is needed.

The majority were registered with the voluntary regulator and were members of a professional body with a range of continuing professional development strategies. Functional medicine approaches were reported to be widely incorporated into practice and awareness of the role of nutrigenomics was common, but clinical application of nutrigenetic testing was less widespread.

Conclusion

The findings suggest that in the captured population current NT education and professional provision results in clinical practice however there are areas for further development.

Keywords: Nutritional therapy; Complementary therapy; Functional medicine; Systems biology; Nutrigenomics; Clinical practice

1 Introduction

Nutritional Therapy (NT) is a client focused, evidence based bioscience complementary therapy (CAM), which recognises biochemical individuality by applying nutrition science to the promotion of health; resulting in personalised nutritional and lifestyle advice [1]. There is currently no agreed definition of CAM however the US National Centre for Complementary and Integrative Health suggests it is when a non-mainstream practice is used together with conventional medicine [2]. The NT approach is in accord with Systems Biology (SB) [3], which aims to address the underlying causes of poor health by recognising the complex interactions underpinning health and

disease and is acknowledged by the profession to be the foundation for NT practice and is acknowledged as Functional Medicine (FM) [4].

Since the mid-1980s NT has undergone a process of professional, regulatory and educational development (Fig. 1), resulting in National Occupational Standards [5–8]; a Core Curriculum [9]; voluntary registration for practitioners through The Complementary and Natural Health Care Council (CNHC) [10]; course accreditation for training providers via the Nutritional Therapy Education Commission (NTEC) [11]; the Training Providers Forum (TPF) for sharing best practice amongst training providers; and support for practitioners by the two principal professional bodies The British Association for Applied Nutrition and Nutritional Therapy (BANT) and the Naturopathic Nutrition Association (NNA). In 2015, there were 1113 CNHC registered practitioners (personal communication), 1465 members of BANT [12] and 300 members of the NNA (personal communication). There are no data available on the gender ratio from any of these organisations prior to 2015, however BANT report (personal communication) that in 2016 they had 300 male members out of a total of 1640 [13]. There are currently 7 accredited training providers [14], delivering courses from Diploma (suggested level 5) to Masters (level 7) [15].

1986	Nutrition Consultant's Association (NCA) forms as a professional body [16]
1997	BANT formed as the British Association of Nutritional Therapists [16]
1999	Formation of the Nutritional Therapy Council (NTC) to set common standards of education and training for nutritional therapy. [16]
2003	National Occupational Standards(NOS) for NT published by Qualifications and Curriculum Authority (QCA) and Scottish Qualifications and Curriculum Authority (SQCA) [16]
2004	Core Curriculum and Learning Outcomes for NT published by NTC [16]
2006	Launch of NTC process of grandparenting, where NT's applied for consideration for voluntary NTC registration by demonstrating how they met the standards of professional practice [16]
2007	NTC Revision of Core Curriculum [9]
2008	Launch of federal regulator for complementary healthcare professions the Complementary and Natural Healthcare Council (CNHC) [16]
2008	Introduction of NTC course accreditation process. [11]
2008	BANT changed its name to The British Association of Applied Nutrition and Nutritional Therapy to reflect the scope of its members' work [16]
2010	The NTC voluntary register was transferred to the (CNHC) [17]
2010	Launch of the Naturopathic Nutrition Association [Personal communication]
2010	Skills for Health Update of the NOS [5,6,7,8]
2014	The NTC changed its name to Nutritional Therapy Education Commission (NTEC)
2015	In 2015, the Professional Standards Authority (PSA) Approval of the CNHC register as an accredited register by the Professional Standards authority (PSA) [18]
2015	Review of Core Curriculum and subsequent development of an interim Core curriculum [9]

Fig. 1 Development of the nutritional therapy profession [5–9,11,16–18].

alt-text: Fig. 1

The standards of professional practice for NT as described by these professional and regulatory bodies [19,20] ensures the successful, safe, effective, and legal practice of NT, which incorporates compliance with professional codes [19,20]; Advertising Standards [21]; EU Register of Health claims [22]; and regulations around the safe use of nutritional supplements [23] and herbs [24]. The maintaining of educational standards by NTEC [25] ensures that standards of training and education are revised to incorporate current and developing trends in personalised nutrition such as Nutrigenomics; an evolving science that explores the effects of food and food constituents on gene expression [26,27].

