# A critical review of nutrition resources for General Practitioners focusing on healthy diet, including seafood

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## REVIEW

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## Abstract

**Background**
General practitioners (GPs) are considered a trusted and reliable source of health-related information including nutritional advice. Preliminary investigation found that GPs wanted evidence-based nutrition resources that could be used within a 10 minute consultation.

**Aim**
The aim of the study was to identify and critically review current resources available to GPs that promote seafood consumption within a healthy diet, as a preventative or treatment measure for common lifestyle or medical conditions.

**Methods**
English language resources currently available to GPs in 2008 were sourced through multiple avenues including: individual organisations; medical service networks; health information services and internet search engines. Assessment included critical review of: format; appropriateness for target groups; reference to seafood and supporting evidence; credibility; readability; and suitability for use by practitioners in a short consultation.

**Results**
One hundred and twenty resources were identified. The majority (88.4%, n=106) of identified resource were available Electronically. Just over half (57.5%, n=69) of the resources were targeted at specific audiences. All of the resources made reference to the health benefits of regular consumption of fish (100%, n=120), 22.5% (n=27) made reference to seafood in general and 5% (n=6) made reference to fish oil. Only 15% (n=18) of the identified resources were suitable for use with the general Australian population at or below the recommended reading level of Year Eight. The majority (87.5%, n=105) of the identified resources were associated with credible sources of information about the health benefits of regular consumption of seafood.

**Conclusions**
This study found that the majority of resources available to GPs were not suitable for use with the general Australian population at the recommended reading level of Year 8 or lower. Whilst it is acknowledged that written health information alone cannot change health behaviours, it can provide accurate information to assist in making changes to behaviours with support from appropriate health care professionals.

**Key Words**
General Practitioners, nutrition education, seafood

## Introduction

Evidence of an association between the dietary intake of fish and a range of health benefits is increasing. Australian adults do not eat enough seafood to achieve the maximum health benefits it affords.[1] According to Australian dietary guidelines adults should eat a recommended one to two fish meals a week, each with a serving size of 80 to 120 grams.[2] Fish is low in fat, and an excellent source of protein, vitamin D, selenium and n-3 long chain polyunsaturated fatty acids (omega-3s).[3, 4] The effect of omega-3s has been strongly associated with reduced risk of cardiovascular disease [5] including sudden cardiovascular death. Research also links the consumption of one to two serves of oily fish on a regular weekly basis with reduced risk of other conditions such as all cause mortality, asthma, impaired cognitive function, diabetes, inflammatory conditions, and some cancers. [6] Further, evidence continues to link positive health effects with consumption of seafood during pregnancy.

General Practitioners (GPs) are considered by patients to be a trusted and reliable source of health-related information and as such, are expected to provide

nutritional advice on a variety of diets specific to common health conditions. Therefore, resources developed for GPs to use with patients must be based on the best available evidence and designed to suit the needs of the end user. Resources should also be specific, easy to read, short, informative and suitable for use within the time restraints of a standard consultation (five to ten minutes).[7]

The aim of the study was to identify and critically review the current resources available to GPs that promote seafood consumption within a healthy diet, as a preventative or treatment measure for common lifestyle or medical conditions.

In addition to the critical review, a representative of the Divisions of General Practice in South Australia provided to expert opinion on the suitability of the resources collected for use by GPs.

## Methods

The quality of critical reviews depends on a number of key factors.[8,9] This study was guided by the National Health and Medical Research Council's principles that state that information should be: outcome focused; based on the best available evidence; well developed; flexible and adaptable for local conditions; evaluated and updated regularly.[10]

*Inclusion/exclusion criteria*

Resources currently available to GPs for use with patients as either a prevention or treatment measure for common lifestyle or medical conditions were obtained for critical review. These resources were sourced through multiple avenues including: individual organisations; medical information networks; health information services; and 'HealthInsite' and 'Google Australia' Internet search engines during March and April 2008. ('HealthInsite' is an Australian Government website that provides up-to-date and quality assessed information on a range of health topics).

There were two main inclusion criteria for the review being: nutrition resources currently available to Australian health professionals that met the key search terms (listed in this paragraph); and those developed in English or had been translated into English. All resources produced or reviewed prior to 1998 were excluded.

