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Future Doctors' Perceptions about Incorporating Nutrition into Standard Care Practice

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ABSTRACT

Objective: The increasing prevalence of chronic disease has been largely attributed to long-term poor nutrition and lifestyle choices. This study investigates the attitudes of our future physicians toward nutrition and the likelihood of incorporating nutrition principles into current treatment protocols.

Methods: Setting: The setting of this study was an Australian university medical school. **Subjects:** Subjects including year 1–4 students ($n = 928$) in a 4-year medical bachelor, bachelor of surgery (MBBS) degree program. Students were invited to participate in a questionnaire based on an existing instrument, the Nutrition in Patient Care Attitude (NIPC) Questionnaire, to investigate their attitudes toward nutrition in health care practices.

Results: Respondents indicated that “high risk patients should be routinely counseled on nutrition” (87%), “nutrition counseling should be routine practice” (70%), and “routine nutritional assessment and counseling should occur in general practice” (57%). However, despite overall student support of nutritional counseling (70%) and assessment (86%), students were reluctant to perform actual dietary assessments, with only 38% indicating that asking for a food diary or other measure of dietary intake was important.

Conclusion: These findings demonstrate that future physicians are aware of the importance of considering nutrition counseling and assessment. However, students are unlikely to adequately integrate relevant nutritional information into their treatment protocols, evidenced by their limited use of a basic nutritional assessment. This is potentially the result of a lack of formal nutrition education within their basic training.

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Introduction

The rise of chronic diseases such as obesity, type 2 diabetes, and cardiovascular disease has been largely attributed to long-term poor diet and lifestyle choices. Good nutrition has been documented to play a major role in preventing diseases such as osteoporosis, dementia, nutritional anemias, gall bladder disease, and several forms of cancer [1]. A recent report has identified dietary factors as the single most significant risk factor for disability and premature death [2], with the most prominent being low fruit and high sodium intakes [3].

Many chronic diseases are preventable, with much of the ensuing morbidity and mortality related to inappropriate nutritional and lifestyle management [4]. Considering the exacerbation of these largely preventable disorders [5] and the growing recognition of the need for changes in standard care practices to address this need [6], it is clear that primary health care providers should be equipped with a sound grasp of the latest reliable scientific information available to provide optimal care to their patients. Yet, despite abundant information and strong policy recommendations around diet and lifestyle factors for the prevention of chronic diseases [7], there remains a gap between recognized need and practitioner action. Despite becoming increasingly recognized as a core element of health,

nutrition is often noted as an underutilized element in medical practice [8].

Given the rising prevalence of conditions modifiable by nutrition and the documented preference of patients to receive health care from their primary physicians rather than other health care professionals [9], general practitioners are ideally positioned within the community to adequately address their patients' health needs and concerns, which should include those of basic food, nutrition, and dietary advice. Yet, even with increasing support and frequent calls for better physician practice around nutrition, several studies have identified shortfalls in both physicians' knowledge and attitudes toward nutrition as medical students and as medical practitioners. This shortfall is shown in a recent study that evaluated the practices of primary care physicians from 11 countries and found that the majority of physicians were aware of an association between nutrition and various common disorders but had little practical nutrition knowledge [10].

Similar patterns have existed in Australian cohorts, with 76% of general practitioners agreeing that diet has a significant impact on long-term health and 96% expressing that the general practitioner could be influential in advising patients to change their diets [11]. Despite these positive results, the same group self-reported providing nutrition advice in 15% of their

consultations. This low response may be due to lack of nutritional knowledge and low confidence in providing recommendations [11]. More recently, an online questionnaire to Australian general practitioners ($n = 6000$) highlighted the inconsistent manner in which practitioners responded to a simple nutrition-based case scenario centered on a patient with cardiovascular disease and poor nutrition [12].