Although research into the CAM professions continues to emerge, this has tended to focus on professionalisation of the discipline [28] or on practitioner perspectives [29,30] or on specific areas of clinical practice rather than the broad characteristics of the profession's graduates. As such, little is currently known about the experiences of CAM practitioners including why they choose their careers, their education, and their professional communities [30]. It is known, however, that there is no established career path, that most CAM practitioners including nutritional therapists are self-employed, and that many embark on CAM training as a second career [30].

A challenge encountered in research with voluntary regulated professions, particularly in complementary and alternative medicine (CAM), is defining and sampling an appropriate target population [29,30]. There is an

unquantified spectrum of nutrition practitioners and a plethora of training courses outside the framework of practitioner registration and training accreditation [NTEC]; this research was targeted specifically at the regulated NT profession, to inform the direction of formally recognised training and practice.

To ensure that developments in the work of NT practitioners are reflected in professional and educational standards, NTEC initiated research with the aim of understanding qualified practitioner work profiles to inform future professional and educational development, including the revised Core Curriculum (Fig. 2).

Fig. 2 Project overview.

alt-text: Fig. 2

This aim was underpinned by several objectives:

- To support the development of the Core Curriculum and ensure an evidence-based approach to professional training.
- To establish appropriateness of 'fit' between qualification and subsequent occupation, including the identification of perceived and actual deficits in knowledge provision.
- To clarify possible barriers to, or reasons for, non-continuance of, practi~~s~~ece.

The research collected data on demographics, occupational profile (including income and barriers to practice), and professional practice (including original training, continuing professional development, professional membership, incorporation of Functional Medicine, Nutrigenomics and awareness of the legislative framework).

2 Methods

2.1 Study design and subject selection

An anonymous online survey (www.quicksurvey.com), designed to capture data on aspects of nutritional therapy (Fig. 2), was conducted between January and May 2015. This method was chosen as electronic surveys have been shown to capture a diverse sample as well as being economical and convenient [31,32]. The study received full ethical approval from the University of Worcester Institute of Health and Society Ethics Committee (Reference number BENBOW 2013/2014 107).

The questionnaire (Appendix A) was created for this study by NTEC and was piloted and adjusted prior to full launch. The pilot involved members of NTEC and the training provider's forum. The target population of UK NT's were recruited by promoting an electronic link to the survey via; e-mails, e-newsletters and other social media by the professional associations (BANT and NNA), the voluntary regulator (CNHC), training providers for their alumni and nutritional supplement companies. The questionnaire was fully launched in January 2015 and closed at the end of May 2015. To encourage the maximum number of responses the survey was promoted by all concerned on more than one occasion and it was hoped to capture data from non-practising qualified NT's via the training providers' alumni.

A combination of question formats was used and all participants were required to answer all questions to avoid the problem of missing data and the survey engine did not allow multiple responses. The survey was designed to give primarily descriptive data with some inferential statistics. The data were extracted from the survey and analysed using SPSS (IBM Statistics, v22). Open-ended narrative responses were subjected to content analysis [33]. Descriptive statistics were produced plus Chi–square, Kruskal-Wallis, Mann-Whitney test and Spearman's rank correlation coefficient. Participants who identified themselves as nutritional therapy students were removed from the analysis.

3 Results

3.1 Demographics

Out of the 428 participants that took part in the survey 408 were eligible for inclusion. The geographical spread of the respondents indicated that the majority were based in England 349 (85. 5%) with 18 (4.4%) in Scotland, 6 (1.5%) in Wales and 4 (1.0%) in Northern Ireland, with 2 from the republic of Ireland (0.5%) and 16 from the rest of the world (3.9%). By region, most practising therapists are based in London and the South East of England. There appeared to be a higher density in areas where there are training providers offering accredited nutritional therapy courses, which are in London, the South East, Manchester, Bristol, Birmingham, Belfast, Edinburgh, York and Worcester (Fig. 3). However, it should be observed that there is some correlation with the overall population density of the UK [34].

Fig. 3 Regional distribution (percentage of respondents) of practising nutritional therapists.

BCNH British College of Nutrition and Health.

CNELM Centre for Nutrition Education and Lifestyle Management.