The key search terms used were: nutrition; seafood health benefits; fish health benefits; seafood healthy eating; fish healthy eating; seafood and arthritis; seafood and cholesterol; seafood and heart health; seafood and osteoporosis; seafood and pregnancy; fish and arthritis; fish and cholesterol; fish and heart health; fish and osteoporosis; and fish and pregnancy.

| Name of source | Number |
|---|---|
| Arthritis Australia | 3 |
| Australian General Practice Network | 2 |
| Better Health Channel | 16 |
| Children, Youth and Women's Health Services | 7 |
| Commonwealth Scientific & Industrial Research Organisation (CSIRO) | 1 |
| Department of Health and Ageing | 10 |
| Diabetes Australia | 4 |
| Dietetics Association of Australia | 1 |
| Heart Foundation | 13 |
| New South Wales Department of Health | 11 |
| Nutrition Australia | 2 |
| Pharmaceutical Society of Australia | 4 |
| South Australian Department of Health | 1 |
| South Australian Dental Service | 1 |
| Unidentified sources in methodology section | |
| • My doctor | 6 |
| • Queensland Cancer | 1 |
| • ACT Cancer | 1 |
| • Cancer Council SA | 2 |
| • Cancer Council Vic | 1 |
| • Dental Health Service Vic | 1 |
| • Queensland Health | 4 |
| • Victor Chang Cardiac Research Institute | 1 |
| • Choice Magazine | 1 |
| • Dept Human and Health Services Tasmania | 1 |
| • Food Standards Australia and New Zealand | 1 |
| • Jean Hailes foundation for women | 1 |
| • Meat and livestock Australia | 1 |
| • Foundation 40 – Men's Health | 1 |
| • Northern Territory Government | 1 |
| • Raising Children's Network | 2 |
| • Seafood Services Australia | 2 |
| • WA Fishing Industry Council | 1 |
| • Osteoporosis Australia | 1 |
| • Women's Health Queensland Wide | 4 |
| • ACT Health | 1 |
| • Department Heath and Human Services Victoria | 1 |
| • New South Wales Food authority | 1 |
| • Royal Hospital for women NSW | 1 |
| • Women's Royal Hospital Victoria | 1 |
| • WA Department of Health | 1 |

**Table 1: Australian-based resources**

*Criteria for review*

There were 11 criteria used to review each of the resources identified. These were: the resource title; the format (electronic, printed, etc); source; date published or last reviewed; key message; key nutritional information; description of a healthy diet; target audience; likely to be used; likely to be used within a standard consultation; and readability. In addition to resources identified through the criteria for review process, nutrition resources available from 14 different sources (see Table 1) were assessed for their relevance.

Resources were also reviewed for accuracy, bias and obvious commercial interest.[9] Display of authorship of medical content; source; date of update; and disclosure of ownership, sponsorship, advertising policies, or conflicts of interest were also considered. [11-14]

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The source of the information influences the weight placed on the content and the reputation of the resources. [8, 10]

Date of publication and date of last review was included to assess the currency of the information.[15] Consumers require health information that is clearly communicated, based on quality information and expertise and has been designed with them in mind.[16] Internet users report that source credibility is an important factor when assessing the reliability of health information.[15,17-20]

Key messages and the usefulness of these messages in making decisions about nutrition and specific medical conditions were considered in the review.[7] Specific medical conditions require specific and relevant information to increase the skills and/or knowledge of patients in managing their conditions.[21]

Key information in relation to seafood was assessed as a major criterion investigating how the resource described fish, seafood or fish oil and which aspects promoted seafood as part of a healthy diet or as a prevention or treatment measure.

Health literacy levels; education levels; cultural beliefs; religious practices and linguistic diversity of the target audience impact on effective health communication and are associated with an increased risk of chronic health conditions. [10,22-28]

A readability level of Year 8 (13-14 years) or lower accordingly to the SMOG formula – a generally accepted level deemed understandable by the general public --- was used as a base criteria.[10,28-35]

Likely to be used or used within a GP consultation was assess independently by a representative of the Division of General Practice South Australia.

## Results

Overall, this study identified 120 relevant English language health information resources that were suitable for use with a range of patients by GPs to promote the regular consumption of seafood as part of a healthy diet, during a standard consultation.

*Resource assessment*

Table 2 provides a summary of the resources assessed. All resources (100%, n=120) assessed were suitable for use by health professionals with consumers within a brief five to ten minute consultation. Based on the content, style and format of the resource, 77.5% (n=93) were suitable for discussion in entirety during a brief consultation. The remaining 22.5% (n=27) were suitable for brief discussion during a brief consultation with the patient subsequently reviewing the information in detail at their leisure. The majority of the resources (70%, n=84) were available electronically as PDFs or web pages. Printed materials accounted for 30% (n=36) of reviewed resources.

Using the SMOG formula, 15% (n=18) of the reviewed resources had a readability level equal to Year 8 or lower. The remaining 45% (n=54) were deemed comprehendible by those with a readability level of Year 9 to Year 10; 29.1% (n=35) had a readability level of Year 11 to Year 12 and 8.3% (n=10) resources required a tertiary level education. A SMOG readability level of Year 8 or lower is deemed to be understandable by the general Australian public.[10, 30- 31, 35]

| | Number | % |
|---|---|---|
| **Format** | | |
| Hardcopy | 36 | 30 |
| PDF | 51 | 42.50 |
| Website | 33 | 27.50 |
| **References** | | |
| Fish | 120 | 100 |
| Fish oil | 6 | 5.0 |
| Seafood | 26 | 21.7 |
| **Target audience** | | |
| General population | 51 | 42.5 |
| Pregnant women | 20 | 16.7 |
| Cardiovascular issues | 9 | 7.5 |
| Planning pregnancy | 8 | 6.7 |