These shortfalls have been attributed to inadequate emphasis of nutrition in medical school curricula [13–15]. Though the National Institutes of Health has funded numerous integrative medical education projects in U.S. medical and nursing schools since the turn of the century to meet this identified need [16] and despite an international push toward an integrated nutrition curriculum alongside current medical training [17], uptake has been limited. A questionnaire from 1998 found that only 33 accredited U.S. medical schools (26%) had a required nutrition course [18]. In 1988, one of the initial questionnaires of medical students investigating nutrition in medicine in the United States reported that 85% of students were dissatisfied with their nutrition education and 60% were dissatisfied with its quality [19]. In 1995, 63% of medical students reported inadequate nutrition education; in 1998, the number was similar, at 64% [20]. Although nutrition material has been further integrated into U.S. medical school curricula since these initial questionnaires, 51% of medical graduates in 2005 reported inadequate nutrition education during their training [21]. Furthermore, according to 121 of 133 U.S. medical schools who responded to a 2012–2013 questionnaire (91% response rate), despite the recommended minimum 25 h for nutrition education in a medical program, 71% failed to meet this target, with 36% providing less than half the recommended hours [22].

In the Australian medical education context, there is a lack of consistency in the nutrition education. A program equivalent to those funded by the National Institutes of Health does not exist in Australia. The incorporation of nutrition education provided within Australian medical schools is largely ad hoc, dependent on current academic staff interest for its inclusion [23]. The increasing burden of health care costs due to largely preventable chronic diseases in the Australian population is a consistent theme in public media and government rhetoric. Despite this rhetoric, there is no current movement to include nutrition education in the already overcrowded space of medical education curricula.

In a recent study conducted at a large research intensive university in Australia, medical students at each level of their 4-year medical program were questioned as to the likelihood of their adoption and application of nutrition into current treatment protocols in their future general practice and beyond. The study was conducted at a medical school that had minimal nutritional education components currently embedded in the curriculum. The study sought to examine the attitudes of future physicians toward nutrition to determine the need to consider nutrition education as a possible formal inclusion to Australian medical school curricula.

Methods

All students enrolled across all 4 years of the bachelor of medicine, bachelor of surgery (MBBS) degree at the University of

Queensland ($n = 1507$) were invited to participate in a paper-based questionnaire (Appendix 1). This instrument questioned students' attitudes toward nutrition through a series of questions, partially drawn from a previously validated tool designed for this purpose [24]: the Nutrition in Patient Care Attitude (NIPC) Questionnaire. The NIPC instrument consists of 5 subscales, with each having been found to yield reliable data that could be used to predict patient care practices [24]. The NIPC tool has been previously utilized to assess interns' attitudes [21], as well as with medical students after completing a dedicated nutrition curriculum or an integrated nutrition curricula [25].

The Nutrition Education Survey (available as Appendix 1) was adapted from the NIPC and consisted of 3 parts: Part A collected demographic characteristics such as year in medical school and level of experience with nutrition; part B focused on respondents' perceptions of importance of nutrition in routine care; and part C questioned perceived importance in clinical behaviors related to nutrition. Parts B and C were derived from NIPC subscales 1 and 2, which investigate attitudes and perceptions regarding nutrition in routine care and clinical behavior.

Student anonymity was assured because no identifying data were collected. Students' consent to participate was sought prior to participation in accordance with the ethical approval conditions, granted from the University of Queensland, Behavioral and Social Sciences Ethical Review Committee (Ref. #2010001443). The questionnaire was administered in class at the commencement of the teaching year in 2012.

Surveys with incomplete responses were excluded from further analysis. Data from completed surveys were collated and analyzed using simple descriptive statistics. Themes for further investigation were then identified and data further interrogated

Table 1. Demographic characteristics of participants.

Characteristic	Details	%
Age (years)	21 or younger	23.6
	22–25	48.1
	26–28	16.7
	29–32	7.5
	33–39	3.5
	40 or older	0.6
Gender	Male	55.4
	Female	44.6
MBBS year level	First year	37.8
	Second year	27.8
	Third year	23.1
	Fourth year	11.3
Previous education	University undergraduate science degree	68.1
	University undergraduate degree, other than science	19.2
	University postgraduate degree	12.7
Former nutrition education	Yes	12.0
	No	88.0
Use of dietary supplements	Yes	34.7
	No	65.3
Exercise (days per week)	1	14.9
	2	17.3
	3	24.3
	4	20.8
	5	14.3
	6	5.7
	7	2.5
Use of tobacco	Yes	3.2
	No	96.8

MBBS = medical bachelor, bachelor of science.

Table 2. Clinical behavior responses.