CNM College Naturopathic Medicine.

ION Institute for Optimum Nutrition.

alt-text: Fig. 3

The survey population (n = 408) was predominantly female (n = 388, 95.1%), with almost half, 185 (45.35%), aged between 41- and 50. Over 77.2% (315), were married or living with a partner and 156 (38.2%) had at least one child living at home aged between 0- and 15 years old. The small number of male participants (n = 19) were primarily over the age of 30 (68.4%) with 52.6% (10) married and 6 had children between ages of 0--17 at living at home (Table 1)

Table 1 Social demographics of questionnaire participants, by gender.

alt-text: Table 1

Variable	Females Frequency (n)	%	Males (n)	%
Respondents	388	95.1	19	4.7
Age				
20--30	8	2.1	1	5.3
31--40	75	19.3	6	31.6
41--50	178	45.9	7	36.9
51--60	96	24.7	5	26.3
61--70	28	7.2	0	0
Marital status				
Married	247	63.7	10	52.6
Single	70	18.0	5	26.3
Living with partner	55	14.2	3	15.8
Children living at home	199	51.3	5	26.3
Age of children living at home				
0--15 years	151	38.9	5	26.3
16--17 years	41	10.6	1	5.3
18--21 years	35	9	0	0
+22 years	24	6.2	0	0

3.2 Occupational ~~P~~profile

Data were gathered regarding current employment status of NT graduates, which included reasons for not practising where applicable. Most respondents (331;81.1%) currently practi~~s~~ce and of those not in practice, 43 (10.5%) had practi~~s~~ced at some point. Of the male participants 19 (68.5%) were currently in practice. There was a gender-based difference in those therapists not in practice however numbers were too small for meaningful analysis.

A small number of respondents, 39 (9.6%) reported they had never practi~~s~~ced, of which 13 (3.2%) stated this was for personal reasons. Those that do practice, 304, had done so for between 1 to over 26 years (Fig. 4) with the highest number being in practice (167) for between 1- and 5 years. Of those that entered then left practice (57), the range was between 1- and 20 years (Fig. 4) again with the highest number in practice for between 1- and 5 years.

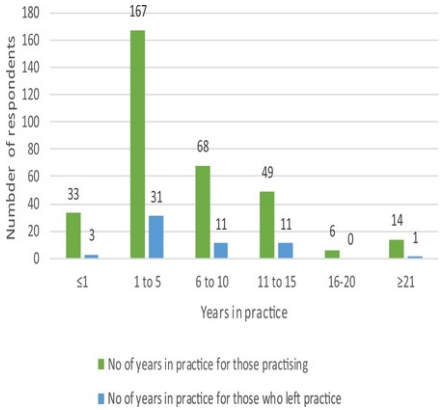

Fig. 4 Number of years in spent in practice by those participants currently practising, and those who have subsequently left practice.

alt-text: Fig. 4

There was a variety of reasons suggested for cessation of practice which included personal reasons (8), lack of confidence (2), inadequate training (5) and 14 (3.4%), who stated that the income from NT was insufficient. Further exploration of the earning capacity of NT suggested that 121 (29.7%) of the respondents had a primary income from NT, with 113 (27.7%) stating it was secondary income and 124 (30.4%) suggesting that their income was negligible. Of the 19 male participants 6 (31.6%) earned a primary income with 5 (31.3%) a secondary, 3 (15.7%) negligible and 5 preferring not to say.

Half (50.2%; 205) of the sample respondents had children and the age range was from less than 1 to over 22. The results suggest that this has little impact on the numbers practising (Fig. 5); with 81.5% practising with at least one child in ~~in the 0-~~the 0–15-year age band, 81.5% in the 16–17 band, 82.9% in the 18–21 band and 87.5% with at least one child over 22. (Fig. 5)

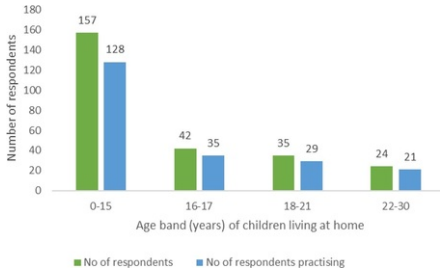

Fig. 5 The number of non-practising and practising respondents who have children living at home, and the ages of those children.

alt-text: Fig. 5

The income derived from NT was explored further in relation to the ages of children. Over a third of the sample 157 (38.5%) had at least one child in the 0–15 age range; of this group 128 (81.5%) were in practice, with 45 (28.7%) of those receiving a primary income from NT (Fig. 6). The highest percentage earning a primary income from NT (n = 10, 41.7%) was in the group with at least one child aged over 22, however these numbers are too small to draw any reliable conclusions.