**Table 2: Resources reviewed and assessed**

The majority (87.5%, n=105) of the reviewed resources were found to be 'credible' or 'highly credible' based on the criteria found in 'Well-Written Health Information: A Guide'[7] and the recommended assessment tool found in 'The DISCERN Handbook'.[15] The remaining reviewed resources (12.5%, n=15) were found to be 'definitely not credible', 'not credible' or 'somewhat credible' based on the information source and level of commercial interests. The credibility assessment tool included a Likert-type survey instrument (1 to 5) to assess the trustworthiness, truthfulness and completeness of the information. Criteria were based on that used by Bates et al. (2006);[16] Currie et al. (2000);[7] and Charnock (1998).[15] Five (4.2%) of the resources were classed as 'definitely not credible'; one (0.8%) was classed as 'not credible'; eight (6.7%) were classed as 'somewhat credible'; 15 (12.5%) were classed as 'credible' and 91 (75.8%) were classed as 'highly credible'.

Of the 120 resources assessed, 57.5% (n=69) targeted specific medical conditions. Only five (4.2%) of the reviewed resources were culturally specific focussing on Aboriginal and Torres Strait Islander, Asian, European, Middle Eastern, Samoan and Tongan populations. The most common topics of the resources reviewed were general nutrition (33.3%, n=40), heart health (25%, n=30) and preconception, pregnancy and breastfeeding (20.8%, n=25). Only 10.8% (n=13) of the reviewed resources were targeted at those with or at risk of developing osteoporosis (5.0%, n=6) or arthritis (5.8%, n=7).

*Interview*

The Division of GP representative interviewed suggested there were few evidence-based nutrition resources that GPs could use use with patients as either a prevention or treatment measure. It was suggested that linking with existing programs such as 'Lifescripts' (also known as Lifestyle Prescriptions[i]) and preventative health checks (such as the 45 Year health check),[36] may be the most efficient way to promote available resources. Most GPs access resources through the Royal Australian College of General Practitioners (RACGP) or continuing professional development sessions.

The participant identified lack of knowledge of availability as a barrier to GPs accessing resources. Time constraints were also identified as a major issue in brief consultations. Electronic resources were identified as the most likely resources to be used by GPs, including downloaded fact sheets, pamphlets and websites. In the participant's opinion, GPs were also more likely to use electronic resources that were easy and quick to find, and those that were recommended and promoted on the Divisions of General Practice (DoGP) websites. The DoGP website was perceived to present hard evidence that a GP could reinforce in a format that provides space for GPs to draw, write and personalise information rather than a 'one size fits all' format.

The participant suggested several chronic conditions that would benefit from the development of more resources for GPs to use with patients on the health benefits of regular consumption of seafood as part of a healthy diet. These conditions were: asthma and weight; obesity and overweight; arthritis and osteoporosis.

**Discussion**

Despite the evidence on the health benefits of regular seafood consumption for common lifestyle conditions such as cardiovascular diseases, arthritis and osteoporosis,[37-39] this study found a limited number of resources available to GPs that could be used with patients or clients.

Evidence shows that patients with specific medical conditions require information that is specific to their condition/s and relevant to their needs.[17] Format and style of resources is another important consideration.[10] For example, health resources should cater for the majority of the population plus differences in cultural beliefs and practices.[10]

Resources designed for use by GPs during patient consultations should meet the needs of both health professionals and patients. Format including short sentences, conversational language, pictures and diagrams assist patients to understand new information and to remember required actions in controlling their condition.[40] This will assist health care providers to create an environment where patients, including those with low literacy levels, can seek appropriate help for their medical conditions. It is also recommended that those who design resources for health professionals to use with patients seek expert opinion in their development.

This study identified electronic sources as a useful and popular tool among GPs for use during consultations. These resources support and reinforce information given to patients. However, not all useful resources are available to health professionals in an electronic format. Therefore, electronic access to future resources and existing resources should be considered.

Critical analysis of English language health resources assessed as part of this study identified that the majority of resources were not suitable for use with the general population at the recommended reading level of Year 8 or

lower. Whilst it is acknowledged that written health information alone cannot change health behaviours, it can provide accurate information to assist in making changes to behaviours with support from appropriate health care professionals.[40] Such health information can also assist health professionals to enable patients to make informed health choices.

This study was conducted as part of a Masters of Public Health degree. A suite of nutrition-related resources for selected chronic conditions have subsequently been developed by the Centre of Excellence for Science Seafood and Health (CESSH) and are available on http://www.cessh.curtin.edu.au.

**Limitations**

It should be acknowledged that new resources may have become available since the completion of this study. The number of health related websites, bibliographies, publications and other resources is rapidly growing.[41]

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## PEER REVIEW

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## CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

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## ETHICS COMMITTEE APPROVAL

Curtin University Human Ethics Committee