It is important that I ...	Yes Response	
	N	%
perform at least some level of nutritional assessment with every patient.	802	86
address the importance of diet whenever I care for a patient.	766	83
assess each patients' intake of vitamin, mineral, and dietary supplements.	666	72
counsel patients regarding their use of supplements and identify when they are contraindicated.	864	93
refer patients with diet-related problems to registered dietitians or other qualified nutrition staff.	894	96
whenever possible recommend dietary changes for patients before initiating drug therapy.	819	88
request that patients bring a food record or perform another diet assessment measure when they come in for routine visits.	355	38
encourage patients to ask diet-related questions and refer them for additional assistance when warranted.	870	94
assess each patient's stage of change before initiating dietary intervention.	812	88
advocate diet and activity balance to promote weight control in patients.	906	98

based on the different demographic data collected in part A (Table 1). Survey responses were collated as percentage agreement; that is, the proportion of responses that either strongly agreed or agreed with the questionnaire items selected.

Results

Complete questionnaires were received from 928 medical students (61.6% response rate).

Of the 928 participants, 37% ($n = 351$) were first-year students, 28% ($n = 258$) were second-year students, 23% ($n = 214$) were third-year students, and 12% ($n = 105$) were fourth-year students (see Table 1). The lower number of responses from later year students (third and fourth years) is attributed to the nature of the program under examination, where students in later years engage with clinical practice and are dispersed across a number of hospitals and departments. This geographical dispersion made it difficult to administer and collect paper-based surveys among this group of students.

In part B, students were asked to indicate their level of agreement with certain statements about clinical behaviors related to nutrition in routine care. Table 2 highlights responses

to a selection of clinical behavior items listed in the questionnaire. The 10 items selected were identified by the authors as those items that most closely reflect perceptions of importance of nutritional assessment and counseling in clinical practice. Two questionnaire items in particular were identified by the authors as representing fundamental aspects of clinical practice behavior: "Perform at least some level of nutritional assessment with every patient" and "Address the importance of diet whenever I care for a patient." Addressing these behaviors was considered the minimum that would be expected in incorporating nutrition care in routine medical practice.

As illustrated in Table 3, students in year 1 through Year 4 showed relatively consistent perceptions of importance for these 2 items across the year levels with a similar pattern evident across year levels. Of particular interest were the responses from the comparatively low number of students who indicated some level of previous education in nutrition. Though the nature of this education was not interrogated in the questionnaire, perceptions of the groups with previous education were reviewed against those without. Agreement with 2 key items was consistent when aggregated according to participants' self-reported experience with nutrition (Table 4). Those with previous education in nutrition agreed with statements 1 and 2 82% and 84% of the time, whereas students who indicated no previous education in nutrition were also in agreement 87% and 82% of the time.

In recognition that students might acquire skills and knowledge outside of formal learning, students were also asked in part A what sources they consulted to build their understanding of nutrition. The responses are reported in Table 5, which shows that the Internet is the primary source students consult to build their knowledge. Further, despite no formal inclusion of nutrition education in the medical curriculum offered at this university, 31% of respondents identified previous lectures as a source they regularly consulted.

Table 6 outlines student perceptions of their confidence in their knowledge of nutrition-based treatments and reveals that, despite perceptions of importance of nutrition counseling and assessment, few students felt confident in their current capacity to provide the necessary advice.

Discussion

The results of this Australian study concur with much of the previous international literature documenting that the majority

Table 3. Number and percentage of participants who selected yes to 2 specific statements around the importance of performing nutritional assessment and addressing diet with patients.

	It is important that I perform at least some level of nutritional assessment with every patient (Yes)		It is important that I address the importance of diet whenever I care for a patient (Yes)	
	n	%	n	%
All years ($N = 928$)	802	86	766	83
First year ($n = 351$)	295	84	287	82
Second year ($n = 258$)	231	90	218	84
Third year ($n = 214$)	191	89	180	84
Fourth year ($n = 105$)	85	81	81	77
Previous education in nutrition ($n = 112$)	92	82	94	84
No previous education in nutrition ($n = 816$)	710	87	672	82

Table 4. Number and Percentage of participants who agreed (selecting *agree* or *strongly agree*) or disagreed (selecting *disagree* or *strongly disagree*) with certain statements about nutrition in routine care.