Fig. 6 Income from NT was divided into three levels: Primary, secondary and negligible. Respondents with children, and the ages of those children, is displayed, stacked by income level.

alt-text: Fig. 6

The income earned by NT practitioners may come from a variety of sources ranging from self-employed clinical practice to various types of employment. In this sample 331 (81.1%) were currently in practice; of those 232 (56.9%) reported that their main income stream came from clinical consultations with 33.6% of these earning a primary income from these.

Those who are practising are primarily self-employed (343; 84.1%). Of the 46 (11.3%) in employment, most were employed as nutritional therapists (22; 48%) or had specific roles where nutritional therapy may be offered as an adjunct, for example to another CAM modality (9.8%), or may inform a role such as public health, journalism, retail or teaching (27.4%). Several respondents were practising nutritional therapy alongside another role, such as technical services or academia.

A Kruskal-Wallis Test revealed a statistically significant difference in years in practice and income levels across three groups, with those on a primary income practising for more years than those on a secondary income and negligible income (Table 2). These results suggest that those that have practiced the longest were more likely to be earning a primary income.

Table 2 Kruskall-Wallis test by ranks, comparing number of years in practice between three income-level groups.

alt-text: Table 2

		n	median	~~df~~ ~~χ^2~~ ~~p~~ df	χ^2	p^*	α^{**}
Income Levels	Primary	121	5	2	32.16	<0.001	0.017
	Secondary	113	3				
	Negligible	124	2				

* Kruskal-Wallis test by ranks p-value.

** Bonferroni adjusted alpha value.

Mann-Whitney tests revealed significant differences in the number of people in practice and income level, across three income levels. The largest effect size was between the number of practitioners with a negligible income and a primary income (Table 3).

Table 3 Mann-Whitney ~~U~~ U tests, comparing the medium number of people in practice between three.

alt-text: Table 3

	Comparison	~~Z~~ ~~U~~ ~~p~~ ~~r~~ Z^*	U^{**}	p^{***}	r^{****}

Income Levels	Negligible and Primary	5.548	4441	<0.001	0.35
	Primary and Secondary	2.774	5421	0.006	0.18
	Negligible and Secondary	3.056	5408	0.002	0.2

* Mann-Whitney ~~U~~ *U* test Z-statistic.

** Mann-Whitney ~~U~~ *U* Test U-statistic.

*** Mann-Whitney ~~U~~ *U* Test p-value.

**** Pearson's correlation coefficient. Effect size 0~~-0.1 = small, 0.1-0.3 = medium, 0.3~~–0.1 = small; 0.1–0.3 = medium; 0.3–0.5 = large.

Practice building and success were considered by asking the respondents about marketing methods, and their opinion of public and medical profession perception of NT. Word of mouth was considered the most successful marketing method by 329 (80.7%) of respondents, and social media was used by 257 (63.1%) but considered the least favourite. Public perception of NT was considered to be improving by 283 (69.6%) of the respondents, with 68.2% believing that the medical profession has a low regard for NT.

3.3 Professional ~~P~~practice

Of the participants, 256 (62.7%) suggested that the main reason for training as an NT was to enter clinical practice with 93 (22.8%) suggesting they undertook the course for personal interest and 9.1% (37) to complement work in another modality; 85.9% of those who trained to enter clinical practice are currently practising. The number training in the capture population appears to have increased over the last 10 years (Fig. 7), with the number of male trainees appearing also to increase from 3 between 1984~~-~~ and 1999 to 8 between 2010~~-~~ and 2015; the low number of male respondents suggest that this trend should be treated with caution.

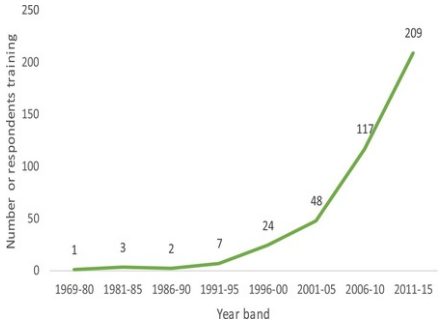

Fig. 7 The numbers training in nutritional therapy between 1969 and 2015 may revea an upward trend.

alt-text: Fig. 7

The numbers qualifying within the three main levels of qualification (Fig. 8) reflects the popularity of Diploma courses and of those, 83.7% are practising with 82.3% of those with a degree and 60% of those with a mater degree; 31.1% of those with a Diploma are earning a primary income, 27.5% of those with a Degree and 25% of those with a Masters.

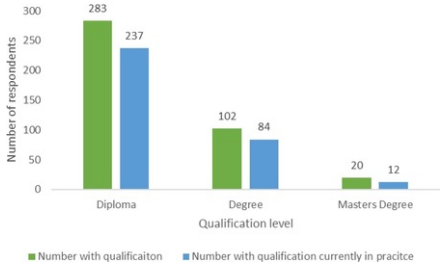

Fig. 8 Number of people qualifying in nutritional therapy within the three main academic levels.

alt-text: Fig. 8

The participants were also asked if their initial qualification equipped them to practise, and a majority of 80.9% (330) suggested it did plus 35% (143) suggested they used the knowledge gained from the course. Furthermore, 33.3% (136) of the participants claimed to be using the skills gained in training.

Spearmans rank correlation coefficient was used to investigate the relationship between the current role of participants, and the skills and discipline developed on their initial training course (Table 4)

Table 4 A correlation matrix (spearmans Rho) of the relationship between participants attitudes towards current roles and initial training.

alt-text: Table 4

	a	***b***	***c***
a	–		
b	0.701*	–	
c	0.688*	0.977*	–

a-Those who thought their current role was well suited to someone with their qualifications.

b-Those who made use of the subject/discipline developed on their initial training course.

c-Those who made use of the skills developed on their initial training course.

* eCorrelation is significant ($p < 0.01$).

The participants were asked about their need for further training; this scale was assessed for reliability (Cronbach's α 0.86, 'very good'), 40.2% suggested they needed further support with interpreting medical testing, 44.9% with functional tests; with other specific training requirements including aspects of behaviour change, in particular the psychology of behaviour changes (28.5%) followed by motivational skills (24.5%). There is also an indication that there is a requirement for further business management training with 36.2% for marketing, approximately 40% for social media, and around 20% for setting up in practice, niche development, and ASA/EU legislation. Interestingly only 121 (29.9%) of respondents understood the need for the legislative framework, 115 (28.6%) understood but found it confusing and 119 (29.6%) suggested they see the need but have some concerns about it

The suggested requirements for professional nutritional therapy practice are registration with the CNHC and membership of a professional body. Both have requirements for Continuing Professional Development (CPD) [48–50]. The largest professional body, The British Association of Applied Nutritional and Nutritional Therapy (BANT) requires registration with CNHC for membership. Of the sampled population 81.6% were CNHC registered and 86% were BANT members, with a smaller number having membership of other professional bodies. Of the male respondents 14 (73.7%) were CNHC registered 18 (94.8%) were BANT members and 1 was a member of the NNA.

Continuing Professional Development (CPD) can be undertaken in a variety of ways ranging from specific commercially provided events to informal internet forums. Professional and registering bodies may require that a certain number of hours are completed using specific learning routes; the results from this survey suggested that participants use a variety of these as represented in Fig. 9.

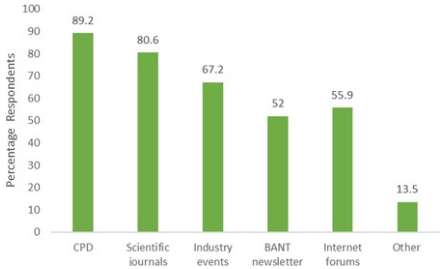

Fig. 9 What informs clinical practice? A variety of media are used for CPD by participants.

alt-text: Fig. 9

The survey also explored aspects of clinical practice including the application of Functional Medicine awareness or use of Nutrigenomics and opinions of public and medical professions perceptions of NT. The results suggest

that public perception of Nutritional therapy is considered by 290 (69.7%) the participants to be better than it has been but with room for improvement and the majority 275, 68.2% of participants have suggested the medical profession have a poor regard for the profession with some suggestion that this may be improving that. The data suggested that 73% use a Systems Biology approach with 66.9% stating they use Functional Medicine (FM) to inform their clinical decisions. Many participants (88.0%) was aware of Nutrigenomics however only 30.9% of the sample perceived interest from their clients.