	Nutrition counseling should be part of routine care by all physicians regardless of speciality (Agree)		Nutritional assessment and counseling should be included in any routine appointment, just like diagnosis and treatment (Agree)		All physicians, regardless of speciality, should counsel high-risk patients about dietary change (Agree)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
All years (<i>N</i> = 928)	645	70	527	57	803	87
Previous education in nutrition (<i>n</i> = 112)	85	76	64	57	93	83
No previous education in nutrition (<i>n</i> = 816)	560	69	463	57	710	87

Table 5. Number and percentage of participants reporting consultation with one or more information sources on a regular basis intended to increase knowledge about nutrition.

Source	<i>n</i>	%
Consumer magazines	173	19
Professional magazines	106	11
Word of mouth	315	34
Internet	554	60
None	165	18
Peer-reviewed journals	146	16
Textbooks	357	38
Previous lectures	291	31

of both medical students and those who have graduated into general practice consider nutrition to be a significant part of health care [11,26,27]. In terms of high-risk patients, 87% of respondents felt that it was important to counsel the patient, 70% felt that nutritional counseling should be routine, and only 57% of respondents felt that nutritional assessment with counseling should be routine practice. A similar pattern was documented in a recent questionnaire of new medical graduates in New Zealand [27].

Despite the positive student support for nutritional counseling (70%) and assessment (86%) and their importance within general medicine, students seemed somewhat reluctant to perform actual dietary assessments, with only 38% indicating that asking for a food diary or other measure of dietary intake was important. This lack of awareness around the importance of nutritional assessment highlights a gap in the students' knowledge of how to utilize nutrition assessment counseling in the clinical setting. This lack of awareness is further reflected in students' self-reports of confidence in treating patients using nutrition-based treatments. Nutritional assessment is paramount in understanding a patient's nutrition behaviors and ultimately being able to provide

him or her with relevant advice. Without this prior knowledge, it is unclear as to how nutritional counseling might take place in an adequate manner to benefit the patient. Responses did not differ widely regardless of previous formal nutrition education or the year level of training. Overall, students surveyed indicated that they were receptive to learning about nutrition and cognizant of its utility in patient care. This receptiveness presents a clear and welcomed opportunity for the inclusion of further nutrition education to address this knowledge gap.

The findings from this study highlight the importance of medical curricula embedding more nutrition education content not only to enhance the corresponding knowledge of medical students but also to ensure that they implement strategies that aim to improve students' confidence, attitudes toward, and/or perceived relevance or value in performing dietary assessments in practice, as well as to increase their skillset regarding the practical application of nutrition in a clinical setting. In a university that has minimal nutrition education as part of its medical curricula, this investigation outlines the incongruent disconnect between students' attitudes toward the importance of nutrition in clinical care and current educational practices. This might well be the case for other Australian medical programs. Correcting this incongruence may be the responsibility of the individual medical program, the governance of medical programs, and/or the role of interdisciplinary or interprofessional education in medicine. The medical nutrition education literature is constantly debating which position is best; further investigation of this in the future should help formulate strategies that most effectively address this incongruence.

Limitations of the study

It must be acknowledged that this study was limited to the experience of one Australian medical school that has minimal

Table 6. Number and percentage of participants who selected one of 4 statements around which most accurately reflects personal knowledge of nutrition-based treatments.

	I know enough to treat a patient using nutrition-based treatments		I know enough to explain the principles of nutrition to a patient		I know something about the area of nutrition but not enough to explain it to a patient		I know very little about nutrition-based treatments	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
All years	27	3	383	41	347	37	171	18
First year (<i>n</i> = 351)	5	1	88	25	161	46	97	28
Second year (<i>n</i> = 258)	7	3	121	47	95	37	35	14
Third year (<i>n</i> = 214)	10	5	116	54	59	28	29	14
Fourth year (<i>n</i> = 105)	5	5	58	55	32	30	10	10
Previous education in nutrition	10	9	75	67	26	23	1	1
No previous education in nutrition	17	2	308	38	321	39	170	21

nutritional education components currently embedded in the curriculum. Though this limitation may have influenced the students' impressions of the value of utilizing dietary assessments as a tool to ascertain patient risk of nutritional and dietary inadequacies, the disconnect between the perceived importance of discussing nutrition with a patient, as well as the ability to act on providing nutrition counseling, is of interest.