4 Discussion

This initial exploration of profiles of Nutritional therapists, has achieved its intended aims, not only by contributing to the development of the new the core curriculum for NT training [9], but also by highlighting the success of professional and educational provision to date and implying areas for further advancement. The sample size exceeded the research team's expectations, resulting from extensive promotion of the survey by all those involved. There is currently no mechanism to contact those who are no longer associated with training providers or members of professional bodies, however the survey captured 29.9% of the CNHC membership (personal communication), 24.0% of BANT [12] and 16.0% of the NNA membership (personal communication). It was therefore considered by NTEC to adequately represent the opinions of those who are currently involved in the profession (the 9.6% of this sample who had never practised were considered too few to gain meaningful results), however it may not represent the view of all those who have never practiced; this research limitation will be discussed further below.

4.1 Demographics

The sampled population were predominantly female (94.9%) and aged between 31- and 50. The only data available on the number of males either registered, or members of professional bodies, suggest there were 300 male BANT members in 2016 (personal communication). If this was similar at the time of this data capture (2015) then the results may represent 6% of the male BANT registered NT's. This indicates that this therapy, as with other health care professions [35] and complementary therapies [36,37] tends to attract a female workforce. Taylor 2010 [36], suggests that four times more women than men are likely to engage in holistic professions and Cottingham et al.2015 [37] also found a similar trend with a female majority, 91%, among Naturopaths and Herbal Medicine practitioners in New Zealand, as did Leach et al., 2014. (86.7%) [38] across Australia, New Zealand, Canada, United States and the United Kingdom.

The age range is also consistent with other research into CAM practitioner profiles [36,37]. There are little research data available on NT specifically, however, according to Granger 2014et al. [39], NT is a second career for many practitioners with Gale 2014 [30] asserting that many CAM practitioners consider their career as vocational. This is congruent with the idea of career change, re-training, and second careers. Ang 2013and Wilkinson [40] also found that in Singapore a typical Complementary Therapy practitioner is a middle-aged female and Andrews 2004and Hammond [41] suggested the same in the UK. That in the future the profession attracts a wider age range and more men may underpin the development and maintenance of a strong and diverse NT community.

As expected, given the age profile of the sample, the majority (80%) were married or living with a partner, potentially further supporting the notion of career choice to suit family commitments. In this sample, there was a roughly equal division between those with and without children. Although having children is not a barrier to work *per se*, evidenced by the 72% UK-wide prevalence of mothers in work during 2013 [42], here is some indication here that those with older children earn a higher income form NT. There are however many factors that could influence this but it appears that having children is not a barrier to practice in this population.

Although geographically scattered, most of the sample (85.5%) was concentrated in England, primarily London and the South-East. This may reflect the locations of training providers (Fig. 3) or general population trends [43]. Further research exploring the geographic spread with a focus on modes of practice may further inform future professional enhancement and any conclusions drawn from this research may not relate to the country as whole.

4.2 Occupational profile

In any investigation of professional trajectories, employment status and income profile are primary considerations. In the UK, state-funded health care does not generally include NT; most practise is in the private sector, although several insurers may reimburse for NT consultations under some insurance schemes. NT training is designed to produce practitioners and of this sample 62.7% trained in NT to practice, so it is reassuring that 81.1% of this sample currently practice and of the remainder, 10.5% had practised at some point albeit for varying lengths of time.

The income profile in this sample suggests an approximately equal split between primary, secondary and negligible income and further research may indicate if this linked to income earning capacity, earning opportunity or practitioner choice [30]. Most Complementary Therapy practitioners are self-employed and in this sample 84.1% are currently in self -employed practise with 29.7% having a primary income from this. The self-employed may self-limit earnings potential through, for example, decisions around work/life balance, and this “kaleidoscope career approach” [44] may be one factor in the roughly equal number of practitioners earning ‘primary’, ‘secondary’ or ‘negligible’ incomes from the profession. Of note is that one third of NT practitioners claim to be deriving a ‘negligible’ income from their work; this would be of concern unless there are reasons for qualifying in NT other than employment, for example to have a better understanding of nutrition for their family, or with an intent at some later time to develop it into a career, or to add to another CAM modality or profession. This data suggests that 22.8% of this sample trained for personal interest, and 9.1% to complement another modality. The primary reason cited by a small minority of the sample (3.4%) for entering then leaving clinical practice was “insufficient earnings”, with small numbers citing other

reasons including only five who reported insufficient training Overall this suggests, that in the sampled population the current training provision is meeting the needs of the majority and income may not be considered a barrier to practice, however this cannot be extrapolated to the "non~~- captured non-~~-captured non-practising therapists (see ~~l~~Limitations) " who may not have practi~~s~~ced due to poor training provision.

It was also apparent that employment opportunities do exist, whether as NT practitioners or in an adjunct or informative capacity. Part time self-employment in the UK has been increasing over the last 10 years and the sample may reflect this trend [44]. Furthermore, self-employment is more prevalent in the South of England compared to the north [44], possibly explaining, in part, the geographic spread of much of the sample (Fig. 3).

The information from this sample suggest a trend that those who had practi~~s~~ced the longest are the most likely to be earning a primary income, but this has to be treated with caution due to the limitations of the data capture, as mentioned above. Although having children in not considered a barrier to work it is interesting to note that the highest percentage earning a primary income from NT was in those with older children; although the numbers in this category were small and may not represent a global trend.

4.3 Educational and professional profile

The numbers training in NT in this sample appear to have increased over the last 10 years and unfortunately there is no data available on total numbers training in NT since 1986. This apparent trend in increasing numbers may be an anomaly or it may suggest growth in line with the regulatory and professional advancement for NT (Fig. 1). This may be an area for future monitoring using this data as a baseline.

The range in levels of NT qualifications from Diploma to Master's degree has been consistent throughout the development of the profession and currently there are two accredited Diploma courses, three Masters degrees and three Bachelor degree courses [14]. The sample group suggests that the Diploma courses are the most popular with 83.7% with this qualification practising and 31.1% of these earning a primary income, of those with a degree 82.3% are practising, 27.5% of which are earning a primary income and of those with a Master's degree 60% are practising, 25% of which are earning a primary income. The popularity of the Diploma courses may reflect the entry requirements as this makes these qualifications more accessible but it is clear from this data that all levels of qualification in this sample are equipping for practice. However, advances in professional development suggest the future new minimum for this qualification should be level 6 [9] which may improve the current perception of NT by the medical profession and public as noted in this survey. This would bring NT up to the same academic level as Dieticians [45] and Nutritionists [46].

The focus of this research was to establish the appropriateness of "fit" between qualification and subsequent occupation and the results suggest the current training at all levels did equip to practice and the knowledge and skills gained were used. However, there are indications of areas of further training requirement which have been included in the new NT Core Curriculum [9]. This included improved test interpretation, behaviour change theory and practice, business management and the legislative framework for NT; interestingly only 29.9% of the sample understood the need for a legislative framework, whilst 28.6% found the framework confusing. This highlights the need for this to be resolved by educational, professional and regulatory bodies representing the discipline. Functional medicine appears to be fully embedded in practice for this sample however there appears to be caution around the nascent science of Nutrigenomics [47]. Further consideration on the training and professional framework for nutrigenomics in NT practice is already in progress within NTEC (personal communication) and this, in time, may lead to a more personalised approach to NT in the future.

NT practitioners who wish to be members of BANT are required to register with the CNHC; in this sample, 81.6% confirmed that they have complied with this requirement. Membership of professional bodies, other than the CNHC, is not compulsory but 86% of this sample were members of BANT; other professional bodies, such as Federation of Nutritional Therapy Practitioners (FNTP), and Naturopathic Nutritional Association (NNA), featured in the sample but at much lower levels. The FNTP membership cannot be considered as representative as they were invited to, but did not take part in the survey, so were not considered in the discussion of the results. It is of concern that more practitioners are members of a professional body than have completed registration with CNHC so again here an area for further focus for the relevant professional associations.