Other limitations of this study include a reduction in response rates of third- and fourth-year students. As described earlier, the dispersal of third- and fourth-year students across a number of hospitals and departments during their clinical practice rotations resulted in a lower response rate. Finally, the survey instrument did not allow for collection of qualitative data, which may have provided insights into explaining student responses.

Calls for further research

Further research is needed to investigate students' perceptions of what constitutes the concepts of nutritional assessment and nutrition counseling, because the meaning created around this could help shape how associated content and skills are incorporated into medical curricula and how they are applied in practice. Other research might assess barriers to the incorporation of increased nutritional education into medical curricula to aid in addressing this shortfall and assist with its future integration.

Increasing the level of awareness in students as to the magnitude of nutrition-related conditions and subsequent morbidities could also shed light into identifying patients at risk, which may otherwise lead to a consequent delay in providing best patient outcomes.

Conclusion

With decreasing resources and an increasingly large burden of care for those with chronic disease and disability largely attributed to poor nutrition, it is imperative to initiate measures that encourage preventative medicine and patient education. This endeavor might focus on beginning that change with improving nutrition education in medical students who will become our future physicians. This study highlights the lack of nutrition education in medical curricula and the subsequent awareness of its importance by medical students and physicians. Previous studies have investigated students' knowledge, skills, and/or attitudes around nutrition, but the purpose of this article was to examine more closely the different elements that constitute clinical care and practice, which have been lacking in the literature. It also makes the distinction between nutrition counseling and nutrition assessment and examines variables that may affect responses between participants (e.g., previous experience, clinical behaviors). The findings of this investigation propose that students may not currently have the skills to apply or see a strong enough relevance or benefit to applying nutrition in clinical practice, as indicated by their lack of acknowledgement of basic nutrition assessment being important in addressing a patient's nutritional concerns. Their overall supportive attitude toward nutrition generally and its role within clinical management, however,

is a step in the right direction in working to improve nutrition curricula within medical programs and ultimately patient care.

By adding to the existing literature that supports positive students' attitudes toward nutrition, the authors are calling to action to capitalize on student interest in nutrition and its importance in practice to ensure that they can put these skills into practice once they graduate.

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Appendix 1: The Questionnaire

Part A: Demographic Information For each question, please place a cross in the box that most accurately represents you.

1. What is your age?

<input type="checkbox"/> 21 years or younger	<input type="checkbox"/> 22-25 years	<input type="checkbox"/> 26-28 years	<input type="checkbox"/> 29-32 years	<input type="checkbox"/> 33-39 years	<input type="checkbox"/> 40 years or older
--	--------------------------------------	--------------------------------------	--------------------------------------	--------------------------------------	--
2. What is your gender? ☐ Male ☐ Female
3. What is your previous highest education?

<input type="checkbox"/> University undergraduate science degree
<input type="checkbox"/> University undergraduate degree, other than science
<input type="checkbox"/> University postgraduate degree
4. Please indicate your MBBS year level. ☐ 1st year ☐ 2nd year ☐ 3rd year ☐ 4th year
5. How many days a week do you exercise? ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
6. Do you use tobacco? ☐ Yes ☐ No
7. Do you use dietary supplements? ☐ Yes ☐ No
8. Have you previously undertaken formal education in Nutrition? ☐ Yes ☐ No
9. Which statement most accurately reflects your KNOWLEDGE of nutrition-based treatments?

<input type="checkbox"/> I know enough to treat a patient using nutrition-based treatments
<input type="checkbox"/> I know enough to explain the principles of nutrition to a patient
<input type="checkbox"/> I know something about the area of Nutrition but not enough to explain it to a patient
<input type="checkbox"/> I know very little about nutrition-based treatments
10. Which statement most accurately reflects your EXPERIENCE with nutrition-based treatments?

<input type="checkbox"/> I have had previous training in nutrition-based treatments
<input type="checkbox"/> I personally utilise nutrition-based treatments to assist with my own health
<input type="checkbox"/> I have personally in the past utilised nutrition-based treatments to assist with my own health
<input type="checkbox"/> I have observed or talked with people using nutrition-based treatments with patients
<input type="checkbox"/> I have had no experience with nutrition-based treatments
11. Which sources do you consult on a regular basis for information about Nutrition? Please select all that apply.