NT practice operates from an evidence base, underpinning safe and effective clinical decisions and registered NT professionals are required to undertake CPD [48–50]. The majority of this sample (89.2%) indicated that they achieve this with 80.6% reported referring to scientific journals, 67.2% attending industry events and 55.9% using internet fora. This is similar to what has been found in Naturopaths and herbal medicine practitioners in New Zealand [37] where sources other than peer reviewed evidence are being used to inform practice. Industry events may be evidence-based but, because of commercial involvement, may be perceived as influenced by an element of conflict of interest and internet discussion groups, unless regulated may be of variable quality. A future role for professional bodies may be to monitor the quality of both to ensure an evidence based approach. Overall, practitioners do appear to be moving towards adopting a professional, evidence-based approach to practice.

5 Conclusion

This research provides baseline information on the professional activities of a sample of qualified nutritional therapists in the UK and will be used to inform future and sustainable developments for the profession. To date it has resulted in a revised Core Curriculum and highlighted areas for further professional advancement.

The demographic and income profile in this population appear congruent with other CAM modalities; predominantly female aged between 31- and 50 whose work profile may reflect concurrent lifestyle choices. The majority are in self-employed practice with approximately a third earning a primary income form NT.

The surveys aimed to inform the revised core curriculum alongside ensuring an evidence-based approach to professional training and identifying deficits in knowledge provision. In this sample, the current education provision at all academic levels, seems to be meeting the requirements for the majority to practice professionally should they wish to, with some areas for enhancement. The suggested deficits in knowledge provision, now addressed in the new curriculum included: improved test interpretation; behaviour change theory and implementation; business management; and the legislative framework. The implementation of a level 6 curriculum along with a more rigorous approach to evidence based CPD by the professional associations may also improve the perception of NT by both the public and the medical profession.

The results also suggest that the legislative framework around NTs is an area for further promotion and clarification by the profession. It appears that Functional Medicine is successfully embedded into NT practice but that Nutrigenomics is currently being treated with caution by practitioners and clients until the research base for this approach is strengthened.

The survey suggests that for some there are barriers to practice, which may be income driven or personal, however further research is required across a wider sample to fully understand this issue. There is no indication here that the current training provision, including level of qualification, having children or income potential are considered barriers to practice in this population. The ability to capture data from a potential population of non-registered or practising therapists may highlight these issues further but as there is no current mechanism for this it is hoped that these findings and concurrent professional improvements may reduce future practice barriers.

There are several potential areas for future professional association focus: to consider the current female centric nature of the profession; address the current geographic spread of practising NT'S; research further aspects of income profile; develop mechanisms to monitor the numbers training in NT; ensure that members of BANT are CNHC registered; continue to develop an evidence base approach to CPD provision; ensure a more robust approach to ensuring practitioners understand and implement the legislative framework for NT and continue to work on the framework for Nutrigenetics.

5.1 Limitations

In common with all surveys, this study has its limitations but was considered adequate for gaining a baseline understanding of the profession to inform future development, however further and more detailed research into the profession is clearly warranted.

The inability to establish a mechanism to contact those who are no longer associated with training providers or members of professional bodies impacted on the interpretation of the study. In particular the establishment of numbers training since the introduction of the first courses and exploring barriers to practice which may be linked to the quality of these early courses. The basic demographics have been compared with two other studies of the profession [29,51]; both studies reported age and gender data that is in accord with this survey.

As complementary therapies may be considered a traditionally female-centric profession [40], and men are reported to engage with questionnaires [31], the sample in this survey could be reasonably representative for gender. That many of the sample participants were based in England may reflect the structuring of the geographic location questions and how the survey was marketed. It may also suggest that complementary therapies such as NT are more widely accepted in England, or that there is a stronger business case for NT in England, than in other countries within the UK.

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There was no funding for this project.

Conflict of interest

There was no conflict of interest in this research.

Confirmation

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.eujim.2017.08.014.

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Appendix A. Supplementary data

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Answer: 1= no date. 11= no date .14 = no date. 16= no date, 25 should read Nutritional Therapy Education Commission, Aims of The Nutritional Therapy Education Commission, no date , 45 = 2017,48=no date, 49= no date , 50=no date

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