<input type="checkbox"/> Consumer magazines	<input type="checkbox"/> Previous lectures
<input type="checkbox"/> Professional magazines	<input type="checkbox"/> Textbooks
<input type="checkbox"/> Internet	<input type="checkbox"/> None of these, but I consult others not listed here
<input type="checkbox"/> Word of mouth	<input type="checkbox"/> Do not consult any sources at all
<input type="checkbox"/> Peer reviewed journals	

Part B: Nutrition in routine care. Please rate your level of agreement with each of the following statements by placing a cross in the box that most accurately represents your answer.

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1. Preventative health care is <i>boring</i> .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Nutrition counselling should be part of routine care by all physicians regardless of speciality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Nutritional assessment and counselling should be included in any routine appointment, just like diagnosis and treatment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Nutritional counselling is <i>not</i> an effective use of my professional time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Individual physicians have <i>little</i> impact on a patient's ability to lose weight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I have an obligation to improve the health of my patients including discussing nutrition with them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. All physicians, regardless of speciality, should counsel high-risk patients about dietary change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. It is <i>not</i> worth the time to counsel patients with poor dietary patterns about nutrition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part C: Clinical behaviour. Please rate your agreement with each of the following statements by placing a cross in the box that most accurately represents your answer.

It is important that I....

	YES	NO
1. ...perform at least some level of nutritional assessment with every patient.	<input type="checkbox"/>	<input type="checkbox"/>
2. ...address the importance of diet whenever I care for a patient.	<input type="checkbox"/>	<input type="checkbox"/>
3. ...follow the National Cholesterol Education Program guidelines for prevention and treatment of high blood cholesterol when caring for a patient.	<input type="checkbox"/>	<input type="checkbox"/>
4. ...identify dietary risk factors in paediatric patients by assessing diet and energy balance.	<input type="checkbox"/>	<input type="checkbox"/>
5. ...assess each patient's weight status in accordance with the National Health and Medical Research Council guidelines on the identification, evaluation, and treatment of overweight and obese adults.	<input type="checkbox"/>	<input type="checkbox"/>
6. ...assess each patient's intake of vitamin, mineral and dietary supplements.	<input type="checkbox"/>	<input type="checkbox"/>
7. ...counsel patients regarding their use of supplements and identify when they are contraindicated.	<input type="checkbox"/>	<input type="checkbox"/>
8. ...refer patients with diet-related problems to registered dietitians or other qualified nutrition staff.	<input type="checkbox"/>	<input type="checkbox"/>
9. ...whenever possible recommend dietary changes for patients before initiating drug therapy.	<input type="checkbox"/>	<input type="checkbox"/>
10. ...assess each patients' fat, fibre, fruit and vegetable intake as a preventive strategy.	<input type="checkbox"/>	<input type="checkbox"/>
11. ...request that patients bring a food record or perform another diet assessment measure when they come in for routine visits.	<input type="checkbox"/>	<input type="checkbox"/>
12. ...encourage patients to ask diet-related questions and refer them for additional assistance when warranted.	<input type="checkbox"/>	<input type="checkbox"/>
13. ...evaluate patients' alcohol intake as part of their overall nutritional status.	<input type="checkbox"/>	<input type="checkbox"/>
14. ...assess each patients' stage of change before initiating dietary intervention.	<input type="checkbox"/>	<input type="checkbox"/>
15. ...assess dietary sodium, potassium and calcium intake especially among patients at risk for hypertension, osteoporosis or stroke.	<input type="checkbox"/>	<input type="checkbox"/>
16. ...refer diabetic patients for detailed dietary counselling.	<input type="checkbox"/>	<input type="checkbox"/>
17. ...advocate diet and activity balance to promote weight control in patients.	<input type="checkbox"/>	<input type="checkbox"/>
18. ...assess my patient's ability to read a food label.	<input type="checkbox"/>	<input type="checkbox"/>
19. ...advocate a low-fat diet for weight control in patients.	<input type="checkbox"/>	<input type="checkbox"/>
20. ...assist paediatric patients to establish healthy eating habits early in life to prevent risk for chronic diseases.	<input type="checkbox"/>	<input type="checkbox"/>